



# **01V96i**

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## DIGITAL MIXING CONSOLE

# Reference Manual

## How to Use This Reference Manual

The 01V96i Reference Manual (this document) allows you to search for terms and take advantage of links in the text.

### Searching for terms

To search for a term, use the search function of the software you're using to view this document.

If you're using Adobe Reader, enter the term in the search box and press the <Enter> key of your computer keyboard to search for occurrences of that term.

**Note:** The latest version of Adobe Reader can be downloaded from the following URL.  
<http://www.adobe.com/products/reader.html>

### Displaying the next/previous view

If you're using Adobe Reader, you can jump to the previous/next view in your viewing history. This is a convenient way to jump back to the previous page after you've used a link to jump to a different page.

**Note:**

- If the Previous View / Next View buttons are not shown in the toolbar, you can hold down your computer keyboard's <Alt> key and use the <<>> keys to jump to the previous or next view.
- For details on using other PDF-viewing software, refer to the owner's manual of the software you're using.

### Using the Function Tree

A function tree for the 01V96i is provided on page 4 and following. You can use this to quickly find the explanatory page you want.

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# Contents of the Owner's Manual (Booklet)

The contents of the separate Owner's Manual booklet are as follows.

## PRECAUTIONS

### Welcome

- Package Contents
- About the included discs
- About the included DAW software
- About the utility software
- Firmware updates
- About this Owner's Manual
- Conventions Used in this Manual

### Control Surface & Rear Panel

- Control Surface
- Rear Panel
- Installing an Optional Card

### Operating Basics

- About the Display
- Selecting Display Pages
- Display Interface
- Selecting Layers
- Selecting Channels
- Selecting Fader Modes
- Metering

### Connections and Setup

- Connections
- Wordclock Connections and Settings
- Input and Output Patching

### Tutorial

- Input and Output Patching
- Setting the Input Levels
- Pairing Channels
- Setting the Routing
- EQ'ing the Input Signals
- Using the EQ Library
- Compressing the Input Signals
- Using the Internal Effects
- Recording to DAW Software via the USB Port
- Adjusting the Monitor Levels from the DAW
- Using Scene Memories
- Changing the Channel Names
- Creating a Custom Layer by Combining Channels (User Assignable Layer)
- Using the Oscillator
- Using the User Defined Keys
- Using Operation Lock
- Initializing

## Troubleshooting

### Error messages

### Contents of the Reference Manual

### Specifications

- General Spec
- Libraries
- Analog Input Spec
- Analog Output Specs
- Digital Input Spec
- Digital Output Spec
- I/O SLOT Spec
- MIDI/USB/WORD CLOCK I/O Spec
- Dimensions

### Options

- Rack Mounting the 01V96i Using RK1 Rack Mount Kit

### Index

### 01V96i Block Diagram

### 01V96i Level Diagram

# Function Tree

## DISPLAY ACCESS

Page numbers in parentheses ( ) are the page numbers of the Owner's Manual (booklet).

| BUTTON           | FUNCTION   | PAGE NAME                               | LINK           |
|------------------|------------|-----------------------------------------|----------------|
| SCENE            | SCENE      | SCENE MEMORY                            | 68             |
|                  | IN FADE    | INPUT FADE TIME                         | 71             |
|                  | OUT FADE   | OUTPUT FADE TIME                        | 71             |
|                  | RCL SAFE   | RECALL SAFE                             | 72             |
|                  | SORT       | SORT                                    | 72             |
|                  | PASTE SRC  | GLOBAL PASTE SOURCE CH SELECT           | 73             |
|                  | PASTE DST  | GLOBAL PASTE DESTINATION SCENE          | 73             |
| DIO/SETUP        | WORD CLOCK | WORD CLOCK SELECT                       | 14             |
|                  | FORMAT     | HIGHER SAMPLE RATE DATA TRANSFER FORMAT | 14<br>15<br>16 |
|                  | PREFER1    | PREFERENCES 1                           | 109            |
|                  | PREFER2    | PREFERENCES 2                           | 110            |
|                  | MIDI/HOST  | MIDI/TO HOST SETUP                      | 100            |
|                  | MONITOR    | MONITOR                                 | 49             |
|                  | REMOTE     | REMOTE                                  | 85             |
|                  | MACHINE    | MACHINE CONTROL                         | 98             |
|                  | SURR BUS   | SURROUND BAS SETUP                      | 54             |
|                  | CASCADE    | CASCADE IN ATTENUATION                  | 112            |
|                  | OUTPUT ATT | OUTPUT PORT ATTENUATOR                  | 34             |
|                  | SETUP      | MIDI SETUP                              | 101            |
|                  | PGM ASGN   | PROGRAM CHANGE ASSIGN TABLE             | 102            |
| MIDI             | CTL ASGN   | CONTROL CHANGE ASSIGN TABLE             | 104            |
|                  | BULK       | BULK DUMP                               | 107            |
|                  | OSCILLATOR | OSCILLATOR                              | (45)           |
|                  | CH STATUS  | CHANNEL STATUS MONITOR                  | 14             |
|                  | BATTERY    | BATTERY CHECK                           | 113            |
| UTILITY          | USER DEF   | USER DEFINED KEY ASSIGN                 | 119            |
|                  | LOCK       | OPERATION LOCK                          | (47)           |
|                  | PHASE      | PHASE                                   | 18             |
|                  | INSERT     | INSERT                                  | 47             |
|                  | DLY 1-16   | INPUT CH1-16 DELAY                      | 18             |
| φ /INSERT/ DELAY | DLY17-32   | INPUT CH17-32 DELAY                     | 18             |
|                  | OUT DLY    | OUTPUT DELAY                            | 30             |
|                  | PAN        | PAN                                     | 22             |
|                  | ROUT1-16   | INPUT CH1-16 ROUTING                    | 22             |
|                  | ROUT17-STI | INPUT CH17-32 ROUTING/ST IN             | 22             |
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|                  | SURR17-32  | INPUT CH17-32 SURROUND                  | 58             |
|                  | SURR ST IN | STEREO INPUT SURROUND                   | 58             |

| BUTTON      | FUNCTION   | PAGE NAME                 | LINK           |
|-------------|------------|---------------------------|----------------|
| PAIR/ GROUP | INPUT      | INPUT PAIR                | 27             |
|             | OUTPUT     | OUTPUT PAIR               | 33             |
|             | IN FADER   | INPUT FADER GROUP         | 59             |
|             | IN MUTE    | INPUT MUTE GROUP          | 59             |
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|             | IN COMP    | INPUT COMP LINK           | 63             |
|             | OUT COMP   | OUTPUT COMP LINK          | 63             |
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|             | OUT MASTER | OUTPUT FADER GROUP MASTER | 61             |
| PATCH       | IN PATCH   | INPUT PATCH               | 43             |
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|             | EFFECT     | EFFECT INPUT/OUTPUT PATCH | 64             |
|             | CASCADE IN | CASCADE IN PATCH          | 111            |
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|             | COMP LIB   | COMP LIBRARY              | 79             |
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|             | FX2 EDIT   | FX2 EDIT                  | 66             |
|             | FX3 EDIT   | FX3 EDIT                  | 66             |
|             | FX4 EDIT   | FX4 EDIT                  | 66             |
|             | FX1 LIB    | FX1 LIBRARY               | 76             |
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|             | P-IN EDIT  | PLUG-IN EFFECT CARD EDIT  | 67             |
| VIEW        | PARAMETER  | PARAMETER VIEW            | 23<br>31<br>37 |
|             | FADER      | FADER VIEW                | 24<br>32<br>38 |
|             | LIBRARY    | CHANNEL LIBRARY           | 75             |
|             | 1-16 AUX   | INPUT CH1-16 AUX VIEW     | 40             |
|             | 17-STI AUX | INPUT CH17-ST IN AUX VIEW | 40             |

## FADER MODE

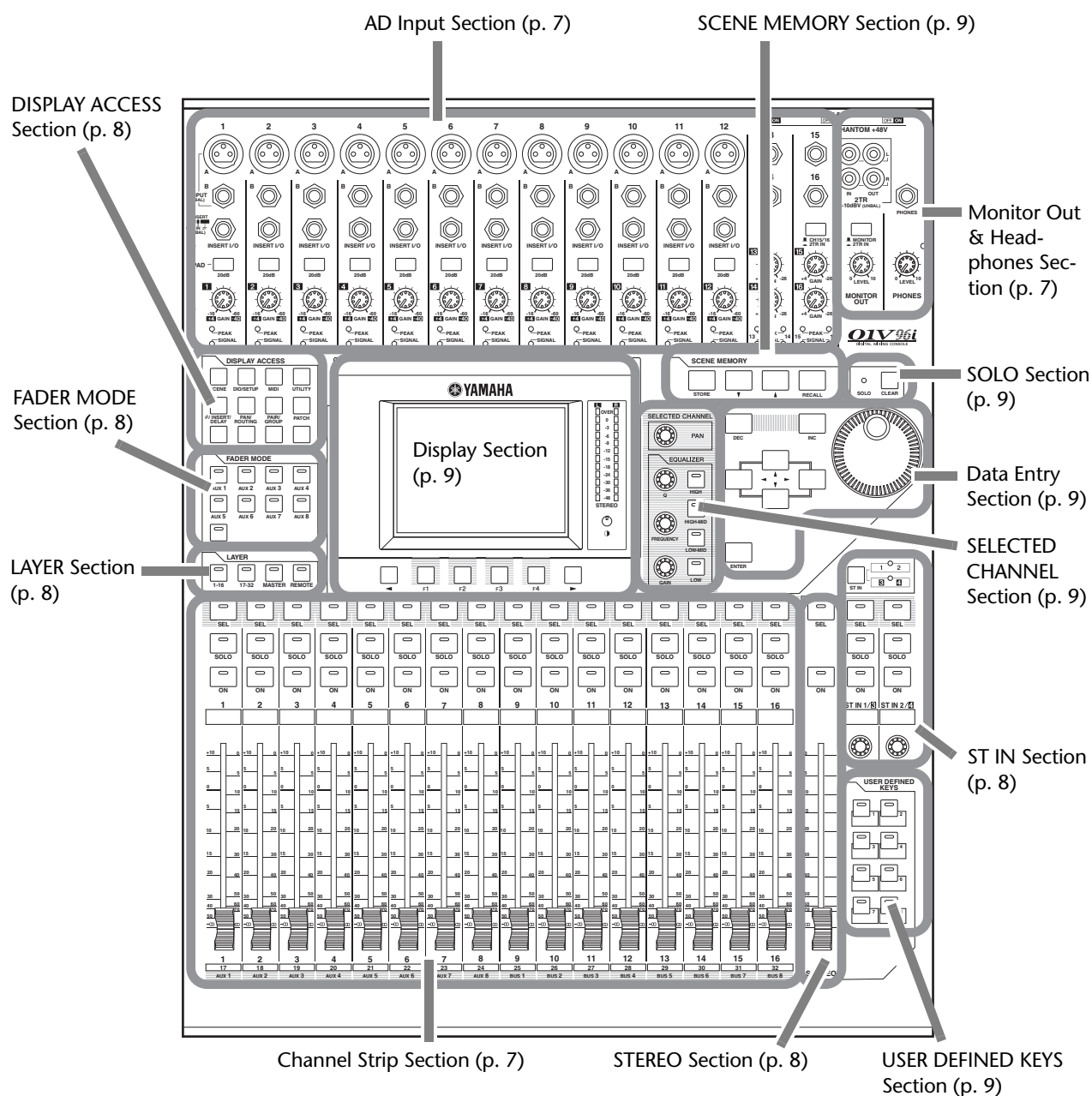
| BUTTON       | FUNCTION   | PAGE NAME                    | LINK |
|--------------|------------|------------------------------|------|
| AUX1–AUX8    | SEND       | AUX1–AUX8 SEND               | 38   |
|              | PAN        | AUX1–AUX8 PAN                | 41   |
|              | VIEW1-16   | INPUT CH1-16 AUX VIEW        | 40   |
|              | VIEW17-STI | INPUT CH17-ST IN AUX VIEW    | 40   |
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|              | ST IN      | ST IN METER                  | 8    |
|              | MASTER     | MASTER METER                 | 8    |
|              | EFFECT     | EFFECT1-4 INPUT/OUTPUT METER | 8    |
|              | STEREO     | STEREO METER                 | 8    |
|              | POSITION   | METER POSITION               | 8    |

## LAYER

| BUTTON | FUNCTION              | PAGE NAME | LINK |
|--------|-----------------------|-----------|------|
| 1-16   |                       |           | 8    |
| 17-32  |                       |           | 8    |
| MASTER |                       |           | 8    |
| REMOTE | USER DEFINED          |           | 94   |
|        | ProTools              |           | 83   |
|        | Nuendo                |           | 93   |
|        | Cubase                |           | 93   |
|        | General DAW           |           | 94   |
|        | USER ASSIGNABLE LAYER |           | 110  |

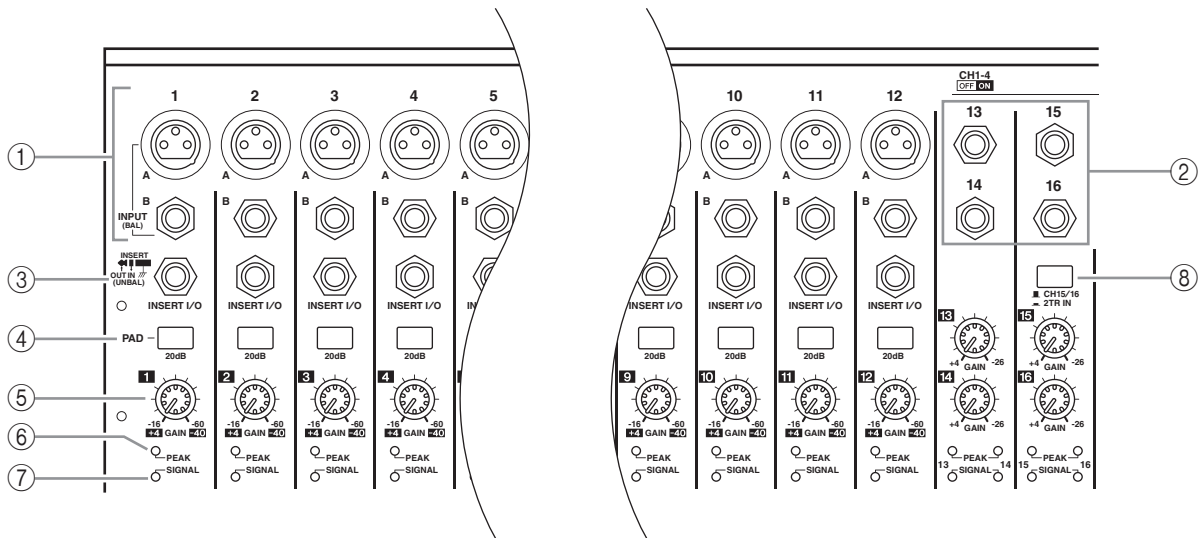
# Control Surface & Rear Panel

## Control Surface



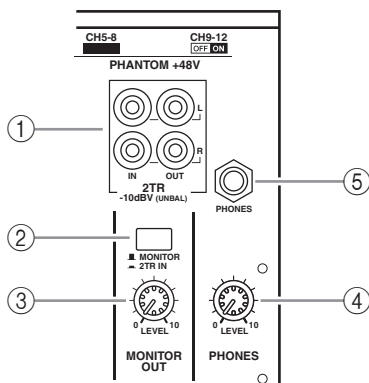
**Note:** For details on the function of each item, refer to "Control Surface & Rear Panel" in the Owner's Manual.

## AD Input Section



- ① INPUT connectors A/B
- ② INPUT connectors 13–16
- ③ INSERT I/O connectors
- ④ PAD switches
- ⑤ GAIN controls
- ⑥ PEAK indicators
- ⑦ SIGNAL indicators
- ⑧ AD15/16 selector

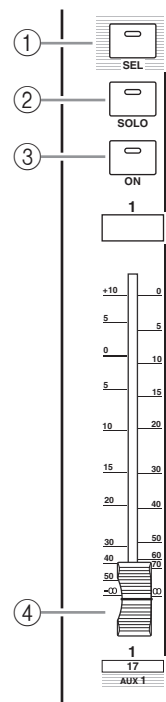
## Monitor Out & Headphones Section



- ① 2TR IN/OUT connectors
- ② Monitor Source selector
- ③ MONITOR LEVEL control
- ④ PHONES LEVEL control
- ⑤ PHONES jack

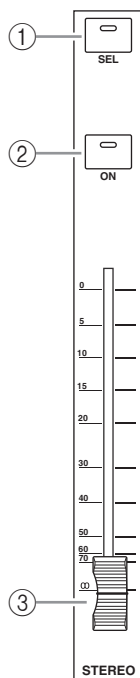
## Channel Strip Section

- ① [SEL] buttons
- ② [SOLO] buttons
- ③ [ON] buttons
- ④ Channel faders

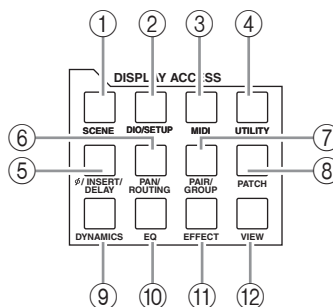


## STEREO Section

- ① [SEL] button
- ② [ON] button
- ③ [STEREO] fader



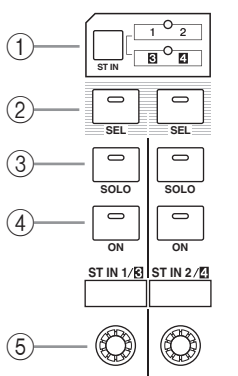
## DISPLAY ACCESS Section



- ① [SCENE] button
- ② [DIO/SETUP] button
- ③ [MIDI] button
- ④ [UTILITY] button
- ⑤ [∅ /INSERT/DELAY] button
- ⑥ [PAN/ROUTING] button
- ⑦ [PAIR/GROUP] button
- ⑧ [PATCH] button
- ⑨ [DYNAMICS] button
- ⑩ [EQ] button
- ⑪ [EFFECT] button
- ⑫ [VIEW] button

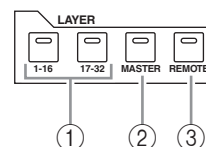
## ST IN Section

- ① [ST IN] button
- ② [SEL] buttons
- ③ [SOLO] buttons
- ④ [ON] buttons
- ⑤ Level controls



## LAYER Section

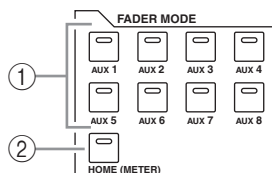
- ① [1-16]/[17-32] buttons
- ② [MASTER] button
- ③ [REMOTE] button



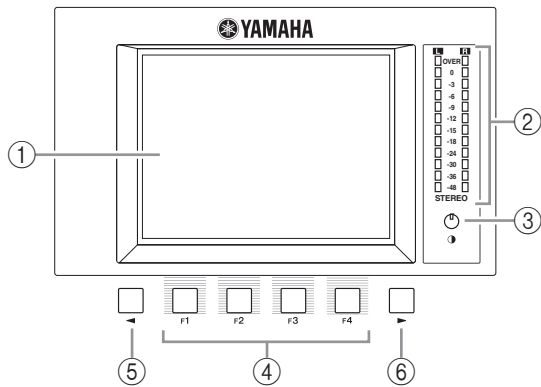
**Tip:** The ST IN section is not affected by the layer settings.

## FADER MODE Section

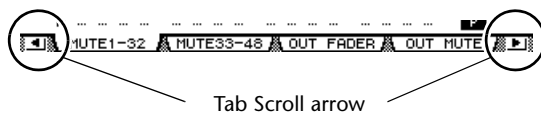
- ① [AUX 1]–[AUX 8] buttons
- ② [HOME] button



## Display Section



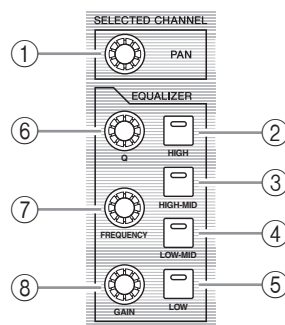
- ① Display
- ② Stereo meters
- ③ Contrast control
- ④ [F1]–[F4] buttons
- ⑤ Left Tab Scroll [◀] button
- ⑥ Right Tab Scroll [▶] button



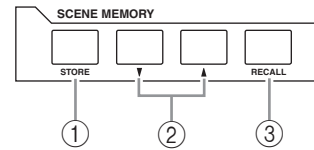
Tab Scroll arrow

## SELECTED CHANNEL Section

- ① [PAN] control
- ② [HIGH] button
- ③ [HIGH-MID] button
- ④ [LOW-MID] button
- ⑤ [LOW] button
- ⑥ [Q] control
- ⑦ [FREQUENCY] control
- ⑧ [GAIN] control



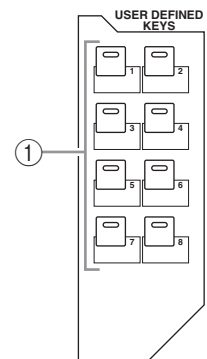
## SCENE MEMORY Section



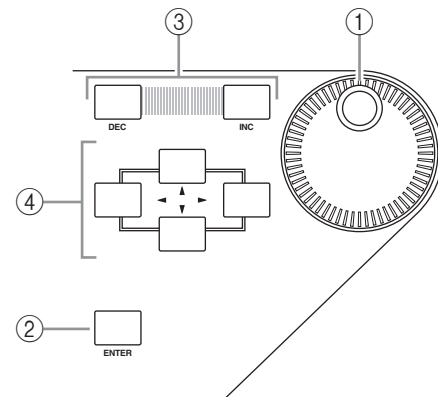
- ① [STORE] button
- ② Scene Up [▲] / Down [▼] buttons
- ③ [RECALL] button

## USER DEFINED KEYS Section

- ① [1]–[8] buttons



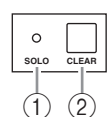
## Data Entry Section



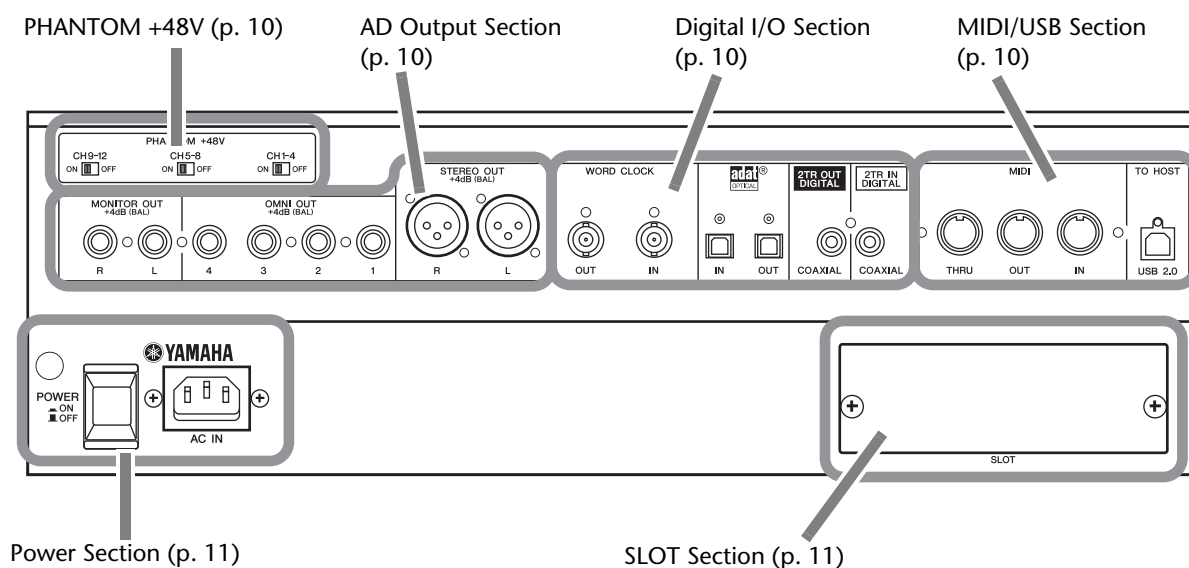
- ① Parameter wheel
- ② [ENTER] button
- ③ [DEC] & [INC] buttons
- ④ Left, Right, Up, Down ([◀]/[▶]/[▲]/[▼]) cursor buttons

## SOLO Section

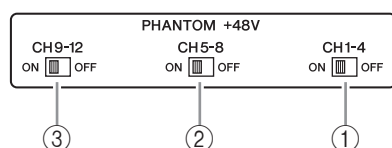
- ① [SOLO] indicator
- ② [CLEAR] button



## Rear Panel

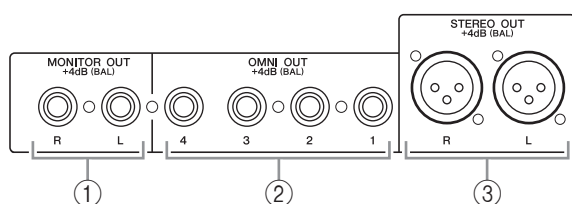


### PHANTOM +48V



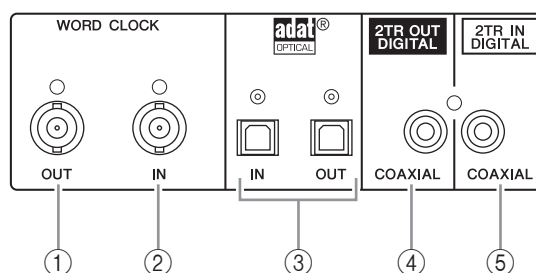
- ① CH1-4 ON/OFF switch
- ② CH5-8 ON/OFF switch
- ③ CH9-12 ON/OFF switch

### AD Output Section



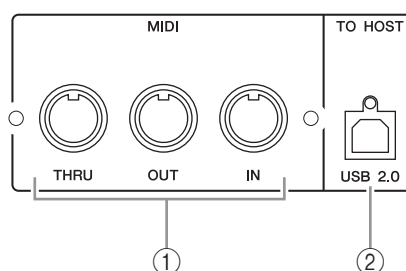
- ① MONITOR OUT connectors L/R
- ② OMNI OUT connectors 1-4
- ③ STEREO OUT connectors L/R

### Digital I/O Section



- ① WORD CLOCK OUT connector
- ② WORD CLOCK IN connector
- ③ ADAT IN/OUT connectors
- ④ 2TR OUT DIGITAL COAXIAL
- ⑤ 2TR IN DIGITAL COAXIAL

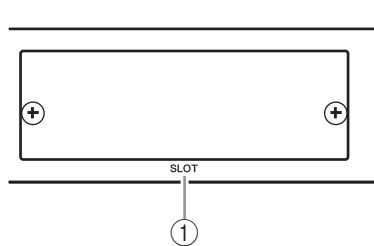
### MIDI/USB Section



- ① MIDI IN/THRU/OUT ports
- ② TO HOST USB port

## SLOT Section

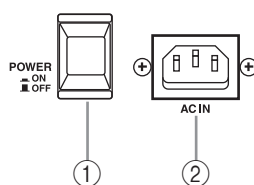
### ① SLOT



## Power Section

### ① POWER ON/OFF switch

### ② AC IN connector



# Analog I/O & Digital I/O

This chapter describes the 01V96i's analog and digital input/output connectors as well as the basic operations involving the digital I/Os.

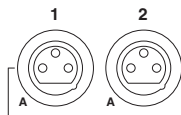
## Analog Inputs & Outputs

### Input Section

The 01V96i's top panel features input connectors, which enable you to connect microphone and line-level sources.

- INPUT connectors A 1–12**

These balanced TRS-type phone connectors accept line-level and microphone signals. The nominal input range is –60 dB through +4 dB. The phantom [+48V] switches on the rear panel turn on or off the +48V phantom power feed to these inputs.



- INPUT connectors B 1–12**

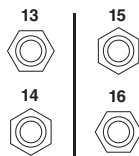
These balanced TRS-type connectors accept line-level and microphone signals. The nominal input range is –60 dB through +4 dB.

You cannot use same-numbered INPUT A and INPUT B connectors simultaneously. (For example, you cannot use INPUT A-2 and INPUT B-2 at the same time.) If you connect cables to A and B connectors of the same number, only the signal from INPUT B is effective (e.g., B-2 takes priority over A-2).



- INPUT connectors 13–16**

These balanced TRS-type phone connectors accept line-level signals. When the AD 15/16 source selector is turned on (pushed in), signals from INPUT 15 and 16 are ignored. Instead, signals from the 2TR IN connector will be routed to AD Input Channels 15 and 16.



**Tip:** You can patch signals input from the INPUT connectors to any Input Channels. (See page 43 for information on patching input signals to Input Channels.)

- INSERT I/O connectors**

These TRS-type phone connectors are used to insert external devices, such as effects processors, into AD Input Channels.



- Phantom Power**

Inputs 1 through 12 feature switchable +48V phantom powering for use with condenser-type microphones and direct boxes. The phantom [+48V] switches on the rear panel turn on or off the +48V phantom power feed to the corresponding inputs.



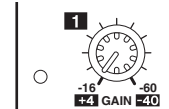
- PAD switches**

Inputs 1 through 12 feature pad switches, which attenuate input signals by 20 dB. These switches are effective on both INPUT A and B signals.



- GAIN controls**

Inputs 1 through 16 feature rotary gain controls that adjust input sensitivity. Input sensitivity for INPUT connectors 1–12 ranges from –16 dB to –60 dB when the Pad is off, and from +4 dB to –40 dB when the Pad is on. Input sensitivity for INPUT connectors 13–16 ranges from +4 dB to –26 dB.



- PEAK & SIGNAL Indicators**

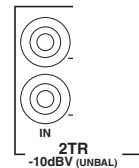
The SIGNAL indicator lights up when the input signal level at INPUTs 1–16 exceeds –34 dB. The PEAK indicator lights up when the input signal level is 3 dB below clipping.



- 2TR IN connectors**

These unbalanced RCA phono connectors accept line-level signals from devices such as CD players.

When the AD 15/16 source selector is turned on (pushed in), signals input at these conductors are routed to AD Inputs 15 and 16. When the Monitor source selector is turned on (pushed in), you can monitor these signals from the MONITOR OUT connectors.



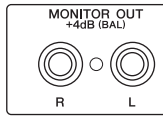
## Output Section

The 01V96i top and rear panels feature output connectors that enable you to connect a monitoring system, effects processors and other line-level devices.

- **MONITOR OUT connectors L/R**

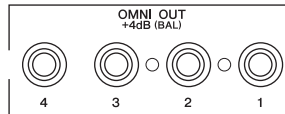
These balanced TRS-type phone connectors output monitoring signals or input signals routed from the 2TR IN connectors. The nominal output level is +4 dB.

Use the Monitor source selector in the Monitor Out & Headphones section to select the signal output from these connectors.



- **OMNI OUT connectors 1–4**

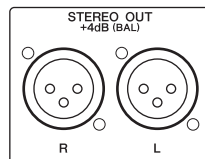
These balanced TRS-type phone connectors output any Bus Outs or Input Channel Direct Outs. The nominal output level is +4 dB.



**Tip:** Any signal path can be patched to the OMNI OUT connectors. (See page 44 for more information on patching signals to the OMNI OUT connectors.)

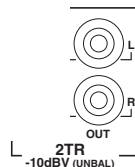
- **STEREO OUT connectors L/R**

These balanced XLR-3-32-type connectors output the Stereo Out signals. The nominal output level is +4 dB.



- **2TR OUT connectors**

These unbalanced RCA phono connectors output line-level signals to a connected recorder or other external device. These connectors always output the Stereo Out signals.



## Digital Inputs & Outputs

The 01V96i rear panel features digital input and output connectors that enable you to connect external digital devices. Any signal path can be patched to these digital inputs and outputs.

You can also add analog and digital I/Os by installing an optional I/O card in the slot.

## Digital I/O Connectors

- **2TR IN DIGITAL connector**

2TR IN DIGITAL is an RCA phono connector and accepts consumer format (IEC 60958) digital audio. You can patch digital signals input at this connector to any Input Channel (page 43).



- **2TR OUT DIGITAL connector**

This RCA phono connector outputs consumer format (IEC 60958) digital audio. You can patch any Bus outs or Input channel Direct Outs to this output (page 45).



- **ADAT IN connector**

This TOSLINK connector accepts 8-channel ADAT optical format signals, which can be patched to any Input Channel (page 43).

- **ADAT OUT connector**

This TOSLINK connector outputs an 8-channel ADAT optical format signal. You can patch any Bus Outs or Input Channel Direct outs to this output (page 44).

## SLOT

This slot allows you to install an optional mini-YGDAI (Yamaha General Digital Audio Interface) I/O card. This card offers AD/DA conversion, and various analog I/O options and digital I/O interfaces in all the popular digital audio interconnect formats, including AES/EBU, ADAT, and Tascam. You can patch signals input at these card connectors to any Input Channels or Insert Ins (see page 43).

You can patch the card outputs to Bus Outs or Input Channel Direct Outs (see page 46).

For details on the mini-YGDAI I/O cards that are currently usable, refer to "I/O Slot Specifications" in the Owner's Manual.

For the latest information about mini-YGDAI I/O cards, refer to the Yamaha Professional Audio website.

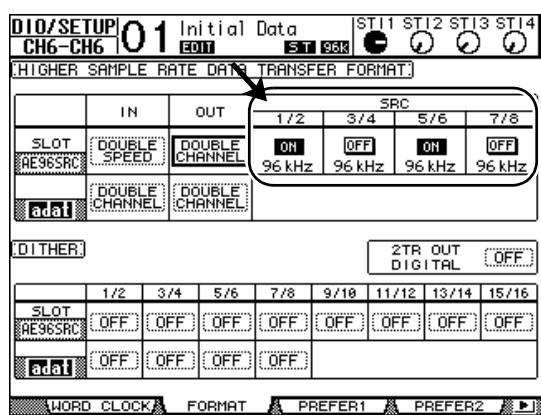
<http://www.yamahaproaudio.com/>

## Converting Sampling Rates of Signals Received at I/O Card Inputs

An optional MY8-AE96S Digital I/O card features sampling rate converters, so you can easily convert the sampling frequency of digital inputs to the current 01V96i sampling rate.

### 1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Format page appears.

Use the buttons in the SRC sections to turn the sampling rate converters on and off. You can turn the sampling rate converters of the digital I/O card on or off in pairs (odd & even channels, in this order).



**Tip:** The FS box on the Word Clock page displays the sampling frequency at which the 01V96i is currently operating.

**Note:** The sampling rate converter is available only on the Yamaha MY8-AE96S Digital I/O card. If you have installed another type of I/O card in the slot, or if no card is installed in the 01V96i, the buttons in the SRC sections are disabled.

### 2. Use the cursor buttons to move the cursor to any two-channel button in the SRC sections, then press [ENTER].

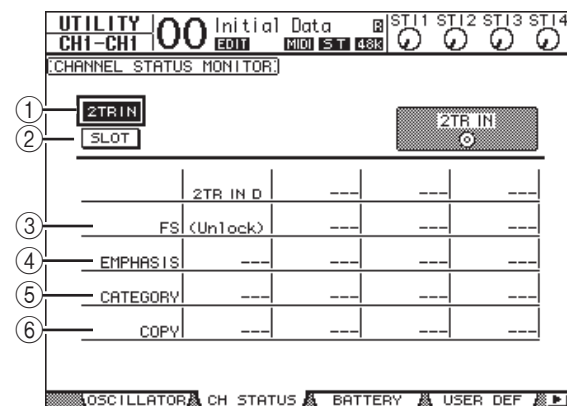
The sampling rate converter for the selected 2-channel input turns on or off. When on, the sampling rate of the received digital audio is converted to the 01V96i's current sampling rate.

## Monitoring Digital Input Channel Status

You can view and monitor the Channel Status (sampling rate, emphasis, etc.) of digital audio signals connected to the 2TR Digital Inputs and Slot Inputs as follows.

### 1. Press the DISPLAY ACCESS [UTILITY] button, then press the [F2] button.

The Utility | CH Status page appears.



On this page, use the following buttons to select a slot or connector for which you want to view the channel status.

#### ① 2TR IN

This button enables you to view the Channel Status of input signals connected to the 2TR Digital Inputs.

#### ② SLOT

These buttons enable you to view the Channel Status of each two adjacent (odd and even, in this order) channel signals connected to the digital I/O card installed in the slot.

### 2. Move the cursor to the desired input or slot button, then press [ENTER].

Channel Status information for the selected input is displayed. However, if a mini-YGDAI I/O card other than AES/EBU format is installed, Channel Status information will be grayed out. Channel Status information includes the following items:

#### ③ FS

Indicates the sampling rate. If no signal is being input, or if the incoming wordclock is not synchronizing to the internal clock, "Unlock" appears.

#### ④ EMPHASIS

Indicates the Emphasis on/off status.

#### ⑤ CATEGORY

Indicates the status of "Category Code Bit" included in the IEC958 Part 2 (S/PDIF-Consumer) format. This parameter can display the following values:

| Parameter value   | Description                                                              |
|-------------------|--------------------------------------------------------------------------|
| General           | Temporarily used                                                         |
| Laser Optical     | Laser optical device                                                     |
| D/D Conv          | Digital - Digital converter and signal processing device                 |
| Magnetic          | Magnetic tape device and magnetic disk device                            |
| D.Broadcast       | Digital broadcast reception                                              |
| Instruments       | Musical instrument, microphone, and sources that generate string signals |
| A/D Conv          | A/D converter (without copyright information)                            |
| A/D Conv with (C) | A/D converter (with copyright information)                               |
| Solid Memory      | Solid memory device                                                      |
| Experimental      | Experimental device                                                      |
| Unknown           | Unknown                                                                  |

**Note:** "AES/EBU" appears in the Category row when you are monitoring IEC958 Part 3 (AES/EBU-Professional) format signals (that do not include Category Code Bit).

### ⑥ COPY

Indicates the status of copy protection information included in the IEC958 Part2 (S/PDIF-Consumer) format signals. "OK" appears if copying is allowed. "Prohibit" appears if copy-protected.

- If you select the SLOT button for a slot that has an MY16-AE card installed, use the 01-08 and 09-16 buttons located in the lower-right corner of the screen to select a channel group you wish to display.

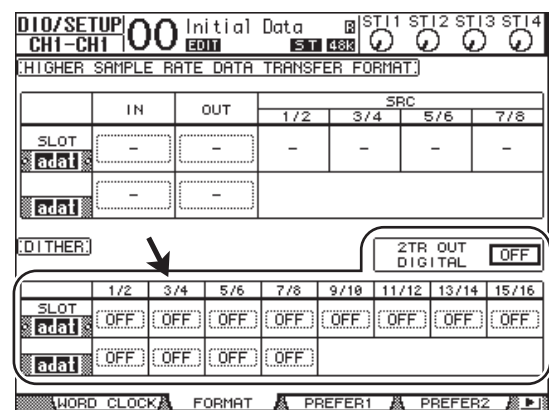
## Dithering Digital Outputs

When digital audio is transferred to lower-resolution systems, truncated bits may generate unpleasant noise. To cancel the audible effect of this noise, a small complement of noise is intentionally added to the digital outputs. This process is called "dithering."

On the 01V96i, you can dither the 2TR Digital Outputs and Slot Outputs. For example, you can apply dithering to the 01V96i stereo mix data and record to a 16-bit digital recorder.

- Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Format page appears.

The dithering settings are displayed at the bottom of the page.



- Move the cursor to the output or channel to which you want to apply dithering, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the value that matches the resolution of the receiving device.

#### **Note:**

- You cannot apply dithering to outputs or channels that are set to "OFF".
- Dithering is effective only when the resolution of the receiving device is lower than that of the 01V96i.

**Tip:** To copy the currently-selected setting to all channels, double-click the [ENTER] button. The copy confirmation window is displayed.

## Setting the Transfer Format for Higher Sampling Rates

To operate the 01V96i at higher sampling frequencies (88.2 kHz or 96 kHz) and transfer digital audio signals to and from connected external devices, you must set the data transfer format in accordance with the sampling frequencies supported by the external devices.

**1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Word Clock page appears.**

**2. Select INT88.2k or INT96k as the wordclock source.**

**Note:** When the 01V96i operates at a high sampling rate (88.2 kHz or 96 kHz), only two internal effects processors are available.

**3. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Format page appears.**

**4. Use the cursor buttons to move the cursor to an IN/OUT parameter field (①), then rotate the Parameter wheel or press the [INC]/[DEC] buttons to set the data transfer format.**

The IN/OUT parameters are used to set one of the following data transfer formats for each slot input and output.

- DOUBLE CHANNEL**

In Double Channel mode, digital audio data is received and transmitted as mono signals at a sampling rate that is exactly half (44.1/48 kHz) the current higher sampling rate. Data is handled by two channels. This is useful when you want to transfer data between the 01V96i operating at a higher sampling rate and an external digital device that supports 44.1/48 kHz.

**Note:** Double Channel mode reduces the total number of inputs or outputs on the corresponding slot. The even-numbered channels are disabled.

- DOUBLE SPEED**

In Double Speed mode, digital audio data is received and transmitted at the current high sampling rate (i.e., 88.2 kHz or 96 kHz). Select this mode if the devices that support the higher sampling rates transmit or receive data.

**Note:** You can select this setting only for slots in which a digital I/O card that inputs/outputs double-speed digital audio data (e.g., MY8-AE96, MY8-AE96S) is installed.

- SINGLE**

In Single mode, digital audio data is received and transmitted at a sampling rate that is half (44.1/48 kHz) the current higher sampling rate of the 01V96i. For example, this is useful when you want to receive 44.1 kHz digital signals from an external digital device while the 01V96i is operating at 88.2 kHz.

**Note:** You cannot select this setting for slots in which a digital I/O card that inputs/outputs double-speed digital audio data (e.g., MY8-AE96, MY8-AE96S) is installed.

**Tip:** The parameter fields display “-” if the slot contains no I/O card or if an AD/DA card or other I/O card that does not allow you to set the transfer format has been installed.

# Input Channels

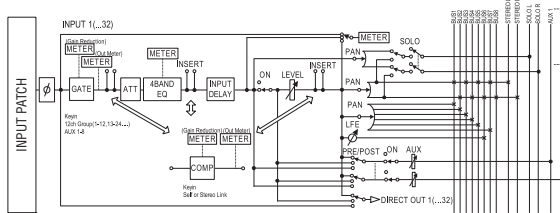
This chapter describes how to adjust the 01V96i's Input Channel parameters.

## About Input Channels

The input Channel section enables you to adjust the level and tone of the signals input to the 01V96i (and the signals output from the internal Effects processors 1–4), and route the signals to Buses 1–8, the Stereo Bus, and Aux Sends 1–8. There are two types of Input Channels, each featuring slightly different functions: monaural Input Channels 1–32 and stereo ST IN Channels 1–4.

## Input Channels 1–32

Each of these monaural Input Channels features a phase effect, gate, compressor, attenuator, and EQ for signal processing. The following diagram illustrates the Input Channel 1–32 signal flow.



Input Channels 1–32 feature the following parameters:

- **Φ (Phase)**  
This section switches the phase of input signals.
- **GATE**  
This dynamics processor can be used as a gate or for ducking.
- **COMP (Compressor)**  
This dynamics processor can be used as compressor, expander or limiter. The compressor can be pre-EQ, pre-fader, or post-fader.
- **ATT (Attenuator)**  
This section enables you to attenuate or amplify the level of signals that will be input to the EQ. The attenuator enables you to prevent post-EQ signals from clipping and to correct signal levels that are too low.
- **4 BAND EQ (4-band equalizer)**  
This parametric EQ features four bands (high, high-mid, low-mid, and low).
- **INPUT DELAY (Input delay)**  
This section enables you to delay input signals. You can use this delay to fine-tune the timing between channels, or as a delay effect with feedback.
- **ON (On/Off)**  
This section enables you to turn the channel on or off. The channel is muted with the Off setting.

- **LEVEL**

This section enables you to adjust the input level of the Input Channel signal.

- **PAN**

This section enables you to adjust the pan setting of the signals routed from the Input Channels to the Stereo Bus. You can also apply the pan setting to a pair of Bus channels.

- **AUX (Aux Send level)**

This section enables you to adjust the level of signals routed to Aux Sends 1–8. The signals can be routed to Aux Sends from either the pre-fader or post-fader position.

- **INSERT**

This section enables you to patch input signals to external devices via the on-board I/O connectors or I/O card, or insert the internal effect processors. You can patch any inputs, outputs, or I/O card channels. (Note that this is different from the INSERT I/O connectors in the AD Input section.)

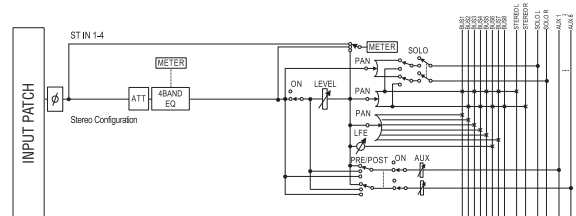
- **METER**

This section enables you to switch the metering position of the signal levels that are displayed in the Meter page.

For more information on selecting the metering position, refer to “Viewing the Level Meters” in the Owner’s Manual (booklet).

## ST IN Channels 1–4

These stereo channels enable you to process stereo signals using the phase effect, attenuator, and EQ. The following diagram illustrates the ST IN Channel 1–4 signal flow.



ST IN Channels 1–4 feature the following parameters:

- **Φ (Phase)**
- **ATT (Attenuator)**
- **4 BAND EQ (4-band equalizer)**
- **ON (On/Off)**
- **LEVEL**
- **PAN**
- **AUX (Aux Send level)**
- **METER**

For more information on each parameter, refer to the preceding section Input Channel 1–32.

**Tip:** You can store these channel parameter settings in the Channel library. You can also store the Gate, Compressor, and EQ parameter settings to the corresponding libraries.

## Setting the Input Channels from the Display

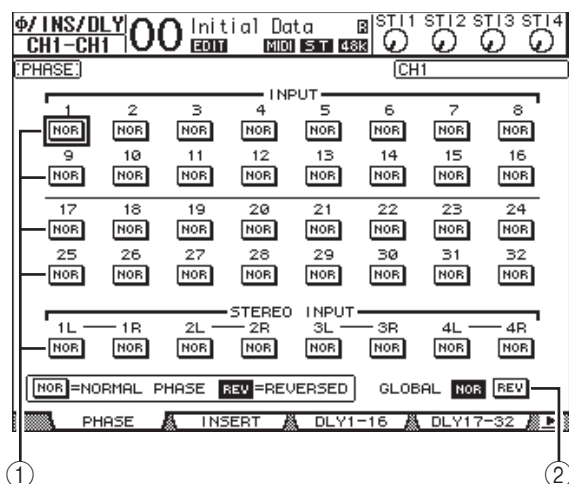
To set the Input Channel parameters, you can either move the cursor to the desired parameter on the display and change the value, or operate the desired button or control on the top panel to directly change the setting.

This section explains how to set the parameters via the display.

## Switching the Signal Phase

To switch the phase of each Input Channel, press the [  $\Phi$  /INSERT/DELAY ] button repeatedly until the following  $\Phi$  /INS/DLY | Phase page appears.

Move the cursor to the NOR/REV button of the channel for which you want to change the phase, then press the [ENTER] or [INC]/[DEC] buttons to change the setting.



### ① NOR/REV

These buttons switch the corresponding Input Channel phase. NOR buttons indicate normal phase, and REV buttons indicate reversed phase.

### ② GLOBAL

The GLOBAL NOR/REV buttons allow you to set the phase for all Input Channels simultaneously.

#### Tip:

- The name of the currently-selected channel is indicated in the upper-right corner of the screen.
- You can set the phase separately for each of the ST IN Channels or for each channel in a channel pair. If you selected the desired ST IN Channel using the corresponding [SEL] button, pressing the same [SEL] button repeatedly will toggle between channels L and R.

## Delaying Input Channels

To set the delay for each channel, press the [  $\Phi$  /INSERT/DELAY ] button repeatedly until the page listed below that contains the desired channels appears.

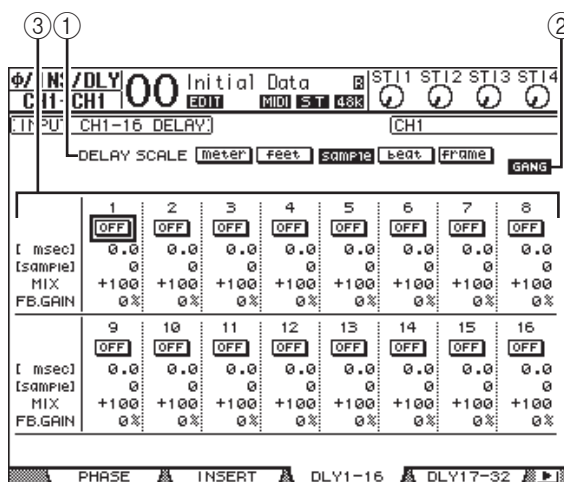
### • DLY 1-16 page

This page enables you to set the Delay function for Input Channels 1–16.

### • DLY 17-32 page

This page enables you to set the Delay function for Input Channels 17–32.

The parameters on these two pages (and the procedure for setting them) are the same.



### ① DELAY SCALE

The following buttons determine the units of the delay value shown below the msec value.

- meter** ..... Units are set to meters.
- feet** ..... Units are set to feet.
- sample** ..... Units are set to samples.
- beat** ..... Units are set to beats.
- frame** ..... Units are set to timecode frames.

### ② GANG button

When this button is turned on (highlighted), the delay time for each channel in a channel pair can be set simultaneously. When this option is turned off, the delay time can be set for each channel in a channel pair individually.

### ③ Channel section

You can set individual delay parameters here. The delay parameters include the following items:

#### • ON/OFF

This button switches the corresponding channel delay on or off.

#### • msec

This parameter sets the delay time in milliseconds.

#### • meter/feet/sample/beat/frame

The delay time can be set using units of meters, feet, samples, beats, or frames, which you select by using the DELAY SCALE buttons.

### • MIX

This parameter sets the mix balance of dry (Input Channel) and wet (delayed) signals.

### • FB.GAIN

This parameter sets the amount of delay feedback.

#### Tip:

- This function is unavailable for the ST IN Channels.
- The delay time range depends on the sampling rate at which the 01V96i is operating.
- If you select the DELAY SCALE meter or feet button, the distance value can be converted to the delay time based on sonic speeds (about 343.59 m/sec at 20 degrees Celsius). This option is useful if you wish to correct the timing difference between two sound sources that are far apart.
- If you select the DELAY SCALE beat button, a parameter box for setting a note that represents the beat and a parameter box for a tempo (BPM) setting appear below the DELAY SCALE parameter. Setting the note and BPM settings in these parameter boxes enables you to set a delay time that synchronizes to the song tempo.

### ② STEREO LINK

This parameter's ON/OFF button enables you to pair gates for stereo operation even when the Input Channels are not paired.

### ③ CURVE

This area displays the current gate curve.

### ④ TYPE

This area displays the current gate type (GATE or DUCKING).

**Note:** You cannot change the gate type on this page. To change the gate type, recall a program that uses the desired gate type from the Gate library.

### ⑤ Meters

These meters indicate the levels of the post-gate signals and the amount of gain reduction.

### ⑥ ON/OFF

The ON/OFF button turns the currently-selected Input Channel's gate on or off.

### ⑦ PARAMETER

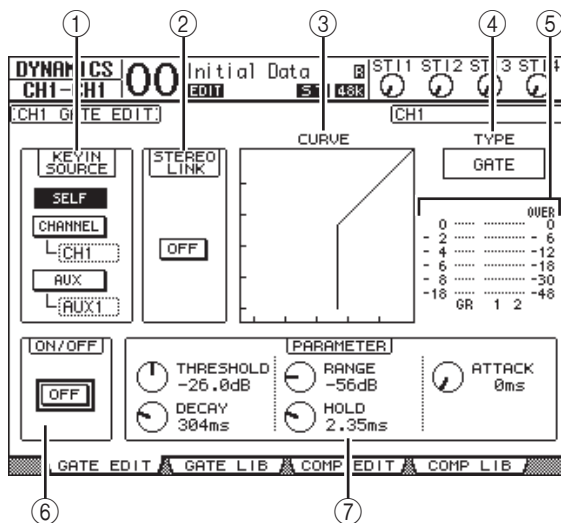
These controls enable you to set the gate parameters. (See page 148 for more information on the parameters.)

#### Tip:

- This function is unavailable for the ST IN Channels.
- You can store the gate settings in the Gate library, which features preset programs that can be used for various applications (see page 79).

## Gating Input Channels

To set the Input Channel gates, use the [SEL] buttons to select the desired Input Channel, then press the DISPLAY ACCESS [DYNAMICS] button, then press the [F1] button. The Dynamics | Gate Edit page appears.



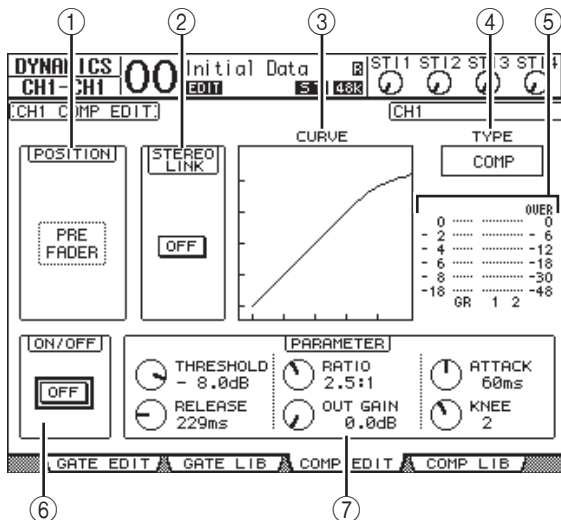
### ① KEYIN SOURCE

Select one of the following buttons to determine the trigger source for the currently-selected Input Channel's gate.

- **SELF** ..... The selected channel's own input signal is the trigger source.
- **CHANNEL** ..... Another Channel's input signal is the trigger source. Select the desired channel in the parameter box below the CHANNEL button.
- **AUX** ..... An Aux Send signal is the trigger source. Select the desired bus in the parameter box below the AUX button.

## Compressing Input Channels

To set the Input Channel compressors, use the [SEL] buttons to select the desired Input Channel, then press the DISPLAY ACCESS [DYNAMICS] button, then press the [F3] button to display the Dynamics | Comp Edit page.



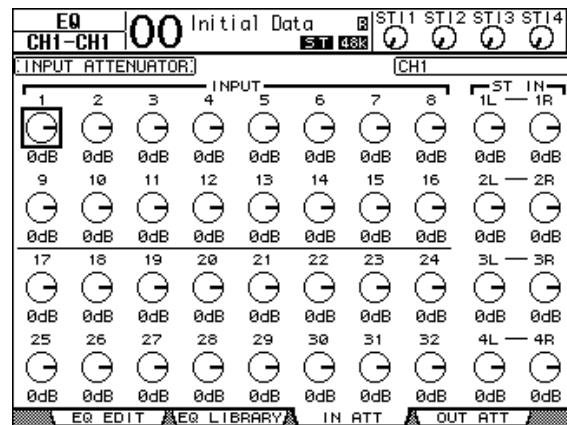
- ① **POSITION**  
Use the Parameter wheel, or the [INC]/[DEC] buttons to select the position of the compressor within the channel from the following options:
    - **PRE EQ** ..... Immediately before EQ (default)
    - **PRE FADER** ..... Immediately before the fader
    - **POST FADER** ..... Immediately after the fader
  - ② **STEREO LINK**  
This ON/OFF button enables you to pair compressors for stereo operation even when channels are not paired.
  - ③ **CURVE**  
This area displays the current compressor curve.
  - ④ **TYPE**  
This field indicates the compressor type used by the currently-selected channel's compressor (COMP/EXPAND/COMP (H)/COMP (S)).
- Note:** You cannot change the Compressor type on this page. To change the compressor type, recall a program that uses the desired compressor type from the compressor library.
- ⑤ **Meters**  
These meters indicate the levels of the post-compressor signals and the amount of gain reduction.
  - ⑥ **ON/OFF**  
The ON/OFF button turns the currently-selected Input Channel's compressor on or off.
  - ⑦ **PARAMETER section**  
These controls enable you to set the compressor parameters. (See page 149 for more information on the parameters of each compressor type.)

**Tip:**

- This function is unavailable for the ST IN Channels.
- You can store the compressor settings in the compressor library, which features preset programs that can be used for various applications (see page 80).

## Attenuating Input Channels

To set the attenuator for each Input Channel, press the DISPLAY ACCESS [EQ] button, then press the [F3] button to display the EQ | In Att page.



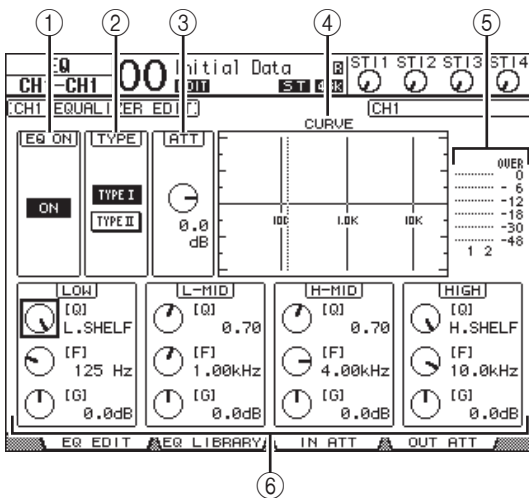
Move the cursor to the knob for the desired Input Channel, then rotate the Parameter wheel to set the amount of attenuation in the range of -96 dB to +12 dB.

**Tip:** You can also set the attenuation amount (in dB) for the currently-selected channel on the EQ | EQ Edit page.

# EQ'ing Input Channels

The 01V96i's Input Channels feature 4-band (LOW, LOW-MID, HIGH-MID, HIGH) parametric EQ. The LOW-MID and HIGH-MID bands are a peaking type of EQ. The LOW and HIGH bands can be set to shelving, peaking, or HPF and LPF respectively.

1. Press the [SEL] button of the channel for which you want to adjust EQ.
2. Press the DISPLAY ACCESS [EQ] button, then press the [F1] button to display the EQ | EQ Edit page.



The parameters on this page are described below:

- ① **EQ ON**  
The ON/OFF button turns the currently-selected Input Channel's EQ on or off. You can press the [ENTER] button to turn the EQ on or off as long as the cursor is located on any parameter other than TYPE.
- ② **TYPE**  
Selects the type of EQ. TYPE I is the EQ type used on legacy Yamaha 02R series digital mixing consoles. The TYPE II algorithm minimizes the interference between bands.
- ③ **ATT**  
Determines the amount of pre-EQ signal attenuation in dB. It is the same Attenuator parameter that appears on the EQ | ATT In page.
- ④ **CURVE**  
This area displays the current EQ curve.
- ⑤ **Meters**  
These meters indicate the post-EQ signal levels of the currently-selected Input Channel and its available pair partner.

## ⑥ LOW, L-MID, H-MID, HIGH sections

These sections contain the Q, Frequency (F), and Gain (G) parameters for the four bands. These parameter values range as follows:

| Parameter | LOW                                              | LOW-MID                 | HIGH-MID | HIGH                                  |
|-----------|--------------------------------------------------|-------------------------|----------|---------------------------------------|
| Q         | HPF, 10.0 to 0.10 (41 steps), L.SHELF            | 10.0 to 0.10 (41 steps) |          | LPF, 10.0 to 0.10 (41 steps), H.SHELF |
| Frequency | 21.2 Hz to 20.0 kHz (120 steps per 1/12 octave)  |                         |          |                                       |
| Gain      | -18.0 dB to +18.0 dB (0.1 dB steps) <sup>1</sup> |                         |          |                                       |

1. The LOW and HIGH GAIN controls function as filter on/off controls when Q is set to HPF or LPF respectively.

### Tip:

- The LOW-band EQ functions as a high-pass filter when the Q parameter in the LOW section is set to HPF. It functions as a shelving-type EQ when the Q parameter is set to L.SHELF.
- The HIGH-band EQ functions as a low-pass filter when the Q parameter in the HIGH section is set to LPF. It functions as a shelving-type EQ when the Q parameter is set to H.SHELF.

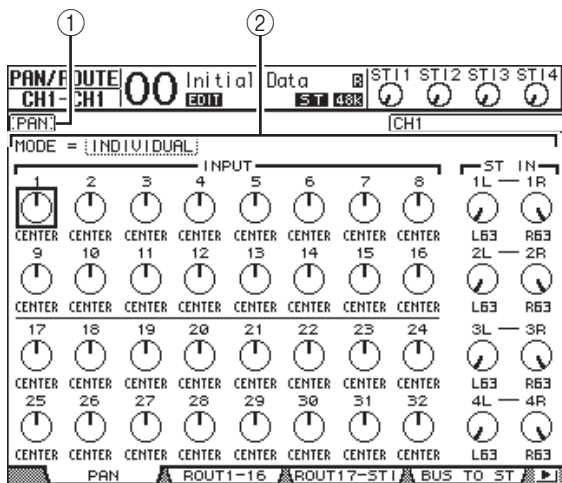
3. Move the cursor to the desired parameter, then rotate the Parameter wheel to change the value.

### Tip:

- The EQ settings for the ST IN Channels L & R are linked to each other.
- You can also press the buttons in the SELECTED CHANNEL section to select the desired band and use the rotary controls to directly edit the Q, F, and G parameters (see page 25).
- You can store the EQ settings in the EQ library, which features preset programs that can be used for various applications (see page 147).

## Panning Input Channels

Input Channels can be panned in the range of L63 through CENTER to R63. To pan each channel, press the [PAN/ROUTING] button repeatedly until the Pan/Route | Pan page appears.



Move the cursor to the desired Pan control, then rotate the Parameter wheel to set the value.

### ① Pan controls

These knobs adjust the channel pan settings.

Press the [ENTER] button to reset the currently-selected Pan control to center.

### ② MODE

The MODE parameter determines how paired Input Channels are panned. There are three Pan modes as follows:

#### • INDIVIDUAL

In Individual mode, paired Input Channel pan controls operate independently.



#### • GANG

In Gang mode, paired Input Channel pan controls operate in unison, maintaining the current pan range.



#### • INV GANG

In Inverse Gang mode, paired Input Channel pan controls operate in unison but move in opposite directions.



#### Tip:

- You can adjust the pan setting for the ST IN Channels L/R separately.
- You can also adjust the pan setting for the Input Channels using the PAN control in the SELECTED CHANNEL section.
- Surround Pan is available when the 01V96i is in Surround mode. See page 52 for more information on Surround Pan.

## Routing Input Channels

You can route each Input Channel to the Stereo Bus, Bus 1–8, or its own Direct Out. With the default setting, signals are routed only to the Stereo Bus. However, you can patch signals to a single or multiple destinations, if necessary.

### 1. Press the DISPLAY ACCESS [PAN/ROUTING] button repeatedly until the page listed below that contains the desired channels appears.

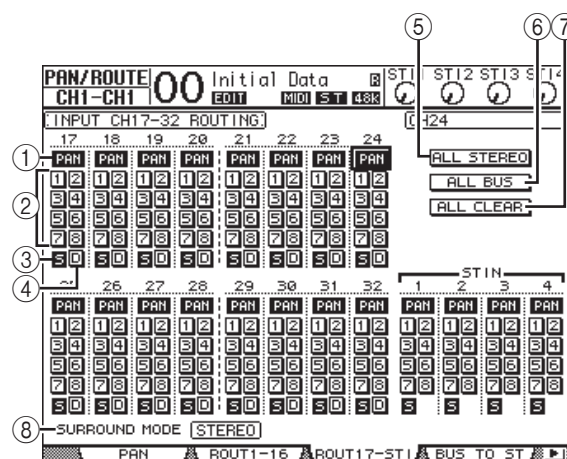
#### • ROUT1-16 page

This page enables you to change the routing for Input Channels 1–16.

#### • ROUT17-ST1 page

This page enables you to change the routing for Input Channels 17–32 and ST IN Channels 1–4.

The parameters on these two pages (and the procedure for setting them) are the same.



### ① PAN buttons

These buttons determine whether the channel's Pan setting is applied to the Bus outs. In surround mode, they also determine whether the Surround Pan setting is applied to the Bus Outs.

### ② Bus buttons 1–8

These buttons route the currently-selected Input Channel to the Bus Outs. If the 01V96i is in Surround mode, the button indicators change as follows, depending on the selected Surround mode:

| Bus buttons        | 1 | 2 | 3  | 4  | 5 | 6  | 7 | 8 |
|--------------------|---|---|----|----|---|----|---|---|
| Surround mode: 3-1 | L | R | C  | S  | 5 | 6  | 7 | 8 |
| Surround mode: 5.1 | L | R | Ls | Rs | C | E  | 7 | 8 |
| Surround mode: 6.1 | L | R | Ls | Rs | C | Bs | E | 8 |

L=Left, R=Right, C=Center, S=Surround, Ls=Left Surround

Rs=Right Surround, E=Low Frequency Effect, Bs=Back Surround

The above table shows the default assignment. The actual assignment may vary, depending on the settings on the DIO/Setup | Surround Bus Setup page.

- ③ **S**  
When this button is turned on, the currently-selected Input Channel is routed to the Stereo Bus.
- ④ **D**  
When this button is turned on, the currently-selected Input Channel is routed to its Direct Out. See page 46 for more information on the Direct Out.
- ⑤ **ALL STEREO**  
This button turns on the S button for all channels on the page.
- ⑥ **ALL BUS**  
This button turns on the Bus buttons 1–8 for all channels on the page.
- ⑦ **ALL CLEAR**  
This button clears all routing assignments on the page.
- ⑧ **SURROUND MODE**  
This field displays the current Surround mode.

**Tip:** The routings of the ST IN Channels L/R are linked. The D button is unavailable for the ST IN Channels.

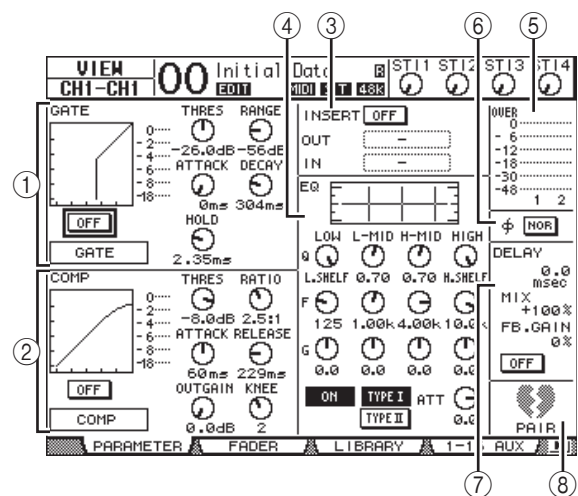
## Viewing Input Channel Settings

You can view and adjust parameter settings for the currently-selected Input Channel on the View | Parameter or Fader pages.

### ■ Viewing the Gate, Compressor, and EQ Settings

To display the View | Parameter page for a specific Input Channel, use the corresponding [SEL] button to select the desired channel, then press the DISPLAY ACCESS [VIEW] button repeatedly.

Move the cursor to a parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons or [ENTER] button to modify the setting.



The following parameters are available (sections marked with an asterisk (\*) are unavailable for the ST IN Channels).

- ① **GATE section (\*)**  
This section enables you to turn the gate-type dynamics processor on or off and set the parameters. (See page 19 for more information.)
- ② **COMP section (\*)**  
This section enables you to turn the compressor-type dynamics processor on or off and set the parameters. (See page 20 for more information.)
- ③ **INSERT section (\*)**  
This section enables you to turn the Insert on or off and patch the Insert In and Out. (See page 47 for more information.)
- ④ **EQ section**  
This section enables you to set various EQ parameters. (See page 21 for more information.)
- ⑤ **Meters**  
These meters indicate the signal levels of the currently-selected Input Channel and its available pair partner.
- ⑥ **∅ (Phase) section**  
You can reverse the signal phase of the currently-selected Input Channel. (See page 18 for more information.)

### ⑦ DELAY section (\*)

This section enables you to set the currently-selected channel's Delay function. (See page 18 for more information.)

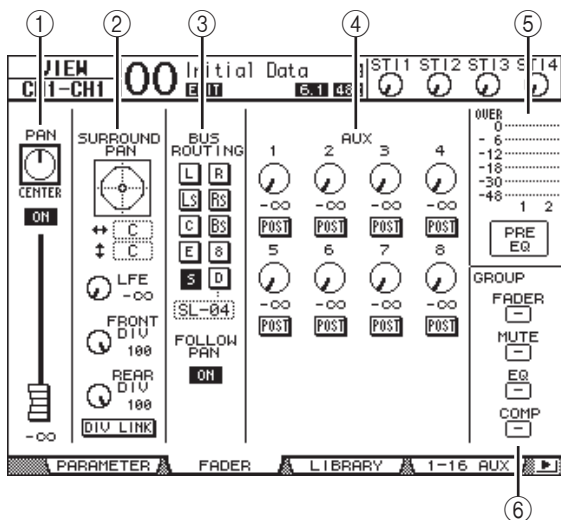
### ⑧ PAIR section (\*)

This section indicates whether or not channels are paired. The heart icon (♥) is in one piece when channels are paired. The heart icon is broken (♥) when channels are not paired. (See page 26 for more information.)

## ■ Viewing the Pan, Fader, and Aux Send Level Settings

To display the View | Fader page of a certain Input Channel, use the corresponding [SEL] button to select the desired channel, then press the DISPLAY ACCESS [VIEW] button repeatedly.

Move the cursor to a parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the setting.



### ① PAN/ON/Fader section

#### • PAN control

This control adjusts the currently-selected Input Channel's Pan parameter.

Press the [ENTER] button to reset the Pan control to Center.

#### • ON/OFF button

This button turns on or off the currently-selected Input Channel.

#### • Fader

This parameter sets the fader position of the currently-selected Input Channel. The fader knob is highlighted when the fader is set to 0.0 dB.

Press the [ENTER] button to reset the Fader to 0.0 dB.

### ② SURROUND PAN section

#### • SURROUND PAN

The Surround pan parameters for the currently-selected Input Channel are displayed only when a Surround mode is selected. See page 52 for more information on Surround pan.

### ③ BUS ROUTING/FOLLOW PAN section

#### • BUS ROUTING

This section enables you to select a destination Bus for the selected channel. When the D button is turned on, the channel signal is patched to the Direct Out selected in the parameter box below the button. (The D button is unavailable for the ST IN Channels.)

#### • FOLLOW PAN

This button determines whether the Input Channel's Pan setting is applied to the paired Bus Outs (Follow Pan function). When the button is turned off, the Follow Pan function is disabled and an identical signal is sent to the paired Bus Outs. In surround mode, it also determines whether the Surround Pan setting is applied to the Bus Outs.

### ④ AUX section

#### • AUX

These controls set the currently-selected Input Channel's Aux Send 1–8 levels and positions. (See page 36 for more information on Aux Sends.)

### ⑤ Meter section

#### • Meters

These meters indicate the levels of the currently-selected Input Channel.

#### • PRE EQ/PRE FADER/POST FADER

The metering position is displayed below the meters.

### ⑥ GROUP section

#### • FADER/MUTE/EQ/COMP

These buttons indicate which Fader, Mute, EQ, or Comp group, if any, the currently-selected Input Channel is in. If the channel is in a group, the group number appears. If the channel is not in a group, “—” appears. (The compressor is unavailable for the ST IN Channels.)

## Setting the Input Channels from the Control Surface

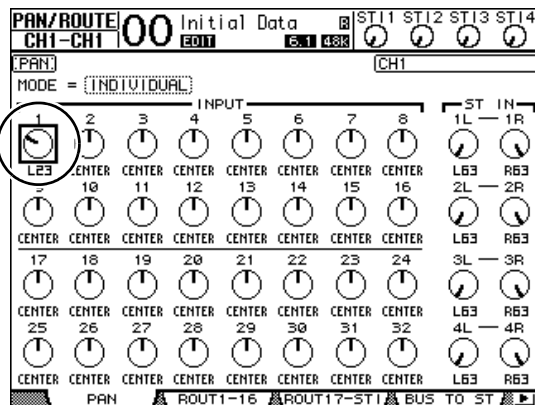
You can use the faders, [SEL] buttons, and various buttons and controls in the SELECTED CHANNEL section on the top panel to directly control most parameters for Input Channels.

## Setting Input Channel Levels and Panning the Channels

### ■ Input Channels 1–32

1. Press the LAYER [1–16] or [17–32] button to select a layer.
2. Press the [SEL] button of the channel for which you want to adjust the input level and/or pan settings.
3. Use the faders to set the Input Channel levels.
4. Rotate the SELECTED CHANNEL [PAN] control to adjust the pan settings.

When you rotate the [PAN] control, the Pan/Route | Pan page is displayed automatically.

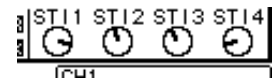


### ■ ST IN Channels 1–4

1. Use the ST IN [ST IN] button to select the desired ST IN Channels.  
The indicators next to the [ST IN] button display the ST IN Channels currently selected for control by the ST IN section.
2. Press the [SEL] button for the channel for which you want to adjust the level and/or pan settings.

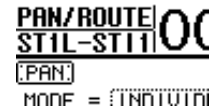
3. Rotate the level control of the desired channel to set the level.

You can always view the current channel level at the top of the display.



4. Rotate the SELECTED CHANNEL [PAN] control to adjust the pan setting.

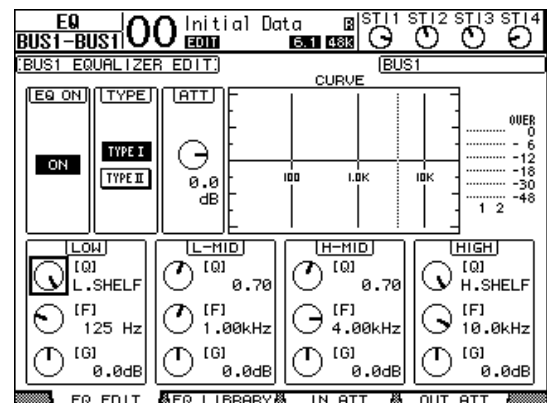
The pan setting can be applied to either ST IN channel L or R. To switch between channels L and R for the pan setting, press the same [SEL] button repeatedly. (The channel currently being controlled is indicated in the upper-left corner of the display.)



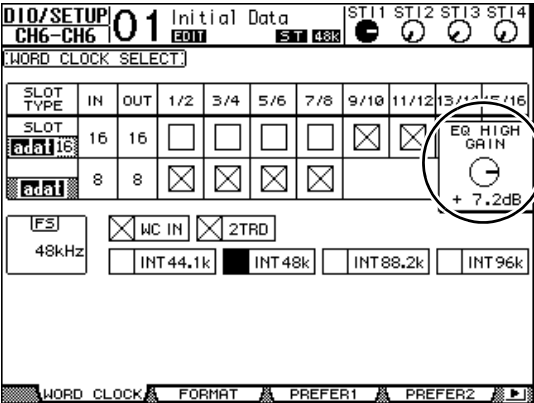
## EQ'ing Input Channels

1. Press the [SEL] button or move the fader for the channel you wish to control.
2. To control EQ for the currently-selected channel, press one of the following buttons to select the band you wish to adjust:
  - [HIGH] button..... HIGH band
  - [H-MID] button ... HIGH-MID band
  - [L-MID] button .... LOW-MID band
  - [LOW] button ..... LOW band
3. Use the SELECTED CHANNEL [Q], [FREQUENCY], and [GAIN] controls to adjust the Q, frequency, and gain of the band selected in Step 2.

When the Auto EQUALIZER Display (page 109) check box is on, the 01V96i displays the EQ/EQ Edit page.



If the check box is off, the parameter value currently being adjusted pops up.  
See page 21 for more information on EQ.



**Tip:**

- Pressing and holding down the button selected in Step 2 resets the corresponding band gain.
- Pressing the SELECTED CHANNEL [HIGH] and [LOW] buttons simultaneously resets the Q, frequency and gain for each band.

## Pairing Input Channels

On the 01V96i, you can pair adjacent odd-even Input Channels or counterpart channels on Layer 1 and Layer 2 that share the same physical fader. Faders and most parameters of paired channels are linked for stereo operation. Paired channels' linked parameters and non-linked parameters (that are available for independent control) are listed below:

| Linked parameters        | Non-linked parameters |
|--------------------------|-----------------------|
| [SEL] buttons            | Input patches         |
| Faders                   | Insert patches        |
| Channel on/off           | Output patches        |
| Insert on/off            | Comp insert position  |
| Solo on/off              | Phase                 |
| Solo Safe                | Delay on/off          |
| Aux on/off               | Delay time*           |
| Aux Send level           | Delay feedback        |
| Aux Sends as Pre or Post | Delay mix             |
| Gate                     | Routing               |
| Comp settings            | Pan, Follow Pan       |
| EQ settings              | Surround pan          |
| Fader group              | Aux Send pan          |
| Mute group               | Balance               |
| Fade time                | Attenuators**         |
| Recall Safe              |                       |

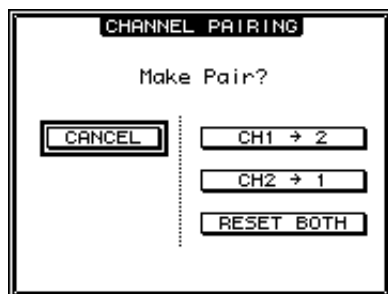
\* You can set this parameter for each channel independently if the GANG button is turned off on the  $\phi$  /INS/DLY | DLY page.  
\*\* You can set this parameter for each channel independently on the EQ | ATT page, but the paired channel settings are linked on the EQ | Edit and View pages.

**Note:** You cannot pair an ST IN channel 1–4 with an Input Channel.

To pair channels, or to cancel channel pairs, you can use the [SEL] buttons on the top panel or access the Pair/Grup pages.

## ■ Pairing Channels by Using the [SEL] Buttons

1. While pressing and holding down the [SEL] button for one of the channels you wish to pair, press the [SEL] button for the adjacent channel. (The paired channel numbers should be odd and even in this order).
2. When the Pair Confirmation check box is on (see page 109), the Channel Pairing window appears.



**Note:** You can pair only channels that are adjacent, odd-even (in this order) channels. Pressing the [SEL] button for a non-adjacent channel will be ignored. You cannot create or cancel a pair of vertical partners.

3. Move the cursor to the desired button in the Channel Pairing window, then press [ENTER].

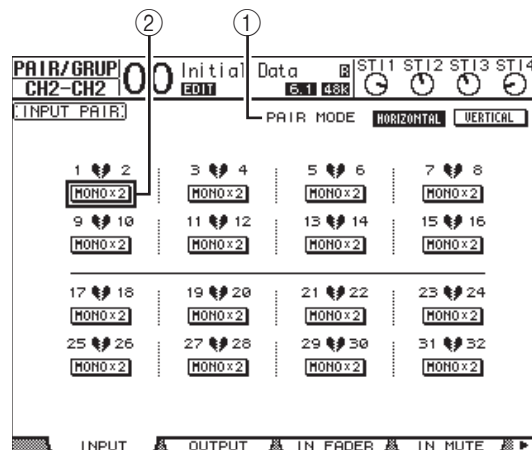
The following buttons are available in this window:

- **CANCEL**  
Cancels the operation.
- **CH x → y**  
Copies the odd channel parameter values to the even channel.
- **CH y → x**  
Copies the even channel parameter values to the odd channel.
- **RESET BOTH**  
Resets both channel parameters to the default settings (same as when Channel memory #01 is recalled).  
Move the cursor to the desired button, then press [ENTER] to confirm the pair.

**Tip:** Pressing and holding down the first [SEL] button of the paired channels and pressing the second [SEL] button cancels the pair.

## ■ Pairing Input Channels Using the Display

1. Press the [PAIR/GROUP] button repeatedly until the Pair/Grup | Input page appears.



The parameters on this page are described below:

- ① **PAIR MODE**  
Determines how channels are paired.
- ② **STEREO/MONO x2 buttons**  
These buttons turn pairs on or off.

2. Move the cursor to the PAIR MODE parameter field (①), then select the HORIZONTAL or VERTICAL button.

The function of each mode is described below:

- **HORIZONTAL**  
This button pairs adjacent odd-even channels (default).
- **VERTICAL**  
This button pairs counterpart channels on Layer 1 and Layer 2 that share the same physical fader (e.g., CH1 & CH17, CH16 & CH32, etc.). This mode is useful when you wish to use one fader to control both stereo channels.

When you switch the Pair Mode, the combinations of channel numbers displayed on the page also change.

**Note:**

- When Pair mode is switched, only the channel numbers change. The mix parameters of the paired partners do not change.
- For example, if you change Pair mode from Horizontal to Vertical, the Input Channel “2” indication changes to Input Channel “17.” However, its parameters do not change. (If Channels 1 and 2 have been paired, switching the mode will pair Channels 1 and 17.)

3. Move the cursor to the desired channel's MONOx2 button (②), then press [ENTER].

The channels are paired.

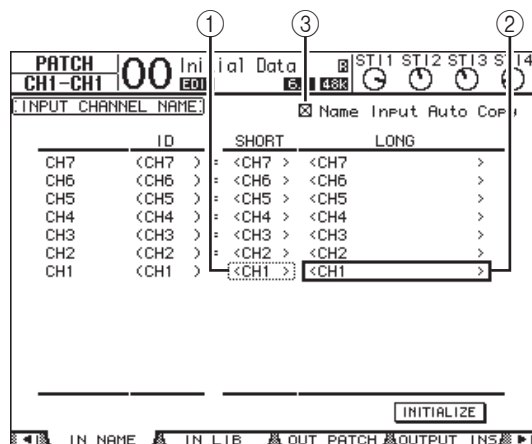
4. To cancel a pair, move the cursor to the desired channel's STEREO button, then press [ENTER].

**Tip:** You can also create or cancel a pair of Output Channels in the same way on the Pair/Grup | Output page (see page 33).

## Naming Input Channels

By default, Input Channels are named CH1, CH2, etc. You can change these names if desired. For example, it may be helpful for mixdown if you name a particular Input Channel with the type of musical instrument connected to the corresponding input jack.

1. Press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | IN Name page appears.



You can specify Short names in the center column (①) and Long (full) names in the right column (②).

When the Name Input Auto Copy check box (③) is on, the first four characters of a newly-entered Long name are automatically copied to the Short name. On the other hand, a newly-entered Short name is automatically added to the beginning of the Long name.

You can reset all channel names to their default names by moving the cursor to the INITIALIZE button, then pressing [ENTER].

2. Move the cursor to a name you wish to change, then press [ENTER].

The Title Edit window appears, enabling you to enter a name.



3. Edit the name, move the cursor to the OK button, then press [ENTER].

The new name is now effective.

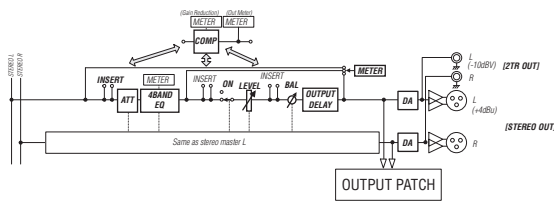
**Tip:** The edited name is stored in the Input Patch library.

# Bus Outs

This chapter describes how to adjust the 01V96i's Stereo Out and Bus Out 1–8 parameters.

## About Stereo Out

The Stereo Out section receives Input Channel and Bus Out 1–8 signals, mixes them into two channels, processes them using on-board EQ, compressor, etc., then routes them to the STEREO OUT and 2TR OUT connectors. The following diagram illustrates the Stereo Out signal flow.



### • INSERT

This section enables you to route the Stereo Out signals to external devices via the on-board connectors or I/O card, or insert internal effects processors.

### • ATT (Attenuator)

This section enables you to attenuate or amplify the level of signals to be input to the EQ. The attenuator prevents post-EQ signals from clipping or corrects signal levels that are too low.

### • 4 BAND EQ (4-band equalizer)

This parametric EQ features four bands (HIGH, HIGH-MID, LOW-MID, and LOW).

### • COMP (Compressor)

This dynamics processor can be used as compressor, expander, or limiter. The processor can be located pre-EQ, pre-[STEREO] fader, or post-[STEREO] fader.

### • ON (On/Off)

This button turns the Stereo Out on or off.

### • LEVEL

The [STEREO] fader adjusts the Stereo Out output levels.

### • Balance

This section enables you to adjust the level balance between the L and R channels of the Stereo Out.

### • OUTPUT DELAY (Output delay)

This section delays the output signals. It is mainly used to fine-tune the signal timing.

### • METER

This section enables you to switch the metering position of signal levels that are displayed on the Meter page or by the stereo meter to the right of the screen.

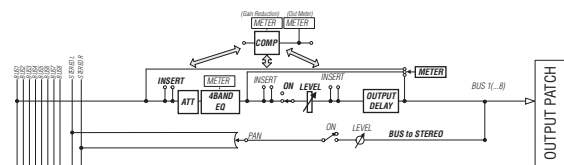
For more information on selecting the metering position, refer to “Viewing the Level Meters” in the Owner’s Manual (booklet).

**Note:** You can also patch the Stereo Out signals to other output connectors or the I/O card by using the Patch | Out Patch pages.

## Bus Out 1–8

The Bus Out 1–8 section mixes signals routed from Input Channels to the specified buses, processes them using on-board EQ, compressor, etc., then routes them to the specified output connectors or I/O card.

The following diagram illustrates the Bus Out signal flow.



### • INSERT

### • ATT (Attenuator)

### • 4 BAND EQ (4-band equalizer)

### • COMP (Compressor)

### • ON (On/Off)

### • LEVEL

### • OUTPUT DELAY (Output delay)

### • METER

The parameters and sections listed above are identical to those for the Stereo Out. For more information, refer to the explanation of the Stereo Out.

### • Bus to Stereo

Bus Out 1–8 signals are also routed to the Stereo Bus. In addition to the ON, LEVEL, and other parameters, you can also set the Send Level, On/Off, Pan, and other parameters.

### Tip:

- You can also pair adjacent odd-even buses for stereo operation (see page 33).
- By default, Slot channels 1–8 and 9–16 and ADAT OUT channels 1–8 are patched to the Bus Out 1–8 outputs. However, you can change this patching on the Patch | Out Patch page (see page 44).

## Setting the Stereo Out and Bus Out 1–8 from the Display

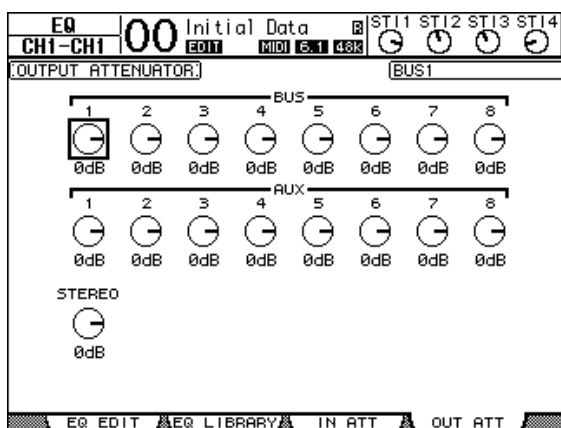
To set the Stereo Out and Bus Out 1–8 parameters, you can either move the cursor to the desired parameter on the display and change the value, or operate the desired button or control on the top panel.

This section explains how to set the parameters on the display.

**Tip:** Refer to “Input & Output Patching” on page 43 for more information on how to set inserts.

## Attenuating the Stereo Out and Bus Out

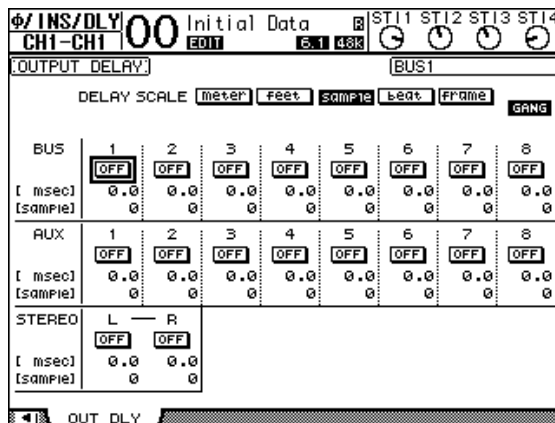
To attenuate the Stereo Out and Bus Out signals, press the DISPLAY ACCESS [EQ] button, then press the [F4] button to display the EQ | Out Att page. On this page, you can attenuate the Bus Out 1–8, Aux Out 1–8, and Stereo Out signals.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 20).

## Delaying the Stereo Out and Bus Outs

To delay the Stereo Out and Bus Out 1–8 signals, press the [  $\phi$  /INSERT/DELAY] button repeatedly until the  $\phi$  /INS/DLY | Out Dly page appears.

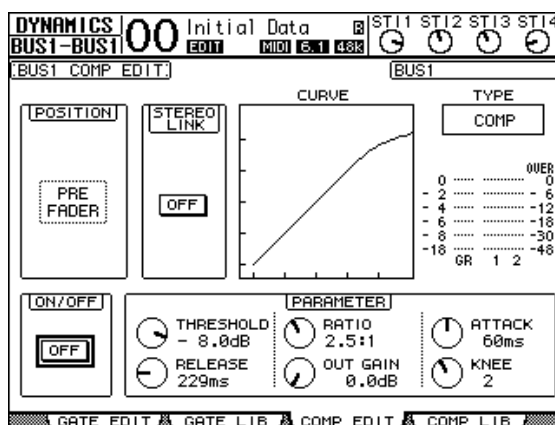


The parameters on this page (and the procedure for setting them) are the same as for Input Channels, except that this page does not include the MIX/FB.GAIN parameters (see page 18).

**Tip:** You can also display the Out Dly page by pressing the [  $\phi$  /INSERT/DELAY] button once, then press the [SEL] button to select the Stereo Out or Bus Out 1–8.

## Compressing the Stereo Out and Bus Outs

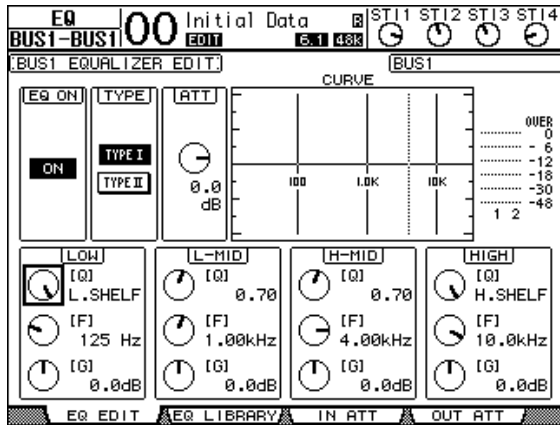
To set the Stereo Out and Bus Out 1–8 compressors, press the [DYNAMICS] button, then the [F3] button to display the Dynamics | Comp Edit page, and use the [SEL] buttons to select the Stereo Out or Bus Out 1–8.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 20).

## EQ'ing the Stereo Out and Bus Outs

To set the EQ for the Stereo Out and Bus Out 1–8 EQ, press the DISPLAY ACCESS [EQ] button, then press the [F1] button to display the EQ | EQ Edit page, and use the [SEL] buttons to select the Stereo Out or Bus Out 1–8.

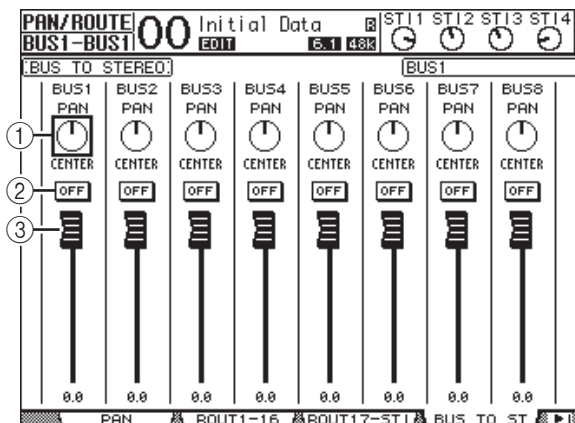


The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 21). Note that the Stereo Out does not feature the STEREO LINK parameter.

## Routing Bus Out 1–8 Signals to the Stereo Bus

You can patch Bus Out 1–8 signals to Outputs and Slot, as well as to the Stereo Bus. You can adjust the level and pan settings of the signals routed to the Stereo Bus for each bus. This is convenient when you wish to use Bus Outs (1–8) as a Group Bus.

To patch the Bus Out 1–8 signals to the Stereo Bus, press the DISPLAY ACCESS [PAN/ROUTING] button repeatedly to display the Pan/Route | Bus to St page.



Move the cursor to the desired parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the setting.

### ① TO ST PAN

These controls pan the Bus Out 1–8 signals between the left and right Stereo Out buses.

### ② TO ST ON/OFF

These buttons turn on and off the Bus Out 1–8 to the Stereo Bus routing.

### ③ TO ST Faders

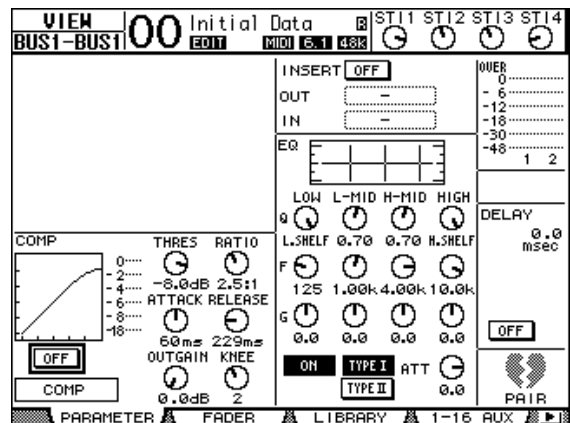
These faders set the Bus Out 1–8 to Stereo Bus levels.

## Viewing the Stereo Out and Bus Out Settings

You can view and adjust parameter settings for the currently-selected Stereo Out or Bus Out on the View | Parameter and Fader pages.

### ■ Viewing the Compressor and EQ Settings

To display the View | Parameter page, use the corresponding [SEL] button to select the desired bus, then press the DISPLAY ACCESS [VIEW] button, then press the [F1] button.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels, except for the following items:

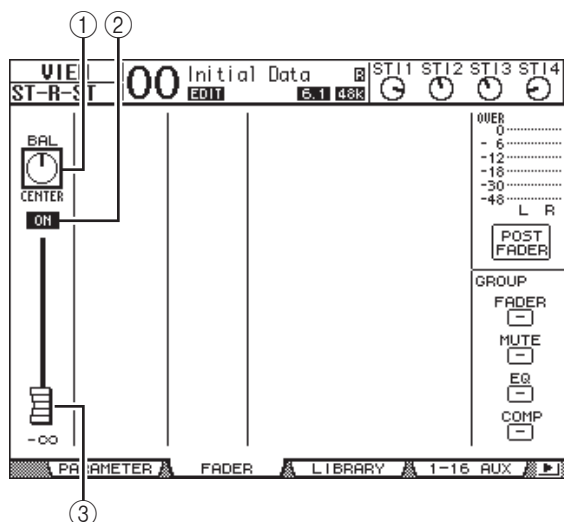
- The Stereo Out and Bus Out 1–8 Parameter pages do not contain the Gate and Phase parameters.
- The Stereo Out Parameter page does not contain the Pair parameter.

## ■ Viewing Faders and Other Parameters

To display the View | Fader page, use the corresponding [SEL] button to select the desired bus, then press the DISPLAY ACCESS [VIEW] button, then press the [F2] button.

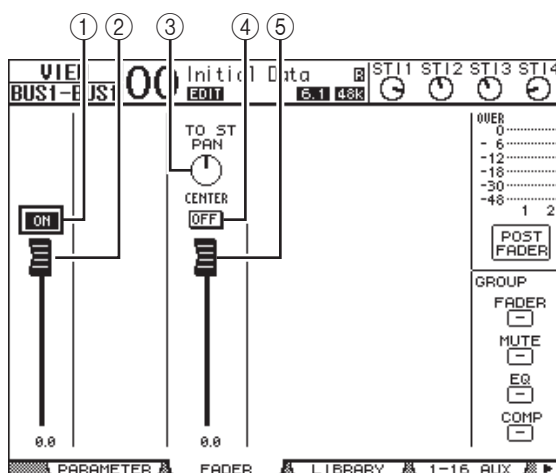
The Fader page layouts for Stereo Out and Bus Out 1–8 are slightly different.

### Stereo Out Fader page



- ① **BAL**  
This control adjusts the level balance between the L and R channels of the Stereo Out.
- ② **ON/OFF**  
This button turns the Stereo Out on or off, and links with the [ON] button in the STEREO section.
- ③ **Fader**  
This fader adjusts the Stereo Out output levels, and links with the [STEREO] fader. The fader knob is highlighted when the fader is set to 0.0 dB.

### Bus Out (1–8) Fader page



- ① **BUS ON/OFF**  
This button turns the currently-selected Bus Out (1–8) on or off, and links with the [ON] (9–16) button in the Master layer.
- ② **BUS Fader**  
This fader sets the currently-selected Bus Out (1–8) level, and links with the fader (9–16) in the Master layer. The fader knob is highlighted when the fader is set to 0.0 dB.
- ③ **TO ST PAN**  
This control sets the Bus Out to Stereo Out Pan position for the currently-selected Bus Out (1–8).
- ④ **TO ST ON/OFF**  
This button turns on or off the Bus Out to Stereo Out signal for the currently-selected Bus Out (1–8).
- ⑤ **TO ST Fader**  
This fader sets the Bus Out to Stereo Out signal level for the currently-selected Bus Out (1–8).

**Tip:** The TO ST PAN, ON/OFF, and TO ST Fader parameters also appear on the Pan/Route | Bus to St page.

## Setting the Stereo Out and Bus Out 1–8 from the Control Surface

You can use the faders, [SEL] buttons, and various buttons and controls in the SELECTED CHANNEL section on the top panel to directly control certain parameters for the Stereo Out and Bus Out 1–8.

### Setting the Levels

Move the [STEREO] fader to adjust the Stereo Out levels. Press the [ON] button in the STEREO section to turn the Stereo Out on or off.

To set Bus Out 1–8 levels, press the [MASTER] button in the LAYER section to select the Master layer, then move faders 9–16. At this time, you can turn Bus Out 1–8 on or off using the [ON] 9–16 buttons.

### EQ'ing and Balancing the Stereo Out and Bus Outs

1. Press the [SEL] button of the bus to which you want to apply EQ or set the level balance.
2. To adjust the EQ of the currently-selected bus, select the desired band by pressing one of the following buttons in the SELECTED CHANNEL section:
  - [HIGH] button..... HIGH band
  - [H-MID] button ... HIGH-MID band
  - [L-MID] button .... LOW-MID band
  - [LOW] button ..... LOW band
3. Use the [Q], [FREQUENCY], and [GAIN] controls to adjust the Q, frequency, and gain of the band selected in Step 2.  
See page 21 for more information on EQ.
4. To adjust the Stereo Out Balance parameter, use the [PAN] control in the SELECTED CHANNEL section.

**Note:** If you select Aux Out 1–8 or Bus Out 1–8, the [PAN] control is disabled.

## Pairing Buses or Aux Sends

You can pair adjacent odd-even (in this order) buses or Aux Sends for stereo operation. Paired bus and Aux Send linked parameters and non-linked parameters (that are available for independent controls) are listed below:

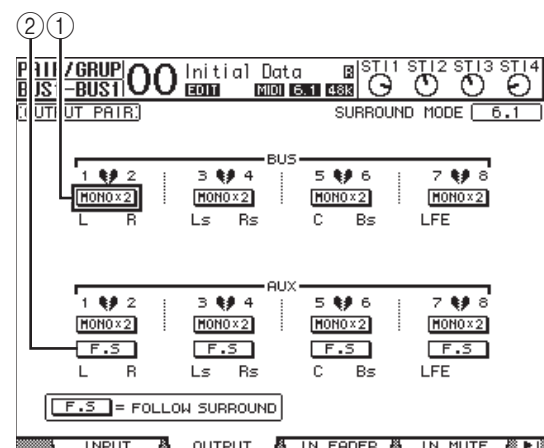
| Linked parameters     | Non-linked parameters |
|-----------------------|-----------------------|
| [SEL] buttons         | Output Patching       |
| Fader                 | Insert Patching       |
| Channel on/off        | Delay on/off          |
| Insert on/off         | Delay time**          |
| Solo on/off           | Bus to Stereo Pan*    |
| Comp settings         | Attenuators***        |
| Comp insert position  |                       |
| EQ settings           |                       |
| Fader group           |                       |
| Mute group            |                       |
| Fade time             |                       |
| Recall safe           |                       |
| Bus to Stereo on/off* |                       |
| Bus to Stereo fader*  |                       |

\*\* You can set this parameter for each channel independently if the GANG button is turned off on the  $\phi$ /INS/DLY | DLY page.

\*\*\* You can set this parameter for each channel independently on the EQ | ATT page, but the paired channel settings are linked on the EQ | Edit and View pages.

Parameters marked with an asterisk \* are available only for Bus Out 1–8.

1. Press the DISPLAY ACCESS [PAIR/GROUP] button repeatedly until the Pair/Grup | Output page appears.



The parameters on this page are described below.

#### ① STEREO/MONOx2

These buttons turn Bus or Aux Send pairs on or off.

## ② F.S

This button determines whether Aux Sends follow the Input Channel Surround Pan when the 01V96i is in any Surround mode other than “Stereo.” When this button is turned on, Aux Sends follow the Input Channel Surround Pan. This is useful for feeding Surround signals to external Surround effects processors.

**2. Move the cursor to the MONOx2 button for the desired Bus or Aux Send, then press [ENTER].**

The buses or Aux Sends are paired.

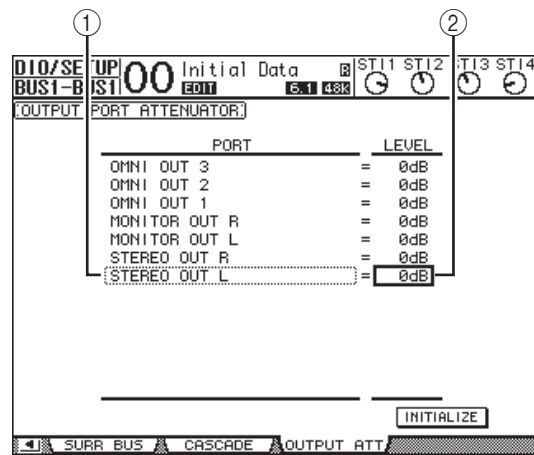
**3. To cancel a pair, move the cursor to the STEREO button for the desired Bus or Aux Send, then press [ENTER].**

## Attenuating Output Signals

To attenuate the 01V96i's output signals, display the EQ | Out Att page and adjust the Stereo Out and Bus Out 1–8 attenuators individually.

If necessary, you can also select Output and I/O card channels and specify the amount of attenuation. This technique is convenient when you want to attenuate output signals quickly, regardless of the source signal patching.

**1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Output Att page appears.**



**2. Move the cursor in the left column (①), then scroll the list up or down using the Parameter wheel to select the desired output or slot channel for which you want to adjust attenuation.**

The following outputs and slot channels can be selected:

- STEREO OUT L/R ..... STEREO OUT L & R channels
- MONITOR OUT L/R..... MONITOR OUT L & R channels
- OMNI OUT 1–4..... OMNI OUT connectors 1–4
- SLOT OUT 1–1 through 1–16 ..... Slot channels 1–16
- ADAT OUT 1–8 ..... ADAT OUT channels 1–8
- 2TR OUT DIGITAL L/R..... 2TR OUT DIGITAL L & R channels

**3. Move the cursor to the parameter value in the right column (②), then rotate the Parameter wheel or press the [INC]/[DEC] buttons to set the amount of attenuation.**

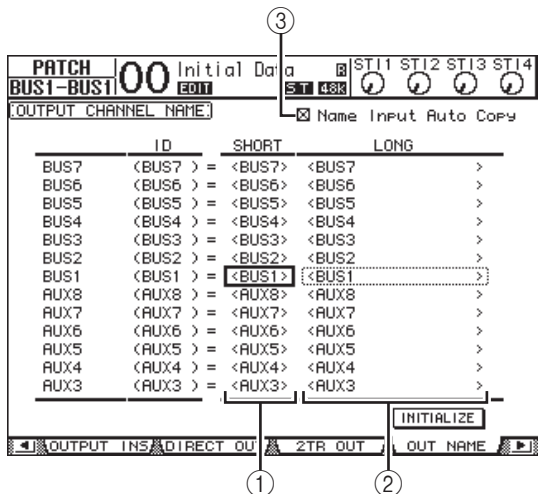
The amount of attenuation can be set from 0 dB to –9 dB.

**Tip:** To reset the attenuation amount of all Output Channels to 0 dB, move the cursor to the INITIALIZE button, then press [ENTER].

# Naming the Stereo Out and Bus Outs

You can change the default Bus names (BUS1, AUX4, STEREO, etc.). It may be convenient to name the buses “Monitor Out” or “Effect Send,” for example, so that you can easily identify the signal type.

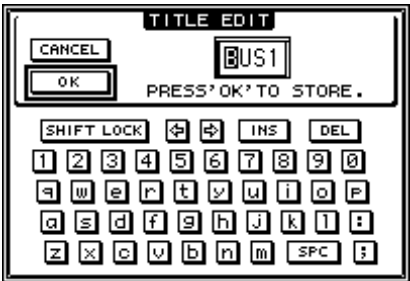
1. Press the **DISPLAY ACCESS [PATCH]** button repeatedly until the Patch | Out Name page appears.



You can specify Short names in the center column (①) and Long (full) names in the right column (②). When the Name Input Auto Copy check box (③) is on, the first four characters of a newly-entered Long name are automatically copied to the Short name. On the other hand, a newly-entered Short name is automatically added to the beginning of the Long name. You can reset all bus names to their default names by moving the cursor to the INITIALIZE button, then pressing [ENTER].

2. Move the cursor to a name you wish to change, then press [ENTER].

The Title Edit window appears, which enables you to edit the name.



3. Edit the name, move the cursor to the OK button, then press [ENTER].

The new name is now effective.

**Tip:** The edited name is stored in the Output Patch library.

# Aux Outs

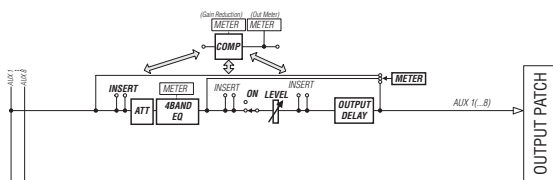
This chapter describes how to control Aux Out 1–8.

## Aux Out 1–8

The Aux Out 1–8 section mixes signals routed from the Input Channels to the corresponding Aux Sends, processes them using on-board EQ, compressor, etc., then routes them to the specified internal effects processors, output connectors or I/O card connectors.

The 01V96i features eight Aux Sends, which can be used to send signals to the internal and external effects processors and monitors.

The following diagram illustrates the Aux Out 1–8 signal flow.



- INSERT
- ATT (Attenuator)
- 4 BAND EQ (4-band equalizer)
- COMP (Compressor)
- ON (On/Off)
- LEVEL
- OUTPUT DELAY (Output delay)
- METER

These parameters are the same as the Stereo Out and Bus Out 1–8 (see page 29).

**Tip:** You can also pair adjacent odd-even Aux Sends (in this order) for stereo Aux operation.

**Note:** With the default setting, Aux Out 1–4 are patched to OMNI OUT connectors 1–4 and to internal Effects processors 1–4. However, you can change this patching on the Patch | Output page.

## Setting Aux Out 1–8 from the Display

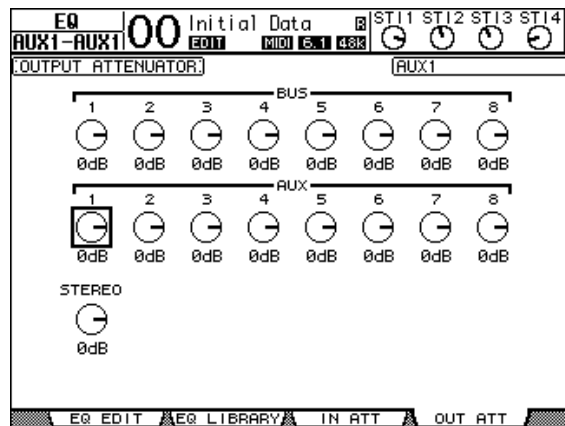
To set Aux Out 1–8 parameters, you can either move the cursor to the desired parameter on the screen and change the value, or operate the desired button or control on the top panel.

This section explains how to set the parameters on the screen.

**Tip:** Refer to “Input & Output Patching” on page 43 for more information on how to set inserts.

## Attenuating Aux Outs

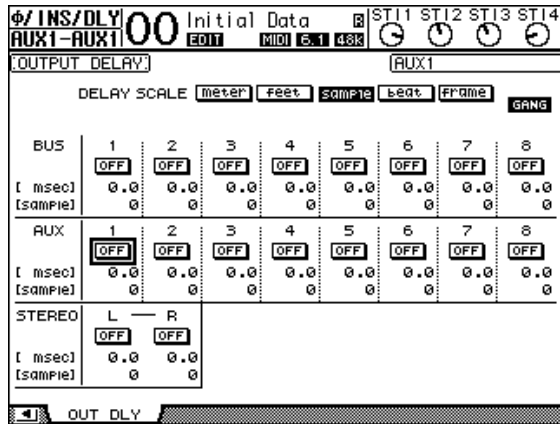
To attenuate Aux Out 1–8 signals, press the [EQ] button, then press the [F4] button to display the EQ | Out Att page.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 20).

## Delaying Aux Outs

To delay Aux Out 1–8 signals, press the DISPLAY ACCESS [ $\Phi$  /INSERT/DELAY] button repeatedly until the  $\Phi$  /INS/DLY | Out Dly page appears.

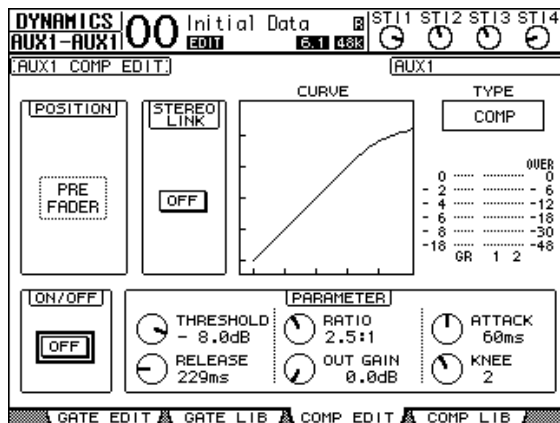


The parameters on this page (and the procedure for setting them) are the same as for Input Channels, except that this page does not include the MIX/FB.GAIN parameters (see page 18).

**Tip:** You can also display the Out Dly page if you select the desired Aux Out (1–8) by pressing the corresponding [SEL] button while the DLY-related parameters are indicated on the page.

## Comp settings

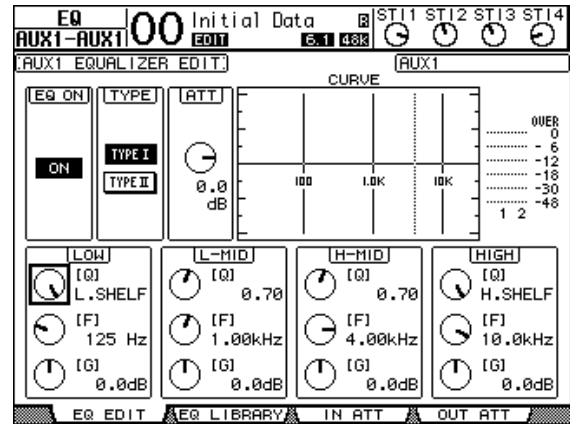
To set the Aux Out 1–8 compressors, press the DISPLAY ACCESS [DYNAMICS] button, then press the [F3] button to display the Dynamics | Comp Edit page, then select the desired Aux Out 1–8 by using the corresponding [SEL] buttons.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 20).

## EQ settings

To set the EQ for Aux Out 1–8, press the DISPLAY ACCESS [EQ] button, then press the [F1] button to display the EQ | EQ Edit page, then use the [SEL] buttons to select Aux Out 1–8.



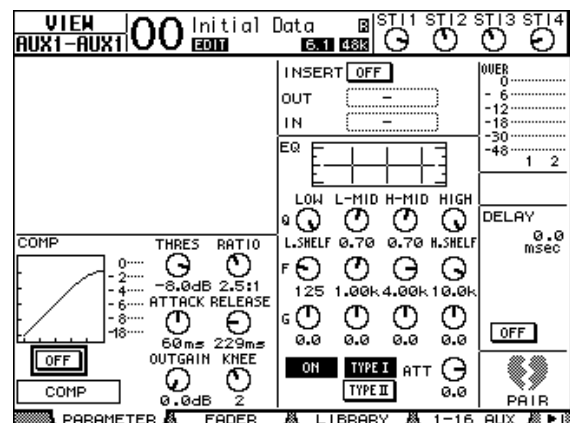
The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 21).

## Viewing Aux Out Settings

You can view and adjust the parameter settings for the currently-selected Aux Out on the View | Parameter and Fader pages.

### ■ Viewing the Compressor and EQ Settings

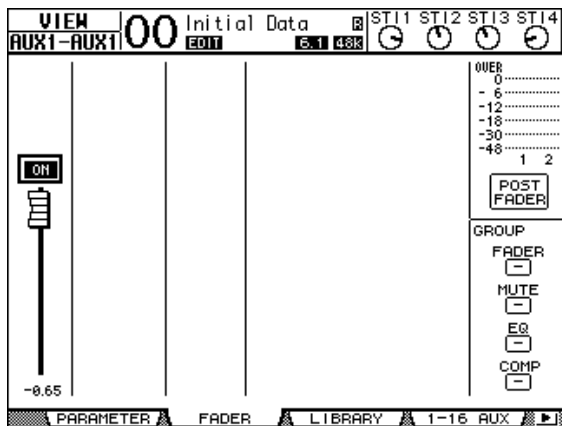
To display the View | Parameter page, use the corresponding [SEL] button to select the desired Aux Out (1–8), then press the DISPLAY ACCESS [VIEW] button, then press the [F1] button.



The parameters on this page (and the procedure for setting them) are the same as for Input Channels, except that this page does not include the Gate and Phase parameters (see page 23).

## ■ Viewing Faders and On/Off Parameters

To display the View | Fader page, use the corresponding [SEL] button to select the desired Aux Out (1–8), then press the DISPLAY ACCESS [VIEW] button, then press the [F2] button.



- **ON/OFF**

This button turns the currently-selected Aux Out (1–8) on or off. It links with the corresponding [ON] (1–8) button in the Master layer.

- **Fader**

This fader sets the currently-selected Aux Out (1–8) level. It links with the corresponding fader (1–8) in the Master layer. The fader knob is highlighted when the fader is set to 0.0 dB.

## Setting Aux Out 1–8 from the Control Surface

You can use the faders, [SEL] buttons, and various buttons and controls in the SELECTED CHANNEL section on the top panel to directly control certain parameters for Aux Out 1–8.

## Setting Levels

To set Aux Out 1–8 levels, press the [MASTER] button in the LAYER section to select the Master layer, then move faders 1–8. At this time, you can turn Aux Out 1–8 on or off using the corresponding [ON] 1–8 buttons.

## EQ settings

To control Aux Out 1–8 EQ parameters, select the desired Aux Out (1–8) using the corresponding [SEL] button or fader, then use the buttons and controls in the SELECTED CHANNEL section. The parameters on this page (and the procedure for setting them) are the same as for Input Channels (see page 21).

## Setting Aux Send Levels

You can adjust the level of signals routed from Input Channels to the corresponding Aux Out (1–8).

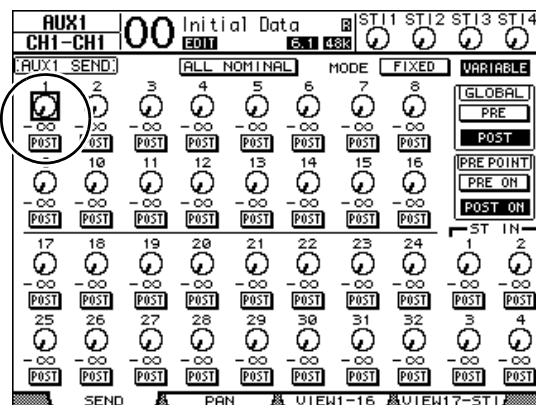
## Setting Send Levels from the Display

You can view multiple channels' Aux Send levels on the screen and adjust them individually.

1. Press the FADER MODE [AUX 1]–[AUX 8] buttons to select the Aux.
2. Make sure that the 01V96i displays the Aux | Send page.

This page enables you to adjust the level of the signals routed from each Input Channel to the Aux selected in Step 1.

If the Send page is not displayed, repeatedly press the button that you pressed in Step 1 until the Send page appears.



- **Aux Send rotary controls**

These controls adjust the Aux Send level of the Input Channels. The current numeric levels appear below the rotary controls.

- **PRE/POST**

These buttons enable you to specify the Aux signal source points. The PRE buttons send pre-fader signals, and the POST buttons send post-fader signals.

- **MODE**

Aux Sends have two operating modes that determine how signals are sent: Fixed (Aux Send levels are fixed); and Variable (Aux Send levels are variable).

- **GLOBAL**

The GLOBAL PRE and POST buttons enable you to set all Input Channels for the selected Aux to pre-fader or post-fader simultaneously.

- **PRE POINT**

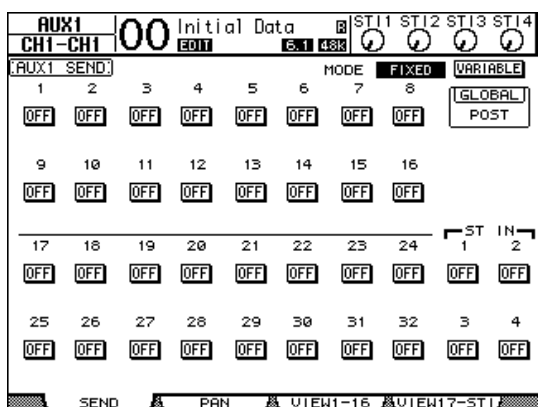
The PRE POINT PRE ON and POST ON buttons enable you to set the pre-fader channels to pre-on (before the [ON] button) or post-on (after the [ON] button).

**Note:** In Fixed mode, Aux Send ON/OFF buttons appear instead of the Aux Send rotary controls, PRE/POST buttons, GLOBAL PRE/POST buttons, and PRE POINT PRE ON/POST ON. These ON/OFF buttons turn on or off each Input Channel for the currently-selected Aux Send.

3. Move the cursor to the **FIXED** or **VARIABLE** button in the **MODE** section for the currently-selected Aux Send to select a mode.

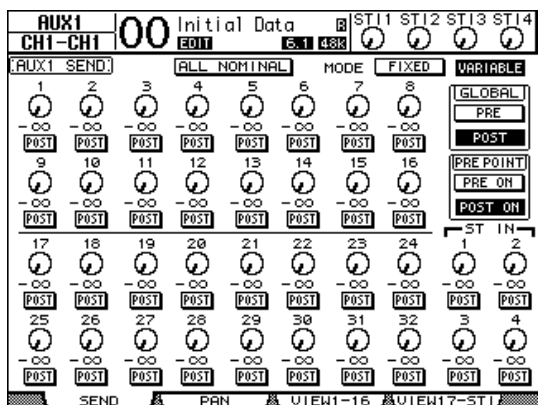
- **Fixed Mode**

In this mode, Aux Send levels are fixed at nominal (0.0 dB). Also, channel ON/OFF buttons appear instead of the Send level rotary controls and PRE/POST buttons.



- **Variable Mode**

In this mode, Aux Send levels are variable and the signal source point can be either pre-fader or post-fader. Channel Send level rotary controls and PRE/POST buttons appear on the screen.

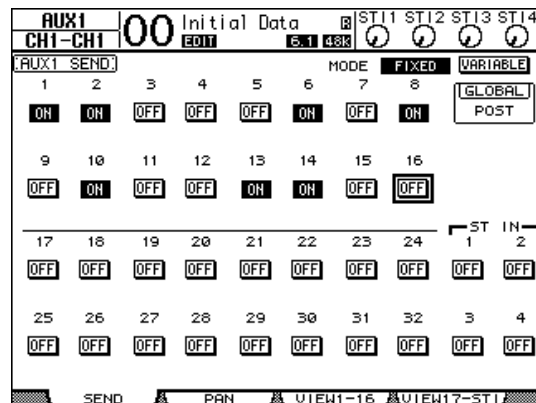


**Tip:** You can select Variable or Fixed mode individually for each of the eight Aux.

**Note:**

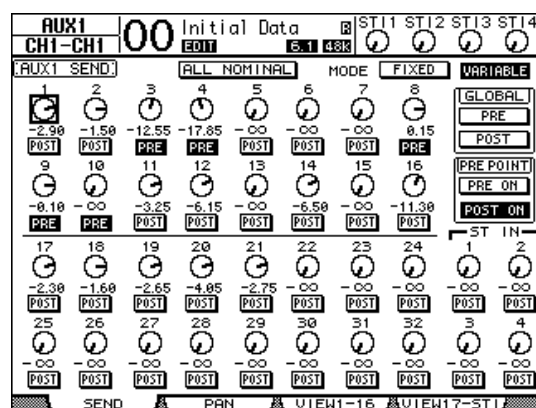
- In Fixed mode, all ON/OFF buttons are turned OFF.
- When you switch to Variable mode, the signal source points are set to post-fader (PRE/POST buttons are set to POST), and Send level rotary controls are reset to -∞.

4. If you switched to Fixed mode in Step 3, the ON/OFF buttons turn each Input Channel on or off for the currently-selected Aux Send.



**Note:** In Fixed mode, the Aux On/Off parameters for paired Input Channels are not linked to each other.

5. If you switched to Variable mode in Step 3, the PRE/POST buttons and Send level rotary controls enable you to adjust the signal source points and Send levels.



You can turn each Input Channel on or off for the currently-selected Aux Send even in Variable mode. To do this, move the cursor to the desired Send level control, then press [ENTER]. (The rotary controls for Off channels are grayed out.)

**Tip:**

- In Variable mode, Aux Send levels, Aux On/Off, and Pre/Post parameters for paired Input Channels are linked to each other.
- GLOBAL PRE/POST buttons enable you to set all Input Channels simultaneously (including those not displayed on the current page) to pre-fader or post-fader.

**Note:**

- Do not raise the level of the Aux Sends (patched to the effects processor) on the effects return channels.
- For example, by default, Aux 1 is routed to the input of the internal Effects processor 1, and L and R of ST IN Channel 1 are patched to the processor's output. Under these conditions, if you raise the level of the send signals from ST IN Channel 1 to Aux 1, the signals are returned to ST IN Channel 1, creating a signal loop and possibly damaging your speakers.

## Viewing Aux Send Settings for Multiple Channels

You can view and set parameters for all Aux Send 1–8, including setting levels and Pre/Post parameters.

This is convenient when you wish to visually check all Aux Send settings or simultaneously adjust the levels of certain channels routed to Aux 1–8.

### 1. Press one of the FADER MODE [AUX 1]–[AUX 8] buttons repeatedly until the page listed below that contains the desired channels appears.

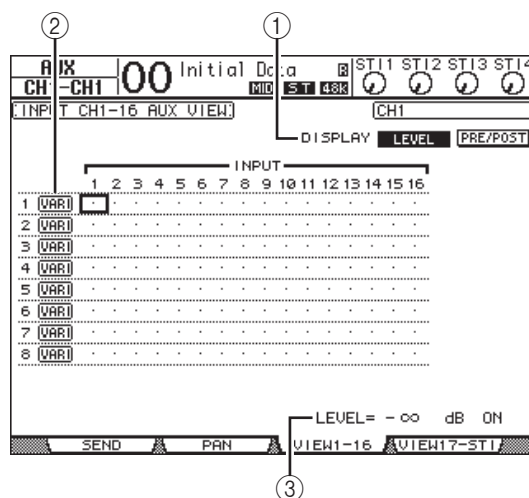
- **View1-16 page**

This page displays the Aux Send levels of Input Channels 1–16.

- **View17-STI page**

This page displays the Aux Send levels of Input Channels 17–32 and ST IN Channels 1–4.

These pages display the source Input channels and the corresponding Aux Sends in a matrix. The parameters on these two pages (and the procedure for setting them) are the same.



#### ① DISPLAY

Use the following buttons to display the desired parameters.

- **LEVEL**.....Select the LEVEL button to display Send level bar graphs for Input Channels routed to Aux 1–8.
- **PRE/POST** .....Select the PRE/POST button to display signal source points for Input Channels routed to Aux 1–8.

#### ② FIX/VARI

These buttons indicate the Aux mode (Fixed or Variable) for Aux Out 1–8 and are only for display purposes.

## ③ LEVEL

This field displays in dB the level of the Aux Send currently-selected by the cursor.

2. Move the cursor to either the **DISPLAY LEVEL** or **PRE/POST** button, then press **[ENTER]** to display the Level or Pre/Post parameters.
3. If you selected the **PRE/POST** button in Step 2, move the cursor to the desired Input Channel and Aux intersection, then press the **[ENTER]** button to change the signal source point.

|   |        | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | [VAR]  | PO | PO | 13 | 13 | PO | PO | 13 | PO | PO | PO | PO | PO | 13 | PO | 13 | PO |
| 2 | [VAR]  | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO | PO |
| 3 | [INIT] | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA | DA |

**Note:** You can switch between Pre and Post only for Aux Sends that are set to Variable mode. The “FIX” indication appears for Aux Sends that are set to Fixed mode, and you cannot switch Pre/Post.

4. If you selected the **LEVEL** button in Step 2, move the cursor to the desired Input Channel and Aux intersection, then edit the Send level or turn the currently-selected AUX Send on or off.

Rotate the Parameter wheel or press the **[INC]/[DEC]** buttons to set the Send level, then press the **[ENTER]** button to turn the currently-selected Aux Send on or off. One of the following indicators appears, depending on the current Aux mode.

- **Aux Sends in Fixed mode**

A “FIX” indicator appears for On Aux Sends, and a dot “.” appears for Off Aux Sends.

|   |       | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|---|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | [FIX] | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX |
| 2 | [VAR] | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |
| 3 | [VAR] | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |

- **Aux Sends in Variable mode**

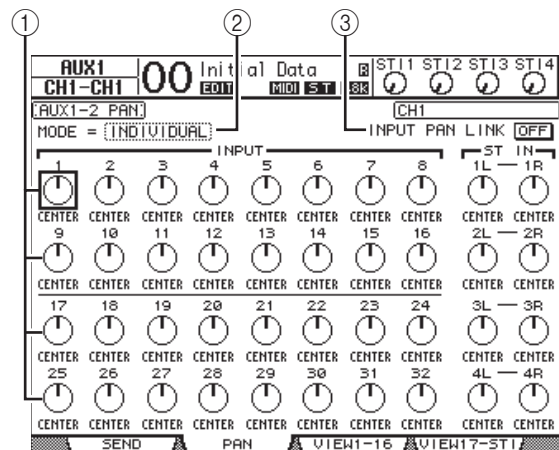
The current Send levels are displayed by the bar graphs. If the level is set to nominal (0.0 dB), “N” appears in the bar. The bars for Aux Sends that are turned off are high-lighted.

|   |       | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|---|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | [FIX] | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX | FIX |
| 2 | [VAR] | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |
| 3 | [VAR] | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |

## Panning Aux Sends

You can pair adjacent odd-even (in this order) Aux Sends for stereo operation. This enables you to pan signals from Input Channels to paired Aux Sends.

1. Pair the desired two Aux Sends. (See page 33 for more information on pairing channels.)
2. Use the **FADER MODE [AUX 1]–[AUX 8]** buttons to select one of the paired Aux Sends.
3. Repeatedly press the button you pressed in Step 2 to display the Aux | Pan page.



- ① **Aux pan controls**

These controls adjust the pan setting of signals routed from Input Channels to paired Aux buses.

- ② **MODE**

The MODE parameter determines how paired Input Channels are panned.

- ③ **INPUT PAN LINK**

When this parameter is turned on, Aux Sends follow the Input Channel Pan.

4. Move the cursor to the Aux pan control of the desired Input Channel, then rotate the Parameter wheel to set the pan value.
5. If necessary, move the cursor to the **MODE** parameter box, then rotate the Parameter wheel to select **INDIVIDUAL**, **GANG**, or **INV GANG**, then press **[ENTER]**.

If the **INPUT PAN LINK ON/OFF** button is turned off, this Mode setting is independent of the Mode parameter on the Pan page. (See page 22 for more information on Mode options.)

- 6. To link the Input Channel Pan setting with the Aux Send Pan setting, move the cursor to the INPUT PAN LINK ON/OFF button, then press [ENTER].**

The pan positions on the Pan page are copied to the Aux pan setting, and the pan controls on both pages are linked.

**Tip:**

- If paired Aux Sends are in Variable mode, the Aux Send levels, Aux On/Off, and Pre/Post parameters for paired Input Channels are linked to each other.
- If paired Aux Sends are in Fixed mode, the Aux On/Off parameters for paired Input Channels are not linked to each other.

## Copying Channel Fader Positions to Aux Sends

While Aux Sends are in Variable mode, you can copy all Input Channel fader positions on one layer to the corresponding Aux Sends.

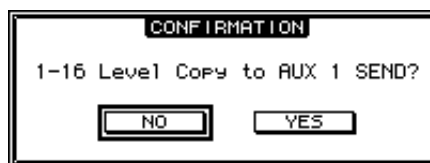
This is convenient when you wish to send to the musicians monitor signals that have the same balance setting as the Stereo Out signals.

- 1. Press and hold down the copy source layer (LAYER [1–16] or [17–32]) button.**

**Note:** If you release the button in the LAYER section before you proceed to Step 2, you will be unable to complete the Copy operation.

- 2. Press one of the FADER MODE [AUX 1]–[AUX 8] buttons to select the desired Aux Send copy destination.**

The confirmation window for the Copy operation appears.



- 3. To execute the Copy operation, move the cursor to the YES button, then press [ENTER].**

To cancel the Copy operation, move the cursor to the NO button, then press [ENTER].

**Tip:** If the copy destination Input Channel has been paired with a vertical partner in another Layer, the fader position will be copied to the partner's Aux Send.

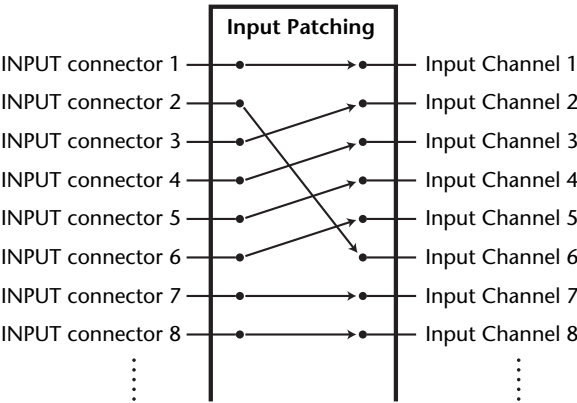
# Input & Output Patching

This chapter describes how to patch (assign) signal paths within the 01V96i to its inputs, outputs, and slot channels

## Input Patching

Signals input at INPUT connectors 1–16, ADAT IN connector, 2TR IN DIGITAL connectors, and Slot I/O card are patched to Input Channels for use.

Patch example:



By default, the Input Channels are patched as follows:

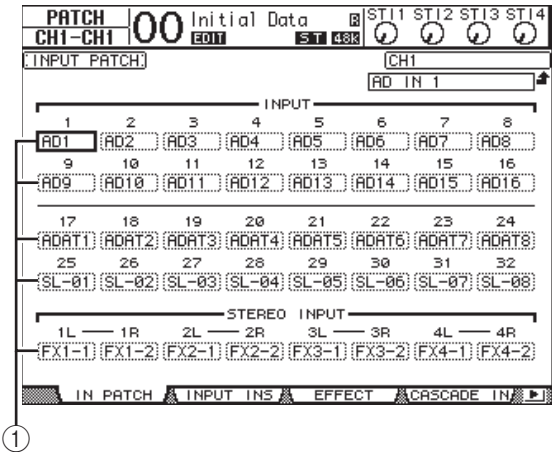
| Input Channels     | Input connectors and Slot channels         |
|--------------------|--------------------------------------------|
| 1–16               | INPUT connectors 1–16                      |
| 17–24              | ADAT IN Input Channels 1–8                 |
| 25–32              | Slot Channels 1–8                          |
| ST IN Channels 1–4 | Internal Effects Processor 1–4 Outputs 1–2 |

You can change these patches, if you desire.

## Input Patching

Follow the steps below to change the Input Patch.

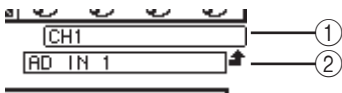
1. Press the **DISPLAY ACCESS [PATCH]** button repeatedly until the Patch | In Patch page appears.



Inputs, ADAT IN channels, TO HOST USB channels, and slot channels that are currently assigned to Input Channels are shown in the parameter boxes (1) below the channel numbers. The parameter indicators are explained below:

| Parameter value | Description                                   |
|-----------------|-----------------------------------------------|
| –               | No assignment                                 |
| AD1–AD16        | INPUT connectors 1–16                         |
| ADAT1–ADAT8     | ADAT IN Input Channels 1–8                    |
| SL-01–SL-16     | Slot Channels 1–16                            |
| FX1-1 & FX1-2   | Outputs 1 & 2 of Internal Effects Processor 1 |
| FX2-1 & FX2-2   | Outputs 1 & 2 of Internal Effects Processor 2 |
| FX3-1 & FX3-2   | Outputs 1 & 2 of Internal Effects Processor 3 |
| FX4-1 & FX4-2   | Outputs 1 & 2 of Internal Effects Processor 4 |
| 2TD-L & 2TD-R   | 2TR DIGITAL IN (L/R)                          |
| USB1–USB16      | TO HOST USB port input channels 1–16          |

2. Move the cursor to an input patch parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the patching.



The long name of the currently-selected channel is indicated in the upper-right corner of the screen (1). Below the channel name is the long name of the selected input channel (2). (See page 28 for information on changing channel names.)

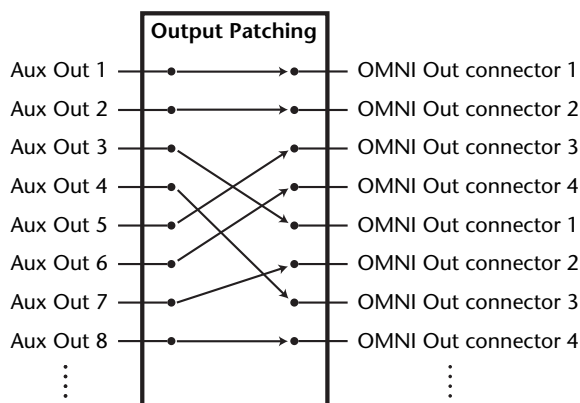
### 3. Press [ENTER] to confirm the change.

**Tip:**

- You can patch an input signal to multiple Input Channels.
- You can store the Input Patch settings to the Input Patch library. Refer to “Libraries” on page 74 for more information.

## Output Patching

The 01V96i's Stereo Out, Bus Out 1–8, Aux Out 1–8 signals can be patched to any outputs, ADAT OUT output channels, and slot output channels.

**Patch example:**


By default, the following signal paths are patched to outputs, ADAT OUT output channels, and slot output channels:

| Output connectors and slot channels | Signal flow  |
|-------------------------------------|--------------|
| ADAT OUT output channels 1–8        | Bus Outs 1–8 |
| Slot Channels 1–8                   | Bus Outs 1–8 |
| Slot Channels 9–16                  | Bus Outs 1–8 |
| OMNI OUT connectors 1–4             | Aux Outs 1–4 |
| 2TR OUT DIGITAL (L)                 | Stereo Out L |
| 2TR OUT DIGITAL (R)                 | Stereo Out R |

**Tip:**

- You can patch a signal to multiple outputs.
- You can store the Output Patch settings to the Output Patch library. Refer to “Libraries” on page 74 for more information.

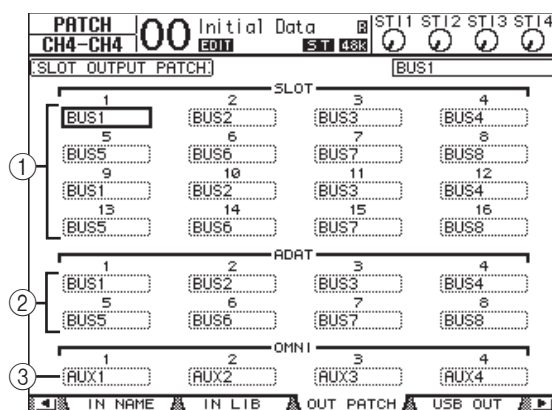
You can change these patches, if you desire. The procedure for patching signals to output varies depending on the output connectors and slots.

## Changing the Signal Path to the ADAT OUT Connector, Slot, or OMNI OUT connectors

Follow the steps below to change the signal path patched to the ADAT OUT connector, the optional mini-YGDAI card installed in the slot, or the OMNI OUT connectors.

### 1. Press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | Out Patch page appears.

Each parameter box displays the currently-patched signal path.



#### ① SLOT 1–16

These parameter boxes set the routing of Slot Channel 1–16 signals.

#### ② ADAT 1–8

These parameter boxes set the routing of ADAT OUT connector output channel 1–8 signals.

#### ③ OMNI 1–4

These parameter boxes set the routing of OMNI OUT connector 1–4 signals.

The parameter indicators are explained below:

| Parameter value   | Description                   |
|-------------------|-------------------------------|
| –                 | No assignment                 |
| BUS1–BUS8         | Bus Out 1–8 signal            |
| AUX1–AUX8         | Aux Out 1–8 signal            |
| ST L/R            | Stereo Out signal             |
| INS CH1–INS CH32  | Input Channel 1–32 Insert Out |
| INS BUS1–INS BUS8 | Bus Out 1–8 Insert Out        |
| INS AUX1–INS AUX8 | Aux Out 1–8 Insert Out        |
| INS ST-L/ST-R     | Stereo Out Insert Out         |
| CAS BUS1–BUS8     | Bus 1–8 Cascade Outs          |
| CAS AUX1–AUX8     | Aux Bus 1–8 Cascade Outs      |
| CAS ST-L/ST-R     | Stereo Bus Cascade Outs       |
| CASSOLOL/CASSOLOR | Solo Bus Cascade Outs         |

### 2. Move the cursor to a patch parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the patching.

### 3. Press [ENTER] to confirm the change.

**Tip:** You can store the Output Patch settings to the Output Patch library. Refer to “Libraries” on page 74 for more information.

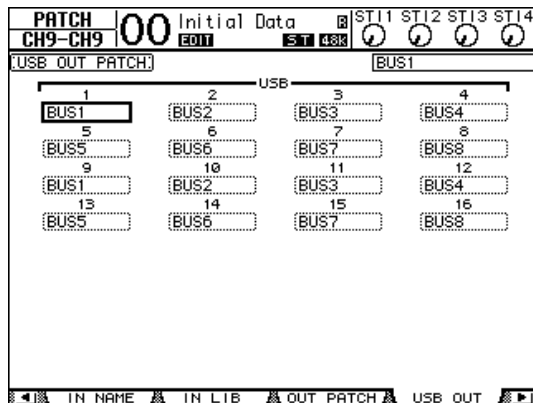
## Patching the USB Outputs

By default, the following output signals are assigned to USB OUT.

| Outputs     | Signals             |
|-------------|---------------------|
| USB OUT1–8  | Bus Out 1–8 signals |
| USB OUT9–16 | Bus Out 1–8 signals |

If you want to change or verify this patching, proceed as follows.

### 1. Press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | USB Out page appears.



The parameter boxes underneath each number indicate the currently-assigned signal routing. The meaning of these indicators are explained below.

| Parameter value   | Description                     |
|-------------------|---------------------------------|
| –                 | No assignment                   |
| BUS1–BUS8         | Bus Out 1–8 signals             |
| AUX1–AUX8         | Aux Out 1–8 signals             |
| ST L/R            | Stereo Out signals              |
| INS CH1–INS CH32  | Input Channels 1–32 Insert Outs |
| INS BUS1–INS BUS8 | Bus Out 1–8 Insert Outs         |
| INS AUX1–INS AUX8 | Aux Out 1–8 Insert Outs         |
| INS ST-L/ST-R     | Stereo Out Insert Outs          |

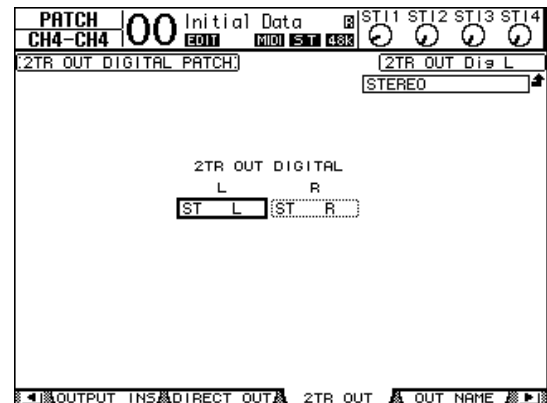
### 2. Move the cursor to a parameter box, and use the Parameter wheel (or [INC]/[DEC]) to modify the patching.

### 3. Press [ENTER] to confirm the change.

## Patching the 2TR Digital Outputs

Follow the steps below to change the signal path patched to the 2TR OUT DIGITAL connector.

### 1. Press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | 2TR Out page appears.



Signals assigned on the Out Patch page can also be assigned on this page.

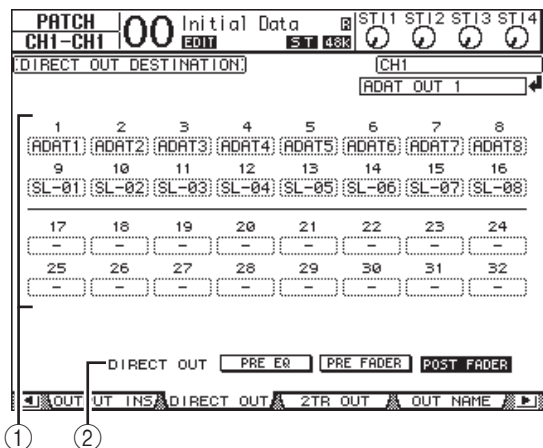
### 2. Move the cursor to a patch parameter you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the patching.

### 3. Press [ENTER] to confirm the change.

## Patching Direct Outs

Input Channel 1–32 signals can be directly patched to any outputs or slot outputs, as well as Bus Out 1–8 and Stereo Out. This patching is convenient when you want to record the input signal of each Input Channel to an individual track on a connected DAW.

1. Press the **DISPLAY ACCESS [PATCH]** button repeatedly until the **Patch | Direct Out** page appears.



The parameters on this page are described below.

- ① **1–32**  
These boxes indicate the Direct Out destination (outputs, ADAT OUT output channels, and slot output channels) for Input Channels 1–32.
- ② **DIRECT OUT**  
Determines the Direct Out signal source position from the following three options:
  - **PRE EQ** ..... Immediately before Input Channel EQ
  - **PRE FADER** ..... Immediately before Input Channel fader
  - **POST FADER** ..... Immediately after Input Channel fader
2. Move the cursor to a patch parameter (1–32) you want to change, then rotate the Parameter wheel or press the **[INC]/[DEC]** buttons to select the destination.

If necessary, specify the signal source position using the **DIRECT OUT** parameter.

3. Press **[ENTER]** to confirm the change.

**Note:** If you select a destination that is already used by an Output Patch setting and turn on the Direct Out, the Output Patch setting will be disabled. To restore the Output Patch setting, select another Direct Out destination or turn off the Direct Out.

4. Press the **DISPLAY ACCESS [PAN/ROUTING]** button repeatedly until one of the following pages containing the channels you want to patch to the Direct Out appears.

- **Rout1-16 page**..... This page enables you to change the Input Channel 1–16 routings.
- **Rout17-STI page**... This page enables you to change the Input Channels 17–32 and ST IN Channel 1–4 routings.

*Tip: Refer to page 22 for more information on these pages.*

5. Move the cursor to the **D** button for the channel you want to patch to the Direct Out, then press **[ENTER]**.

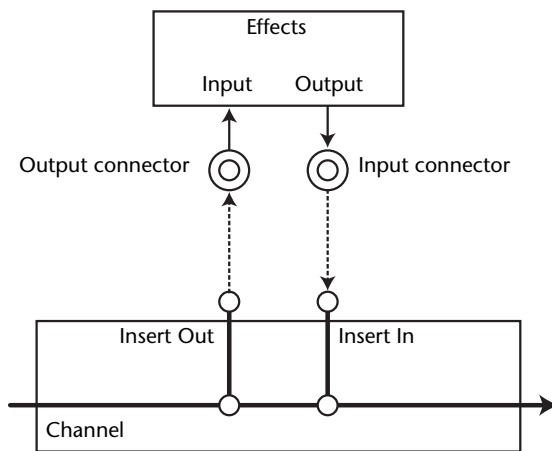
The Direct Out patching is now effective, and the signals are routed to the assigned outputs, ADAT OUT channels, or slot output channels.

## Insert Patching

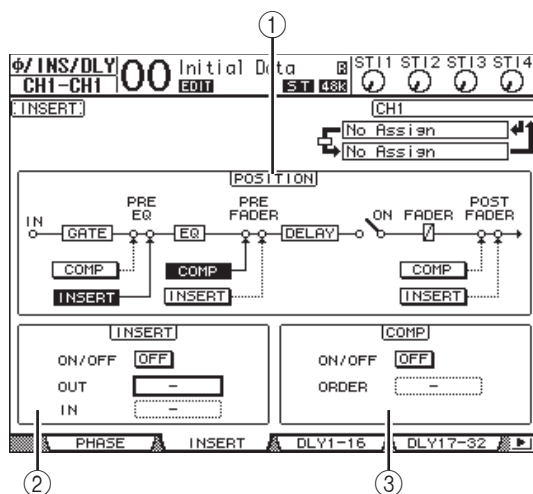
The 01V96i's Input Channels and Output Channels (Stereo Out, Bus Out 1–8, Aux Out 1–8) feature independent Insert Ins and Outs. Inputs, outputs, ADAT connector channels, slot channels, and internal effects processor inputs and outputs can be patched to the Output Channel Insert Ins and Outs. In this way, you can send the signals to external effects processors for processing, or insert internal effects.

## Individual Insert Patching

You can patch the 01V96i's inputs, outputs, ADAT connector channels, slot channels, and effects processor inputs and outputs to the Insert Ins and Outs. The same procedure applies to both Input Channels and Output Channels.



1. Press the [SEL] button of an Input Channel or Output Channel for Insert patching.
2. Press the [ $\phi$ /INSERT/DELAY] button repeatedly until the  $\phi$ /INS/DLY | Insert page appears.



This page contains the following parameters:

### ① POSITION

This parameter determines the insert position of the Insert patch or compressor. The insert position is indicated by highlighted COMP or INSERT buttons.

### ② INSERT section

#### • ON/OFF

This button turns the Insert on or off.

#### • OUT

This parameter enables you to select outputs, ADAT OUT channels, slot output channels, or internal effects inputs as the Insert Out destination.

#### • IN

This parameter enables you to select inputs, ADAT IN channels, slot input channels, or internal effects outputs as the Insert In source.

### ③ COMP section

#### • ON/OFF

This button turns the compressor on or off.

#### • ORDER

This parameter determines the order of Insert patch and compressor when they are inserted at the same signal path point. With the "COMP → INS" setting, signals pass through the compressor first, then the Insert. With the "INS → COMP" setting, signals pass through the Insert first, then the compressor.

3. Move the cursor to the OUT parameter box, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the desired outputs, slot channels, or internal effects inputs to be patched to Insert Out.

The parameter indicators are explained below:

| Parameter values | Description                                  |
|------------------|----------------------------------------------|
| –                | No assignment                                |
| ADAT 1–ADAT 8    | ADAT OUT Output Channels 1–8                 |
| SL-01–SL-16      | Slot Channels 1–16                           |
| OMNI1–OMNI4      | OMNI OUT connectors 1–4                      |
| 2TD-L/2TD-R      | 2TR OUT DIGITAL (L/R)                        |
| FX1-1/FX1-2      | Inputs 1 & 2 of Internal Effects Processor 1 |
| FX2-1/FX2-2      | Inputs 1 & 2 of Internal Effects Processor 2 |
| FX3-1/FX3-2      | Inputs 1 & 2 of Internal Effects Processor 3 |
| FX4-1/FX4-2      | Inputs 1 & 2 of Internal Effects Processor 4 |
| USB1–USB16       | TO HOST USB port output channels 1–16        |

4. Press [ENTER] to confirm the change.

If you move the cursor to another parameter box or display another page before you press the [ENTER] button, all settings on this page will be cancelled.

5. Move the cursor to the desired IN parameter box, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the inputs, ADAT IN channels, or slot input channels to be patched to the Insert In.

Refer to the explanation regarding the Input Patch for more information on the parameter values (see page 43).

6. Press [ENTER] to confirm the change.

**Tip:** Move the cursor to an empty OUT or IN parameter box and press the [ENTER] button. The Patch Select window appears. Rotate the Parameter wheel or press the cursor buttons to select an item to be patched, then press [ENTER]. Move the cursor to the YES button, then press [ENTER]. The selected item is now patched.

7. To enable the specified Insert patch, move the cursor to the ON/OFF button in the INSERT section, and press [ENTER] to turn it on or off.

## Viewing and Changing Insert In Patch

You can view and also change the items patched to the Insert Ins of all Input Channels (or all Output Channels). This is useful when you wish to find out if multiple channels have the same patch.

1. To view the Input Channels' Insert Ins, press the [PATCH] button repeatedly until the Patch | Input Ins page appears.

This page displays Input Channels 1–32 Insert In Patches.

The screenshot shows the 'Patch | Input Ins' screen. At the top, there's a header with 'PATCH CH1-CH1', '00 Initial Data', and 'ST1 48K'. Below this, there's a section labeled 'INPUT INSERT IN PATCH'. The main area is a grid of 32 input channels, numbered 1 to 32. Each channel has a box for its patch assignment. Channel 1 is assigned 'CH1', while channels 2 through 32 are assigned 'No Assig'. At the bottom, there's a navigation bar with 'IN PATCH', 'INPUT INS', 'EFFECT', and 'CASCADE IN'.

2. Move the cursor to a channel patch parameter box you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the patching.

3. Press [ENTER] to confirm the change.

4. To view the Output Channels' Insert Ins, press the [PATCH] button repeatedly until the Patch | Output Ins page appears.

The screenshot shows the 'Patch | Output Ins' screen. At the top, there's a header with 'PATCH CH1-CH1', '00 Initial Data', and 'ST1 48K'. Below this, there's a section labeled 'OUTPUT INSERT IN PATCH'. The main area is a grid of 32 output channels, numbered 1 to 32. Each channel has a box for its patch assignment. Channel 1 is assigned 'BUS1', while channels 2 through 32 are assigned 'No Assig'. At the bottom, there's a navigation bar with 'OUTPUT INS', 'DIRECT OUT', '2TR OUT', and 'OUT NAME'.

5. Move the cursor to a channel patch parameter box you wish to change, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the patching.

6. Press [ENTER] to confirm the change.

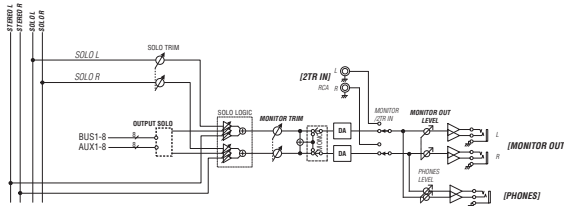
# Monitoring

This chapter explains how to set up monitoring and use the Solo function on the 01V96i.

## Monitor

The 01V96i features the stereo signal path to feed the monitors. The monitoring signal source is patched to MONITOR OUT connectors L & R and the PHONES connector.

The following diagram illustrates the monitoring signal flow.



- **SOLO bus**

This special bus routes soloed Input Channels to the Monitor outputs, bypassing Bus 1–8 and the Stereo Bus.

- **OUTPUT SOLO**

This section routes soloed Output Channels (Aux Out 1–8, Bus Out 1–8) to the Monitor outputs.

**Note:** Input and Output Channels cannot be solo-monitored simultaneously. The solo function for the most-recently soloed channels is enabled.

- **MONITOR TRIM**

This section adjusts the monitoring signal level in the digital domain.

- **MONITOR OUT LEVEL**

Use the MONITOR [MONITOR OUT] control on the top panel to adjust the monitoring signal level in the analog domain.

- **MONITOR/2TR IN**

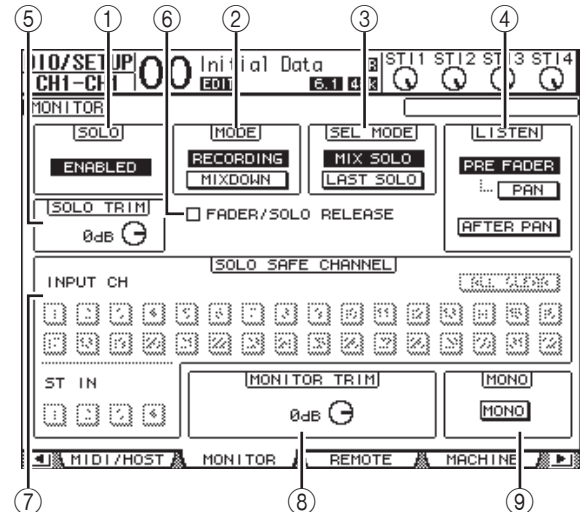
As a monitoring signal, you can select either the 01V96i internal signals or 2TR IN digital inputs.

- **PHONES**

The Monitor signal is also fed to the PHONES jack. You can set the level independently.

## Monitor and Solo Setup

For monitoring and solo setup, press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Monitor page appears.



This page contains the following parameters:

- 1 **SOLO**

This parameter turns the Solo function on or off. By default, it is set to Enabled.

- 2 **MODE**

This parameter determines how the Solo function works. There are two options. The setting affects only Input Channels.

- **RECORDING**

In Recording Solo mode, soloed Input Channel signals are fed to the Solo bus and output via the Monitor outputs. Other buses (Stereo bus and Bus 1–8) are unaffected by this mode.

- **MIXDOWN**

In Mixdown Solo mode, soloed Input Channel signals are fed to the Stereo bus and output via the Monitor outputs. Unsoloed Input Channels are not fed to the Stereo bus while the Solo function is enabled.

**Tip:**

- Recording Solo mode is convenient when you wish to monitor certain Input Channels while recording, since the Stereo bus and Bus 1–8 signals are unaffected.
- Mixdown Solo mode is useful when you wish to mute unsoloed Input Channels and feed soloed Input Channel signals to the Stereo bus during mixdown.

**③ SEL MODE**

This parameter determines how the Input Channels will be soloed when you press the [SOLO] button of each Channel. There are two options.

- **MIX SOLO**

In Mix Solo mode, any number of channels can be soloed simultaneously.

- **LAST SOLO**

In Last Solo mode, only one channel can be soloed at a time by pressing the [SOLO] button. The Solo function that was previously enabled for channels is automatically cancelled.

**④ LISTEN**

This parameter determines the source of the Input Channel Solo signal: Pre Fader or Post Pan. When Pre Fader is selected, turning on the PAN button below the Pre Fader option will solo the channel with the pan position specified by the Pan setting even if the source precedes the fader. This parameter is effective only in Recording Solo mode.

**⑤ SOLO TRIM**

This parameter enables you to trim the level of the Solo signal in the range of -96 dB to +12 dB.

**⑥ FADER/SOLO RELEASE**

If this check box is checked, you can unsolo the channels by raising the channel faders that were at the level of  $-\infty$  when the Solo function was turned on. If the faders were set to higher than  $-\infty$ , the channels cannot be soloed. This setting is not effective in Mixdown Solo mode and for Output Channels.

**Note:** When you check the FADER/SOLO RELEASE check box, the Solo setting is temporarily cancelled.

**⑦ SOLO SAFE CHANNEL**

For Mixdown Solo mode, Input Channels can be configured individually so that they are not muted when other Input Channels are soloed (Solo Safe function). Signals from Input Channels with the SOLO SAFE CHANNEL button turned on are always fed to the Stereo bus, regardless of the channels' Solo function status. You can clear all Solo Safe settings by turning on the ALL CLEAR button.

**Tip:** For example, if you set the internal effects processor's return signal to Solo Safe, you can monitor the soloed "processed (or wet)" signals.

**⑧ MONITOR TRIM**

This parameter enables you to trim the level of the monitoring signal in the range of -96 dB to +12 dB.

**⑨ MONO**

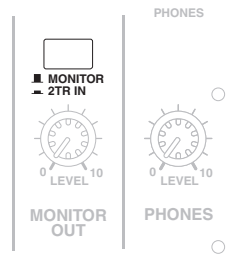
This button switches the Monitor signal into mono.

## Using the Monitor

### 1. Connect a monitoring system to the MONITOR OUT connectors.

To monitor the signal via headphones, connect headphones to the PHONES jack.

### 2. Press the Monitor Source selector in the MONITOR section to select the monitoring signal source.



To monitor the 01V96i's internal signals, turn off the selector (the button should be raised). To monitor the signals at the 2TR IN connectors, turn on the selector (the button should be pushed in).

### 3. Adjust the monitoring level using the MONITOR [MONITOR LEVEL] control while playing the sound sources.

To adjust the level of the monitoring signal via headphones, turn the [PHONES LEVEL] control.

## Using the Solo Function

You can solo and monitor Input Channels, Aux Out 1–8, and Bus Out 1–8 using the [SOLO] buttons on the top panel.

- 1. Press the [DIO/SETUP] button repeatedly until the DIO/Setup | Monitor page appears.**

- 2. Set the SOLO parameter to On.**

Set other parameters on the page, if necessary.

- 3. To solo and monitor Input Channels, press the corresponding LAYER button to select a Layer that contains the desired channels, then press the channel [SOLO] buttons.**

The channel [SOLO] button indicators and the SOLO [SOLO] indicator light up. Only the soloed Input Channel signals are fed to the Monitor outputs.

***Tip:** If the SEL MODE parameter is set to Mix Solo on the DIO/Setup | Monitor page, you can solo multiple Channels simultaneously.*

- 4. To solo and monitor Output Channels, press the LAYER [MASTER] button, then press the channel [SOLO] buttons.**

Input and Output Channels (Aux Out 1–8, Bus Out 1–8) cannot be solo-monitored simultaneously. For example, if you solo an Input Channel, then solo an Output Channel, the first solo channel is cancelled.

If you solo an Output Channel first, then solo an Input Channel, canceling the Input Channel's solo will activate the Output Channel's solo.

- 5. You can unsolo all soloed channels by pressing all illuminated channel [SOLO] buttons.**

The button indicators turn off. You can also unsolo all soloed channels by pressing the SOLO [CLEAR] button.

# Surround Pan

This chapter describes surround panning, which determines how Input Channel signals are panned within and across the stereo field.

## About Surround Pan

The Surround Pan function places a sound image within a two-dimensional field using a multi-channel playback system, and pans the image to the front, rear, left, and right in relation to the listening position. To pan the stereo image, you can use the Parameter wheel, or [INC]/[DEC] buttons.

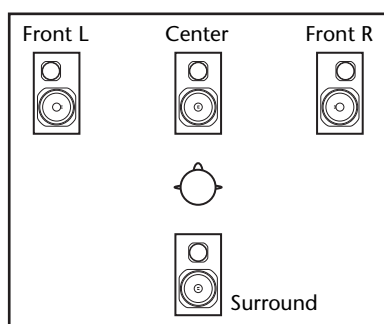
If each channel's follow pan (see page 24) is turned off, you can route the signals to the corresponding Bus Outs regardless of the Surround Pan setting. This is convenient when you wish to assign the surround source or surround effect returns to the Buses.

If "Nominal Pan" (see page 109) in the Prefer1 page is checked, the level of the Input Channels that are panned hard left or right will be used as the nominal level. If the check box is not checked, the nominal level will be +3 dB.

You can also store the surround pan settings in a Scene. In addition to a normal Stereo mode, the 01V96i features the following three Surround modes:

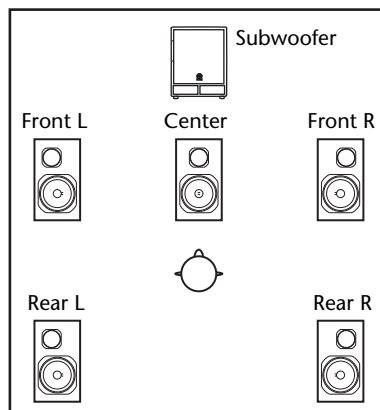
- 3-1

This mode uses four channels that include front left, front right, front center, and rear.



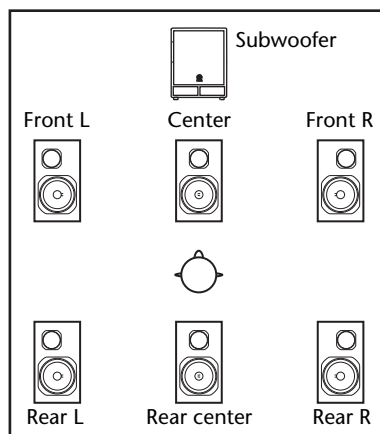
- 5.1

This mode uses six channels that include front left, front right, rear left, rear right, front center, and subwoofer.



- 6.1

This mode uses seven channels that include six channels of 5.1 mode plus rear center.



When you select one of these Surround modes, each surround channel signal is output as the Bus Out signal specified on the DIO/Setup | Surr Bus page (see page 54).

The following table shows the factory-default Surround Channel to Bus Out assignment in each Surround mode.

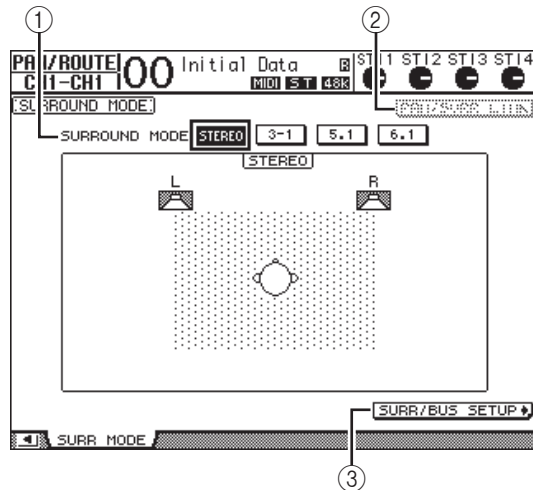
| Surround Mode | BUS1       | BUS2        | BUS3      | BUS4       | BUS5   | BUS6        | BUS7      |
|---------------|------------|-------------|-----------|------------|--------|-------------|-----------|
| 3-1           | L          | R           | C         | S          | —      | —           | —         |
|               | Front left | Front right | Center    | Surround   |        |             |           |
| 5.1           | L          | R           | Ls        | Rs         | C      | LFE         | —         |
|               | Front left | Front right | Rear left | Rear right | Center | Subwoofer   |           |
| 6.1           | L          | R           | Ls        | Rs         | C      | Bs          | LFE       |
|               | Front left | Front right | Rear left | Rear right | Center | Rear center | Subwoofer |

**Tip:** You can set the surround pan either independently of normal panpots or in unison with them.

## Setting Up and Selecting Surround Pan Modes

To configure the surround environment, select 3-1, 5.1, or 6.1 Surround mode on the 01V96i and connect a DAW or multi-channel monitoring system to the 01V96i.

1. Press the **DISPLAY ACCESS [PAN/ROUTING]** button repeatedly until the **Pan/Route | Surr Mode** page appears.



### ① SURROUND MODE

This parameter enables you to select a Surround mode by using the following buttons. The button that is turned on (highlighted) indicates the currently-selected Surround mode.

- **STEREO** ..... The 01V96i uses normal stereo mode (default).
- **3-1** ..... Selects 3-1 Surround mode.
- **5.1** ..... Selects 5.1 Surround mode.
- **6.1** ..... Selects 6.1 Surround mode.

### ② PAN/SURR LINK

When this button is turned on, Input Channel panpots and stereo surround panning are linked.

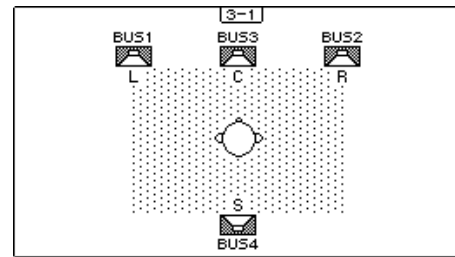
### ③ **SURR/BUS SETUP**

Press this button to display the Surr/Bus Setup page, which enables you to change the Surround Channel to Bus Out assignment.

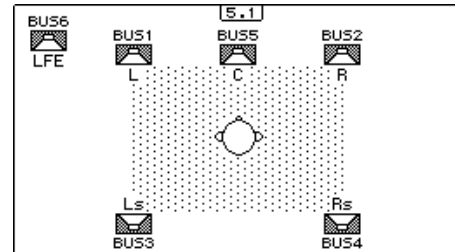
## 2. Move the cursor to the Surround mode button you want to use.

When you move the cursor to one of these buttons, speaker icons appear, indicating a typical listening position and the Surround Channel to Bus Out configuration.

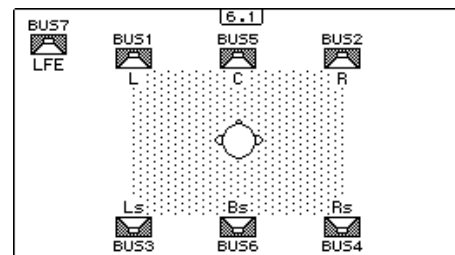
### • 3-1 Surround



### • 5.1 Surround

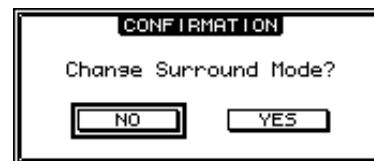


### • 6.1 Surround



## 3. Press the [ENTER] button.

The confirmation window for changing the Surround mode appears.



## 4. Move the cursor to the YES button, then press [ENTER].

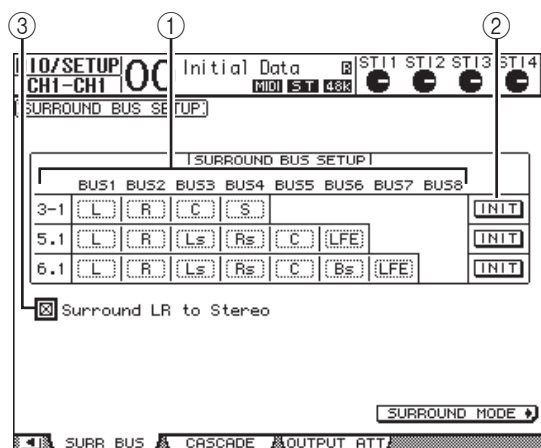
The 01V96i enters the selected Surround mode.

## 5. To link the Input Channel Pan setting with the stereo surround panning, move the cursor to the PAN/SURR LINK button, then press [ENTER].

When the PAN/SURR LINK button is turned on, adjusting the Input Channel pan settings will also change the stereo surround panning accordingly, and vice versa.

## 6. To change the Surround Channel to Bus Out assignment, move the cursor to the SURR/BUS SETUP button, then press [ENTER].

The DIO/Setup | Surr Bus page appears.



### ① BUS1–BUS8

These parameters select channels to be assigned to the Bus Outs in 3-1, 5.1, and 6.1 Surround modes.

### ② INIT

These buttons reset the channel assignment to the default setting.

### ③ Surround LR to Stereo

When this check box is on, the left and right front signals of the surround channels are output from the STEREO L/R connectors.

## 7. To change the assignment, move the cursor to the desired Bus parameter, rotate the Parameter wheel to select a channel, then press [ENTER].

The channels are swapped between the selected Bus and the Bus to which the channel assigned to the selected Bus was assigned previously.

#### Tip:

- Pressing the DISPLAY ACCESS [SETUP] button repeatedly also displays the Surr Bus page.
- Available Bus Outs vary depending on the Surround mode. For example, in 3-1 Surround mode, Bus Outs 1–4 are available. In 5.1 Surround mode, Bus Outs 1–6 are available, and in 6.1 Surround mode, Bus Outs 1–7 are available.

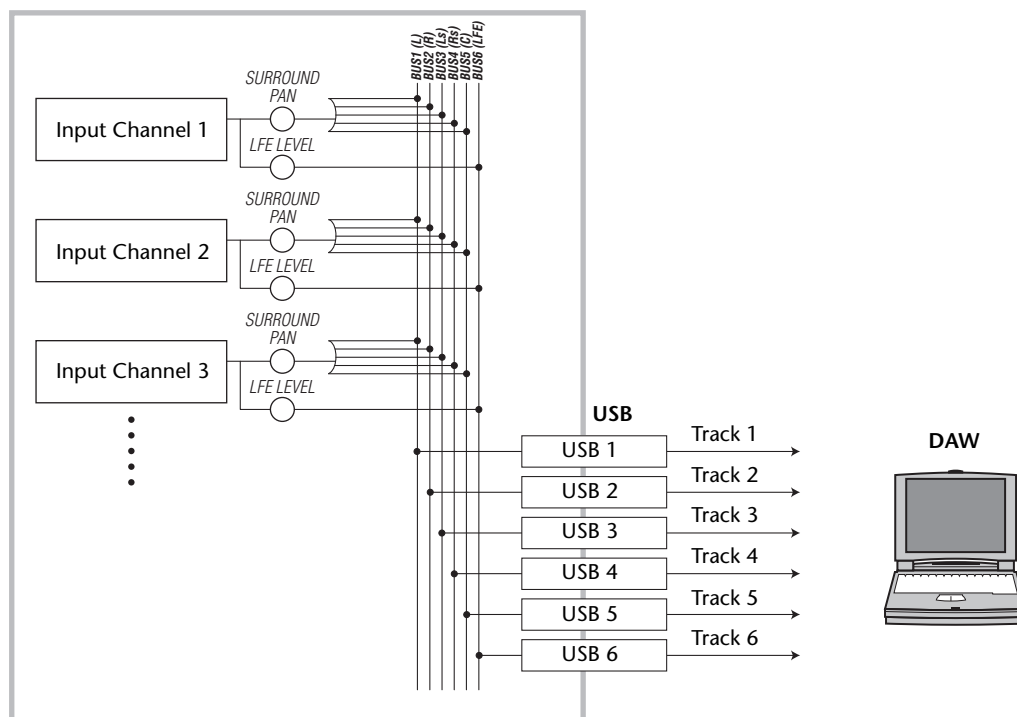
## 8. Depending on the selected Surround mode or applications, patch the Bus Out signals to the outputs, ADAT OUT channels, or slot output channels. Connect a playback device or MTR to the output connectors.

## ■ Surround Pan Recording

To record surround pan movement to a DAW, patch the corresponding bus outs to the TO HOST USB port's output channels, send them to the DAW's tracks.

The following diagram illustrates an example of recording each channel's signal into a DAW when using 5.1 Surround mode.

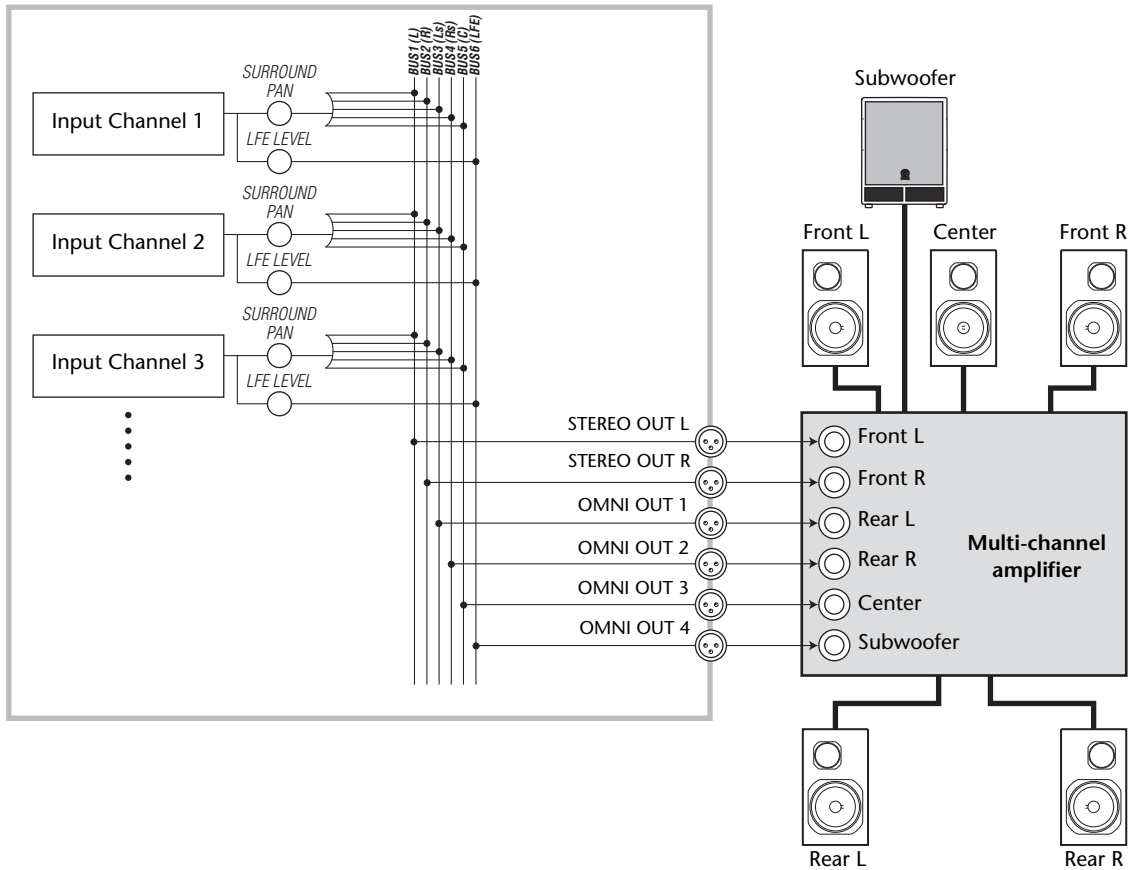
01V96i



## ■ Surround Pan Monitoring

To monitor surround pan movement, patch the Bus Outs to the analog outputs, to which a monitoring system is connected. The following diagram illustrates an example in which Bus Out 1/2 (left and right front channel) signals are output from the STEREO OUT L/R connectors and Bus Out 3–6 signals are output from the OMNI OUT 1–4 connectors in 5.1 Surround mode.

01V96i



**Tip:** To output left and right front signals of the surround channels from the STEREO OUT L/R connectors, turn on the Surround LR to Stereo checkbox on the Surr Bus page.

## Surround Panning

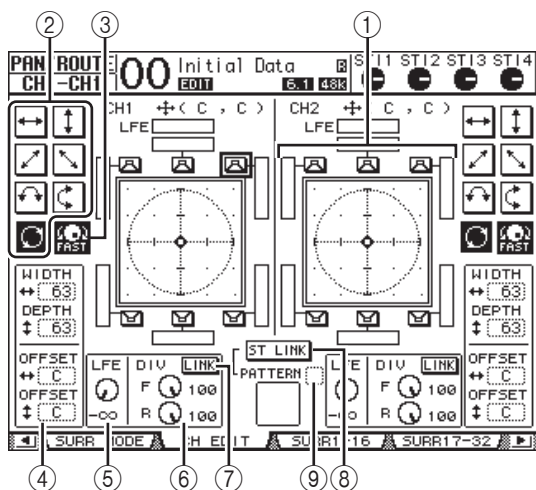
You can set the surround pan parameters for each Input Channel.

**1. Make sure that the 01V96i is in any Surround mode except Stereo, then press the [SEL] button of the channel for which you want to set surround pan.**

**2. Press the DISPLAY ACCESS [PAN/ROUTING] button repeatedly until the Pan/Route | Ch Edit page appears.**

The Ch Edit page displays the selected Input Channel, and its surround pan setting and available pair partner.

The following display page is an example in 6.1 Surround mode.



The following parameters are available on this page:

**① Surround pan graph**

This graph indicates the pan positions in a two-dimensional field, with the listening position in the center. A small diamond (◆) indicates the current surround pan position. You can move the current surround pan position (◆) directly to one of the speaker icons by selecting its icon, then pressing [ENTER].

**② Trajectory patterns**

These buttons represent seven trajectory patterns that determine how the surround pan moves when you operate the Parameter wheel or the [INC]/[DEC] buttons.

**③ FAST**

Turning on this button increases the speed of sound images panned via the Parameter wheel.

**④ Trajectory pattern parameters**

These parameters fine-tune the surround pan trajectory pattern.

- **WIDTH** ↔ ..... This parameter sets the left-to-right width of the selected trajectory pattern.
- **DEPTH** ↑↓ ..... This parameter sets the front-to-rear width of the selected trajectory pattern.

- **OFFSET** ↔ ..... This parameter offsets the left-to-right direction of the selected trajectory pattern.

- **OFFSET** ↑↓ ..... This parameter offsets the front-to-rear direction of the selected trajectory pattern.

**⑤ LFE**

This parameter control sets the level of the LFE (Low Frequency Effects) Channel signal routed to the subwoofer, and appears only in 5.1 and 6.1 Surround modes.

**⑥ F/R**

In 6.1 Surround mode, F and R parameter controls appear. The F parameter control determines how the Front Center signal is fed to the Left and Right channels, and the R parameter control determines how the rear surround signal is fed to the Left and Right surround channels.

**⑥ DIV**

This parameter control, instead of the F/R parameter control, appears in 3-1 or 5.1 Surround mode, and determines how the Center signal is fed to the Left, Right, and Center channels. It is expressed as a percentage ranging from 0 to 100%. When you set the parameter to 100, the Center signal is fed to only the Center channel. When you set the parameter to 0, the Center signal is fed to only the Left and Right channels. When you set the parameter to 50, the Center signal is fed equally to the Left, Right, and Center channels.

**⑦ LINK**

This button is available only in 6.1 Surround mode. When you turn on this button, the F and R controls are set to the same value, and linked together.

**⑧ ST LINK**

Turning on this button links the surround pan parameters of two Input Channels that are currently displayed on the page (Stereo Link function). You can link the surround pan parameters of two channels regardless of whether they are paired.

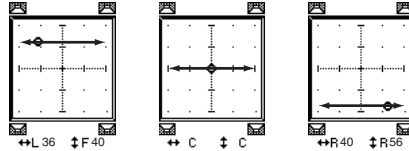
**⑨ PATTERN**

When Input Channels are linked by the Stereo Link function, the seven patterns selectable here determine how the linked surround pan moves via the Parameter wheel and the [INC]/[DEC] buttons.

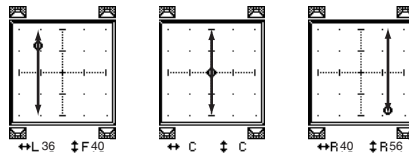
### 3. Select one of seven trajectory patterns by turning on the corresponding trajectory pattern button.

The following patterns are available:

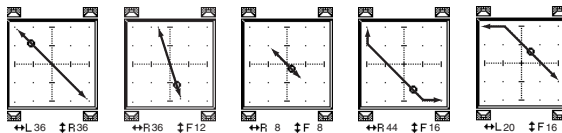
-  .....The sound image moves between left and right.



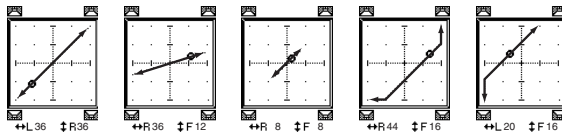
-  .....The sound image moves between front and rear.



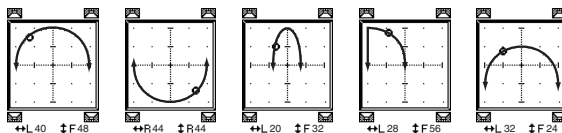
-  .....The sound image moves from front left to rear right. With this pattern, you can also fine-tune the trajectory by using the WIDTH, DEPTH, OFFSET (  $\updownarrow$  ), and OFFSET (  $\leftrightarrow$  ) parameters.



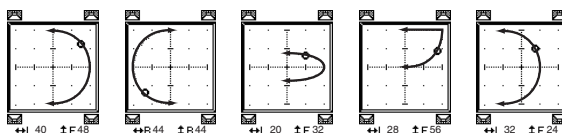
-  .....The sound image moves from front right to rear left. With this pattern, you can also fine-tune the trajectory using the WIDTH, DEPTH, OFFSET (  $\updownarrow$  ), and OFFSET (  $\leftrightarrow$  ) parameters.



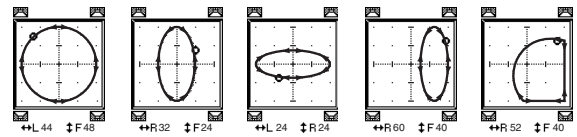
-  .....The sound image moves between left and right while tracing an arc. With this pattern, you can also fine-tune the radius and shape of the arc using the WIDTH, DEPTH, OFFSET (  $\updownarrow$  ), and OFFSET (  $\leftrightarrow$  ) parameters.



-  .....The sound image moves between front and rear while tracing an arc. With this pattern, you can also fine-tune the radius and shape of the arc using the WIDTH, DEPTH, OFFSET (  $\updownarrow$  ), and OFFSET (  $\leftrightarrow$  ) parameters.



-  .....The sound image moves while tracing a circle or oval. With this pattern, you can also fine-tune the radius and shape of the circle or oval using the WIDTH, DEPTH, OFFSET (  $\updownarrow$  ), and OFFSET (  $\leftrightarrow$  ) parameters.



### 4. If necessary, fine-tune the trajectory by editing the WIDTH, DEPTH, OFFSET ( $\updownarrow$ ), and OFFSET ( $\leftrightarrow$ ) parameter values.

### 5. To move the sound image, move the cursor to anywhere outside the parameter boxes, then rotate the Parameter wheel.

The sound image of the selected channel moves along the selected trajectory pattern.

**Tip:** You can also adjust the front and rear or left and right movement, the trajectory pattern and other parameters from an external MIDI device by assigning the surround parameters to MIDI Control Changes (see page 104).

### 6. To link the surround pan settings of two channels displayed on the page, turn on the ST LINK button.

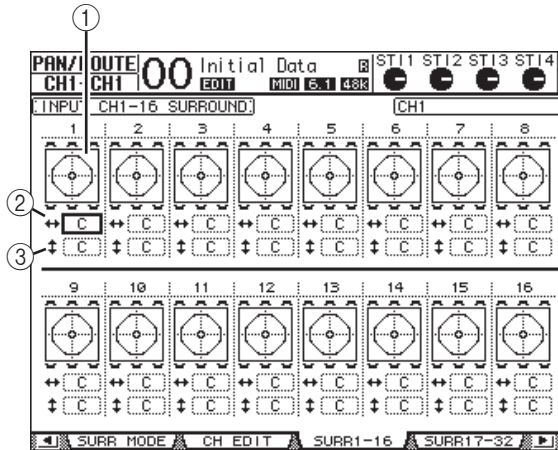
Use the PATTERN parameter box below the ST LINK button to specify how you want the linked surround pan to move.

The following table shows how the sound images on two linked channels move when different trajectory patterns and stereo link patterns are combined. A solid line indicates the movement of the selected channel, and a dotted line indicates the movement of the linked partner.

| Trajectory                                                                          |  |   |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Patterns                                                                            |  |    |  |  |  |  |  |
|  |  |    |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |

**7. To list multiple-channel surround pan settings, press the [PAN/ROUTING] button repeatedly until the Pan/Route | Surr1-16, Surr17-32, or Surr ST IN page appears.**

These pages display and enable you to edit the surround pan settings for 16 channels.



**① Surround pan graphs**

These graphs display the trajectory patterns and the current pan positions for the Input Channels.

**② ⇄ parameter box**

This parameter box enables you to move the surround pan setting of the selected channel left and right.

**③ ⬆ parameter box**

This parameter box enables you to move the surround pan setting of the selected channel front and rear.

**8. To move the sound image of each channel on these pages, move the cursor to the desired channel, then rotate the Parameter wheel.**

The pan setting of the channel changes along the trajectory pattern. Press [ENTER] to display the currently-selected channel's CH Edit page.

# Grouping Channels & Linking Parameters

This chapter describes how to group faders or [ON] buttons for multiple channels and link the EQ or compressor parameters for simultaneous operation.

## Grouping & Linking

On the 01V96i, you can group faders or [ON] buttons for multiple Input Channels (Input Channels 1–32, ST IN Channels 1–4) or multiple Output Channels (Bus Outs 1–8, Aux Outs 1–8, Stereo Out) and link the EQ or compressor parameters.

The following elements can be grouped or linked within Input Channels or Output Channels.

- **Fader group**

Input Channel or Output Channel faders (or level controls) can be grouped. There are eight Input Channel Fader groups and four Output Channel Fader groups. When channel faders or level controls are grouped, operating any one of them enables you to control the level of the other grouped faders or level controls while maintaining the relative level differences.

Also, the 01V96i features a Fader Group Master function that enables you to control the level of all grouped channels using the Group Master level while maintaining the relative level balance between channels.

- **Mute group**

Input Channel or Output Channel [ON] buttons can be grouped. There are eight Input Channel mute groups and four Output Channel mute groups. When channel [ON] buttons are grouped, pressing any one of them turns the [ON] buttons for all the grouped channels on or off. A mute group can include On channels and Off channels at the same time, which turn off or on respectively when you press any one of the grouped [ON] buttons.

Also, the 01V96i features a Mute Group Master function that enables you to mute grouped channels using the Master Mute buttons.

- **EQ Link**

Input or Output Channel EQ parameters can be linked. There are four EQ links for Input Channels and Output Channels respectively.

All channels in an EQ link share the same EQ parameter settings. When you change an EQ parameter value for one of the linked channels, the change is applied to all other linked channels.

- **Compressor Link**

Input or Output Channel compressor parameters can be linked. There are four compressor links for Input Channels and Output Channels respectively.

All channels in a compressor link share the same compressor parameter settings. When you change a compressor parameter value for one of the linked channels, the change is applied to all other linked channels.

*Tip: Compressor Link is not available for the ST IN Channels, since they do not feature compressors.*

## Using Fader Groups and Mute Groups

Follow the steps below to group faders or [ON] buttons for Input Channels or Output Channels.

### 1. Press the DISPLAY ACCESS [PAIR/GROUP] button repeatedly until one of the pages that contains the desired group and channels appears.

- **In Fader page**

This page enables you to set Fader groups (A–H) for Input Channels 1–32 and ST IN Channels 1–4.

- **Out Fader page**

This page enables you to set Fader groups (Q–T) for Bus Outs (1–8), Aux Outs (1–8) and Stereo Out.

#### In Fader page

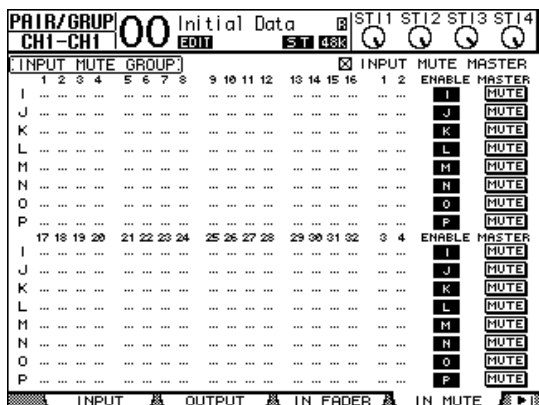
- **In Mute page**

This page enables you to set Mute groups (I–P) for Input Channels 1–32 and ST IN Channels 1–4 respectively.

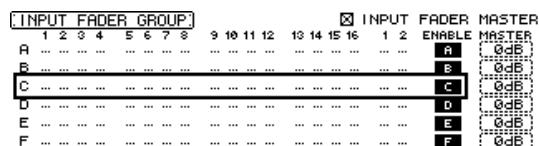
### • Out Mute page

This page enables you to set Mute groups (U–X) for Bus Outs (1–8), Aux Outs (1–8) and Stereo Out.

### In Mute page



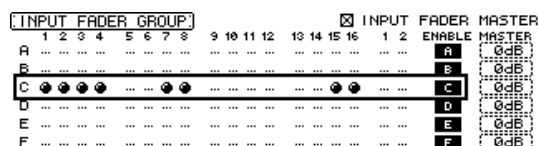
## 2. Press the up (▲) or down (▼) button to select a group.



## 3. Press the [SEL] button for a channel you wish to add to the group.

The selected channel is marked with “●” and the channel is added to the group.

**Example:** Input Channels 1–4, 7, 8, and 15, 16 have been added to Fader group C.



### Tip:

- If you add one channel from a pair to a group, the pair partner is automatically added to the group.
- You can also select a channel on another layer by switching layers.

## 4. In the same way, press the [SEL] button for other channels you wish to add to the group.

The relative level of the faders for the grouped channels is determined by the position of the faders when the channels were added to the group.

The On/Off status of the grouped channels is determined by the [ON] button status when the channels were added to the group.

## 5. To turn a group on or off, move the corresponding button in the ENABLE column, then press [ENTER].

When the group Enable button is turned off, the corresponding group is temporarily cancelled.

## 6. To use a fader group, operate one of the faders or level controls for the grouped channels.

### Note:

- If you wish to change the relative level balance between the grouped channels while this page is displayed, first turn off the Enable button or remove the channels for which you want to change the level from the group.
- If other pages are displayed, press and hold down the [SEL] button for the desired channels to temporarily remove them from the group, then change the level balance.

## 7. To use a mute group, press one of the [ON] buttons for the grouped channels.

All channels in the group switch their on/off status.

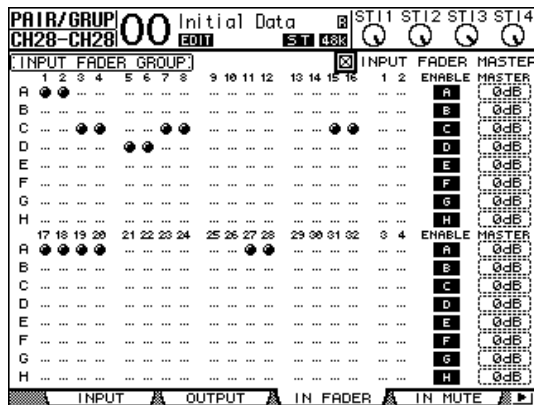
### Note:

- While a mute group is enabled, you cannot turn a subset of the grouped channels on or off.
- If you wish to turn a subset of the grouped channels on or off, first turn off the Enable button, or remove the channels you wish to turn on or off from the group.

## Using Fader Group Master

The 01V96i features a Fader Group Master function that enables you to control the level of all channels using the Group Master level while maintaining the relative balance between channels, much like a VCA group on an analog mixing console. While this function is enabled, channel fader operation does not affect channel levels in the corresponding Fader group.

1. After you perform Step 5 in “Using Fader Groups and Mute Groups” on page 59, use the cursor buttons to select the **INPUT FADER MASTER** check box or the **OUTPUT FADER MASTER** check box, then press [ENTER] to turn on the Fader Group Master function.

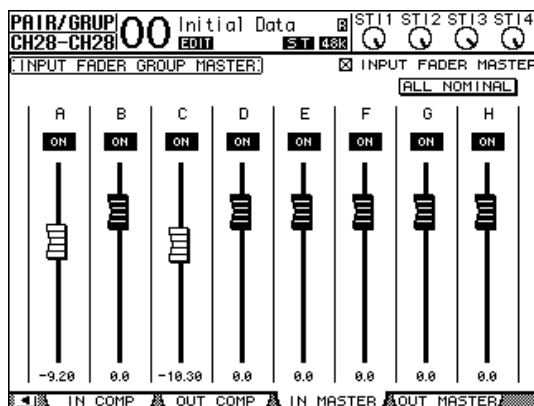


2. When the Fader Master check box is checked, you can set channel levels of the Fader groups in the Master column.

When the Master column is selected, repeatedly pressing the [ENTER] button turns the Fader group on and off.

You can also make these settings in the In Master page or Out Master page, as shown below.

3. Press the **DISPLAY ACCESS [GROUP]** button repeatedly until the **Group | In Master** or **Group | Out Master** page appears.



4. Use the cursor buttons to select parameters, then use the **Parameter wheel**, **[INC]/[DEC]** buttons, or **[ENTER]** button to set the parameters.

- **INPUT/OUTPUT FADER MASTER**

When this check box is checked, you can set the master levels for the Fader groups. The resultant Channel level equals the corresponding Channel fader level plus the Group Master level.

- **ALL NOMINAL**

This button resets the master levels for all Fader groups to nominal.

- **ON/OFF**

This turns each Input Fader group on or off. This function works like a VCA mute on an analog mixing console.

- **Faders**

These faders adjust the master levels of the Fader groups. Fader knobs are highlighted when faders are set to 0.0 dB. Press the [ENTER] button to set the currently-selected fader to 0.0 dB.

You can also control the parameters from the channel strips on the control surface as described below by using the User Assignable Layer of the Remote Layers. See page 110 for information on the User Assignable Layer.

- **[SEL] buttons**

These buttons move the cursor on the In Master page or Out Master page.

- **[SOLO] buttons**

These buttons turn the Solo function of each Fader group on and off. You can monitor all the channels in each Fader group.

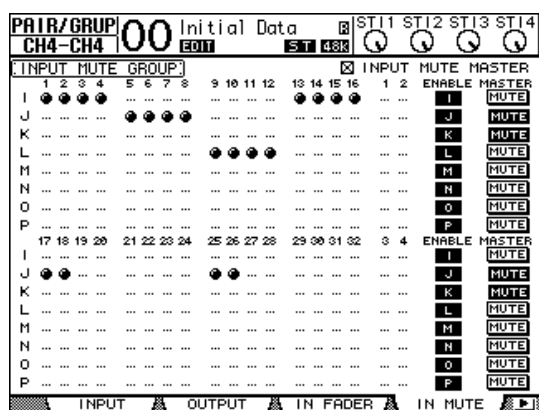
- **Channel Faders**

The channel faders enable you to set the master level for each Fader group.

## Using Mute Group Master

In addition to the Mute Group function that links the operation of channel [ON] buttons, the 01V96i features a Mute Group Master function that enables you to mute grouped channels using the Master Mute buttons in a manner similar to using a mute group on an analog mixing console. While this function is enabled, the [ON] buttons for grouped channels will not be linked.

1. After you perform Step 5 in “Using Fader Groups and Mute Groups” on page 59, use the cursor buttons to select the **INPUT MUTE MASTER** check box or **OUTPUT MUTE MASTER** check box, then press [ENTER] to turn on the Mute Group Master function.



2. When the Mute Master check box is checked, use the group **MASTER MUTE** buttons to mute or unmute the groups.

If channels are muted via the Mute Master function, the channel [ON] button indicators flash. It is useful if you assign the MASTER MUTE buttons to USER DEFINED KEYS buttons.

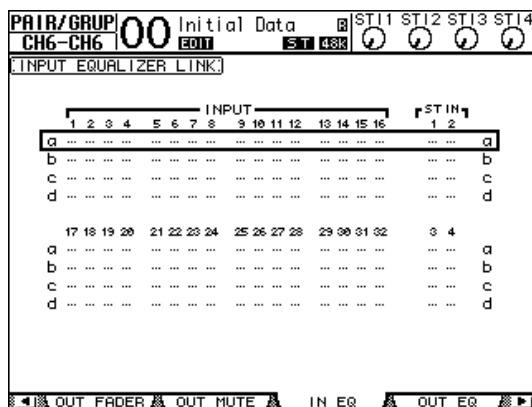
## Linking EQ and Compressor Parameters

Follow the steps below to link EQ or compressor parameters for Input Channels or Output Channels. This function enables you to set EQ or compressor parameters for multiple channels to the same values simultaneously.

1. Press the **DISPLAY ACCESS [PAIR/GROUP]** button repeatedly until one of the following pages appears.

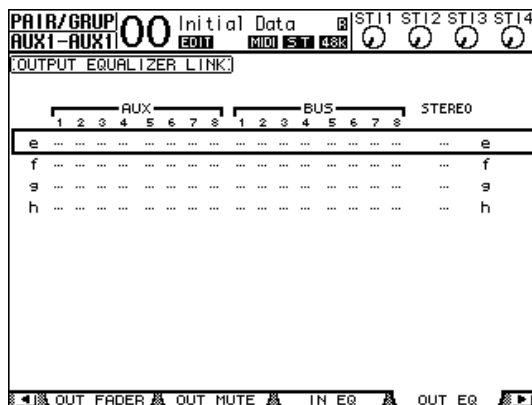
- In EQ page

This page enables you to set EQ links (a–d) for Input Channels 1–32 and ST IN Channels 1–4.



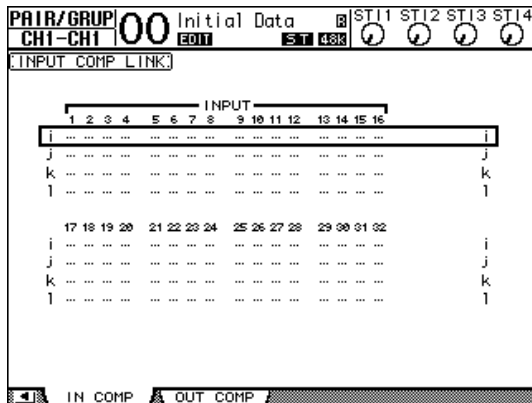
- Out EQ page

This page enables you to set EQ links (e–h) for Bus Outs (1–8), Aux Outs (1–8) and Stereo Out.



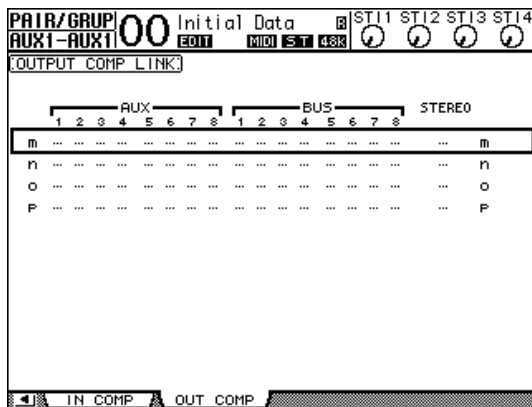
- **In Comp page**

This page enables you to set Compressor links (i-l) for Input Channels 1–32.

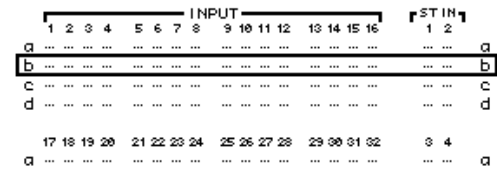


- **Out Comp page**

This page enables you to set Compressor links (m-p) for Bus Outs (1–8), Aux Outs (1–8) and Stereo Out.



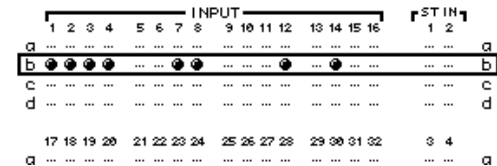
2. Press the up (▲) or down (▼) cursor button to select a link to which you want to add channels.



3. Press the [SEL] button for a channel you wish to add to the EQ or Compressor link.

The selected channel is marked with “●” and the channel is added to the link.

Example: Input Channels 1–4, 7, 8, 12 and 14 have been added to EQ link b.



**Tip:**

- If you add one channel from a pair to a link, the pair partner is automatically added to the link.
- You can also select a channel on another layer by switching layers.

4. In the same way, press the [SEL] button for other channels you wish to add to the link.

The EQ or compressor settings for the first channel added to the link are applied to all subsequently-added channels.

5. After all desired channels are added to the link, edit the EQ or compressor parameters for one of the linked channels.

The edits for the EQ or compressor parameters are applied to the rest of the linked channels.

# Internal Effects

This chapter describes how to use the 01V96i's internal effects processors.

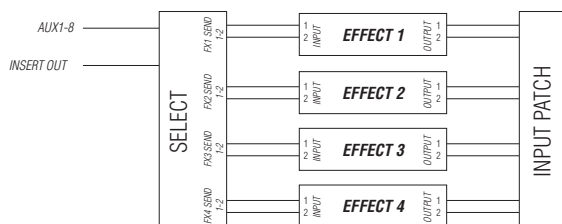
## About the Internal Effects

The 01V96i features four internal multi-effects processors. These effects processors offer numerous types of effects, including **reverbs**, **delays**, **modulation-based effects**, and **combination effects** designed especially for use with surround sound.

**Note:** When the 01V96i operates at a high sampling frequency (88.2 kHz or 96 kHz), you can use only Effects processors 1 and 2.

Processor inputs and outputs can be patched to various sources. For example, effects processor inputs can be fed from the Aux Sends and output to ST IN Channels (effects send/return). Effects processors can also be inserted into Input Channels, Bus Outs, Aux Outs, or the Stereo Out.

**Effects processors 1 through 4** create 1-in/2-out or 2-in/2-out effects.



The 01V96i also features the Effects library, which contains 56 preset programs (including Add-On Effects) and 72 user programs.

## Using Effects Processors via Aux Sends

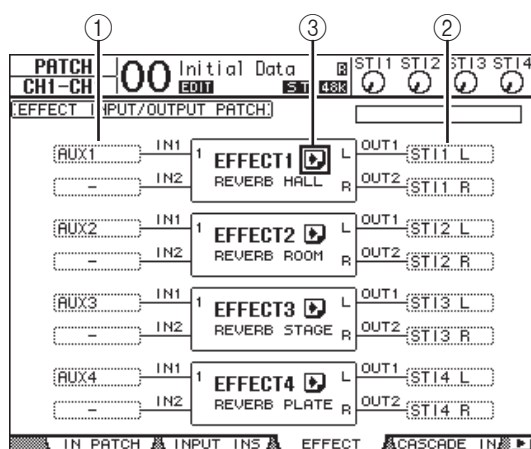
You can use effects processors via Aux Sends by patching effects processor inputs to Aux Outs, and effects processor outputs to ST IN Channels.

### 1. Recall an effect program you wish to use.

Refer to page 76 for more information on recalling effect programs.

### 2. Press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | Effect page appears.

This page enables you to patch all inputs and outputs of Effects processors 1–4.



This page contains the following parameters:

- ① **IN**  
These parameter boxes select the signals to be fed to the effects processors.
- ② **OUT**  
These parameter boxes select the destination of the signals output from the effects processors.
- ③ **button**  
This button recalls the FX1 Edit–FX4 Edit pages, which enable you to adjust the effect parameters.

### 3. To select a signal to be input to the effects processor, move the cursor to the desired IN parameter box, select a signal from the following options, then press [ENTER].

- - ..... No assignment
- AUX1-8 ..... Aux Sends 1-8
- INS CH1-32..... Input Channel 1-32 Insert Out
- INS BUS1-8..... Bus 1-8 Insert Out
- INS AUX1-8 ..... Aux Send 1-8 Insert Out
- INS ST-L/R..... Stereo Out Insert Out

To use the internal effects processors via Aux Sends, select Aux 1-8 (in most cases).

You can patch a different signal to the other input of 2-in/2-out effect programs.

#### Tip:

- You can patch a signal to multiple effect inputs.
- Move the cursor to an IN parameter box and press the [ENTER] button. The Patch Select window appears. This window enables you to select the input source quickly.

### 4. To patch a signal output from the effects processor, move the cursor to the desired OUT parameter box, select the signal destination from the following options, then press [ENTER].

- - ..... No assignment
- CH1-32 ..... Input Channels 1-32
- ST IN 1L-ST IN 4R.....ST IN Channels 1L-4R
- INS CH1-32.....Input Channel Insert In
- INS BUS1-8.....Bus 1-8 Insert In
- INS AUX1-8 .....Aux 1-8 Insert In
- INS ST-L & INS ST-R.....Stereo Bus Insert In

To use the internal effects processors via Aux Sends, select CH 1-32 or ST IN 1-4 (in most cases). The channels you assign here will become the effects return channels.

You can patch a different channel to the other output of a 1-in/2-out or 2-in/2-out effect program to create stereo effects.

#### Tip:

- If you select an ST IN Channel as the destination, you can patch the L and R channel signals separately.
- You can also use the Patch Select window to set the OUT parameter boxes, as explained in Step 3.
- The number of inputs available for each effect varies depending on the type of effect programs initially recalled.

**Note:** You cannot select a channel as the destination of multiple effect signals. If you select a channel that is already selected in another OUT parameter box, that OUT parameter box switches its indicator to “-” (not assigned).

### 5. Adjust the level of Aux Sends patched to the effects processor.

Refer to “Aux Outs” on page 36 for information on setting the Aux Sends.

**Note:** Do not raise the level of the Aux Sends (patched to the effects processor's input) on the effects return channels. Otherwise, the signal will return to the same channel, creating a signal loop and possibly damaging your speakers.

**Tip:** Use the Master layer fader to adjust the final Aux Send output level. At this time, you can view the level on the Meter | Master page.

### 6. Adjust the level, pan, and EQ of the Input Channels patched to the effect outputs.

**Tip:** To mix the effects sound returned via the Aux sends with the original dry sound, set the effect's MIX BALANCE parameter to 100% (only the effects sound will be output).

## Inserting the Internal Effects into Channels

You can insert the internal effects into certain Input Channels or Output Channels (Bus 1-8, Aux Bus 1-8, or the Stereo Bus).

#### Note:

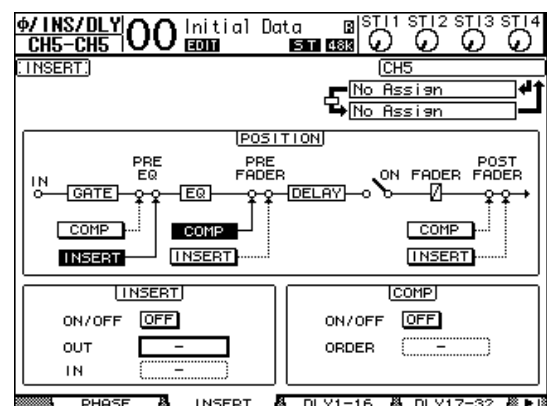
- You cannot use Insert In and Out for ST IN Channels.
- If effects are inserted in channels, you cannot use those effects via Aux Sends or insert them into other channels.

### 1. Select an internal Effects processor (1-4), then recall the desired effect programs.

### 2. Press the [SEL] button of the Input Channel or Output Channel into which you want to insert the selected effects.

**Tip:** Repeatedly pressing the STEREO [SEL] button toggles between the left and right Stereo Bus channels.

### 3. Press the DISPLAY ACCESS [ø/INSERT/DELAY] button repeatedly until the ø/Ins/Dly | Insert page appears.



4. Select the effect insertion position using the INSERT button in the POSITION section.
5. Move the cursor to the OUT parameter box in the INSERT section, then select the inputs of the effects processor selected in Step 1.
  - FX1-1 & FX1-2 .....Inputs 1 & 2 of Internal Effects Processor 1
  - FX2-1 & FX2-2 .....Inputs 1 & 2 of Internal Effects Processor 2
  - FX3-1 & FX3-2 .....Inputs 1 & 2 of Internal Effects Processor 3
  - FX4-1 & FX4-2 .....Inputs 1 & 2 of Internal Effects Processor 4
6. Press [ENTER] to confirm the setting.
7. Move the cursor to the IN parameter box in the INSERT section, select the outputs of the effects processor selected in Step 1, then press [ENTER] to confirm the setting.
8. Move the cursor to the ON/OFF button in the INSERT section, then press [ENTER] to turn on the button.

Effect insertion is now enabled.

**Tip:**

- After inserting effects to channels, adjust the MIX BALANCE parameter for the effects, according to the purpose and effects type.
- Move the cursor to an empty IN or OUT parameter box and press the [ENTER] button. The Patch Select window appears, which enables you to quickly select available signal paths.

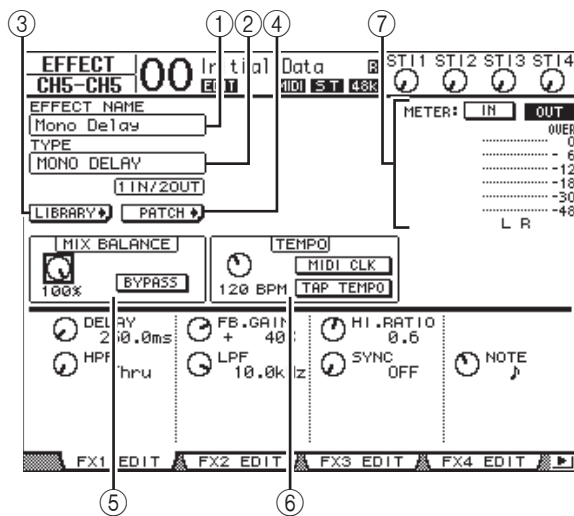
## Editing Effects

To edit effect programs recalled to the internal Effects processors 1–4, press the DISPLAY ACCESS [EFFECT] button repeatedly until the Edit page for the effects processor you wish to edit appears.

Effects processors 1–4 correspond to the following pages:

- **Effects Processor 1** ..... FX1 Edit page
- **Effects Processor 2** ..... FX2 Edit page
- **Effects Processor 3** ..... FX3 Edit page
- **Effects Processor 4** ..... FX4 Edit page

These Edit pages contain the following effect parameters.



① **EFFECT NAME**

This parameter displays the name of the effect program currently used by the effects processor.

② **TYPE**

This parameter displays the type of effect program currently used by the effects processor. The I/O configuration of the effect program is displayed below this parameter.

③ **LIBRARY** button

Move the cursor to this parameter, then press [ENTER] to display the Library page for the selected effects processor.

④ **PATCH** button

Move the cursor to this button, then press [ENTER] to display the Patch | Effect page, which enables you to assign signals to the inputs and outputs of Effects processors 1–4.

⑤ **MIX BALANCE**

This parameter knob enables you to set the balance between wet and dry signals. When the parameter is set to 0%, only the dry signal is heard. When set to 100%, only the wet signal is heard. Turn on the BYPASS button to bypass the currently-selected effects processor.

⑥ **TEMPO**

This section enables you to set the tempo and interval of the selected effects, and displays certain parameters only when certain effect types are selected. Use the parameter control on the left side of this section to adjust the value between 25 BPM and 300 BPM. When the MIDI CLK

**button** is on, the 01V96i updates the TEMPO data (BPM) based on the MIDI Clock information received at the MIDI IN port. You can also specify the tempo by moving the cursor to the **TAP TEMPO button** and double-clicking the [ENTER] button. The 01V96i calculates the tempo based on the time interval between your two taps (clicks) on the [ENTER] button.

**Tip:** If the Freeze effect is selected, the TEMPO section displays the record and playback buttons for using the effect, the recording data condition, and a progress bar that indicates the current status.

### ⑦ Meters

These meters indicate the input or output levels of the currently-selected effects processor. Select the IN button or OUT button to display the input levels or output levels respectively.

**Tip:** You can also view the input and output levels of the effects processors on the Meter | Effect 1–4 pages.

Move the cursor to a parameter you wish to change, and rotate the Parameter wheel or press the [INC]/[DEC] buttons to adjust the setting. You can store the edited settings as a new program in the Effects library (see page 76).

**Note:** You cannot change the effects type on this page. To change the effects type, recall a program that uses the desired effects type from the Effects library.

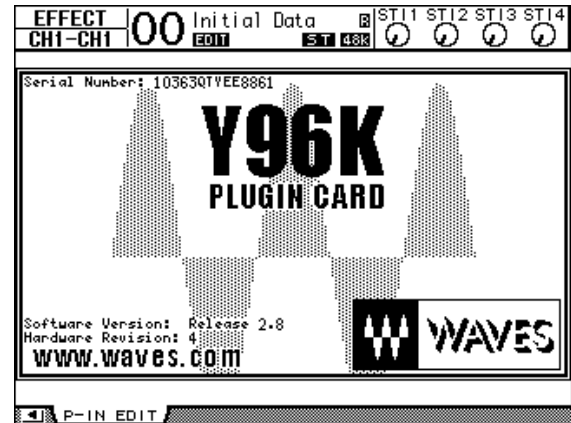
## About Plug-Ins

If you installed a mini-YGDAI card that supports the Effects function into Slot, you can use plug-in effects in addition to the internal effects processors.

You can patch Bus signals or channel insert outs to the plug-in input. The plug-in output can be patched to Input Channels or channel insert ins.

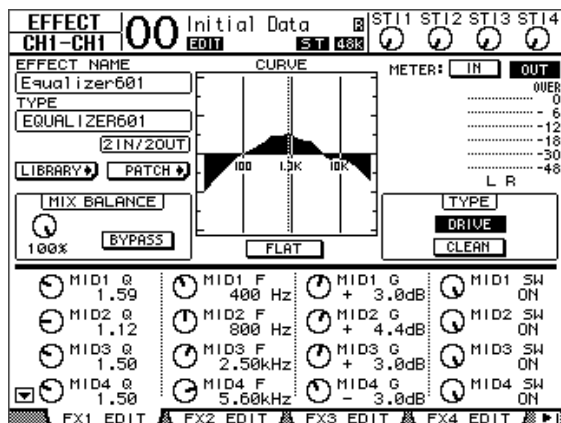
To use the plug-in effects, press the [EFFECT] button repeatedly until the Effect | P-In Edit page appears.

For details on using plug-ins, refer to the owner's manual that came with the plug-in card.



## About Add-On Effects

The 01V96i comes with pre-installed Add-On Effects created with VCM technology to faithfully simulate analog circuits using digital processing. Add-On Effects will be stored in and recalled from preset #45 and the subsequent preset programs. You can also store edited effects in user program #57 and the subsequent user programs.



# Scene Memories

This chapter describes Scene memories, which store 01V96i mix and effects settings.

## About Scene Memories

Scene memories enable you to store a snapshot of 01V96i channel mix settings and internal effects processor settings as a “Scene” in a special memory area.

There are 99 Scene memories, and you can recall any Scene using the display pages or the controls on the top panel.

**Tip:**

- You can recall Scenes by transmitting Program Changes from external MIDI devices (see page 103).
- You can back up Scene memories to external MIDI devices by using MIDI Bulk Dump (see page 107).

## What is Stored in a Scene?

The following parameter settings are stored in a Scene:

| Scene              | Parameters                                                                                         |
|--------------------|----------------------------------------------------------------------------------------------------|
| Mix parameters     | All channel faders (and level controls)                                                            |
|                    | Channel to Aux Out 1–8 Send levels                                                                 |
|                    | Aux Out 1–8 & Bus Out 1–8 levels                                                                   |
|                    | All channel [ON] button settings                                                                   |
|                    | All channel Phase settings                                                                         |
|                    | All channel Attenuator settings                                                                    |
|                    | All channel Delay settings (excluding ST IN Channels)                                              |
|                    | All channel Compressor settings (excluding ST IN Channels)                                         |
|                    | Input channel Gate settings (excluding ST IN Channels)                                             |
|                    | All channel EQ settings                                                                            |
|                    | All channel Pan settings                                                                           |
|                    | All channel routings                                                                               |
|                    | Fader groups, Mute groups, Fader group Masters, Mute group Masters, EQ links, and Compressor links |
|                    | All channel pair settings                                                                          |
| Effects parameters | Effect programs recalled for Effects processors 1–4 and their parameter settings                   |
| Remote Layer       | Fader and [ON] button status (only when Remote Control Target is set to USER DEFINED)              |
| Scene settings     | Scene titles and Fade Time settings                                                                |
| Input Patching     | Currently-selected Input Patch library number                                                      |
| Output Patching    | Currently-selected Output Patch library number                                                     |

**Note:**

- Scenes take a snapshot of Input and Output Patch library numbers that are in use at the time the Scene is stored, but exclude current (edited) Input and Output patching.
- If you do not store the edited Input and Output patching to the libraries, recalling a Scene may change the current patching.

## About Scene Numbers

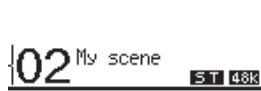
Scene memories are numbered with #U or from #00 through #99. You can store Scenes in Scene memories #01–99. When you recall a Scene, the Scene memory number appears at the top of the display page.

**Scene memory #00 is a special read-only memory that contains the default settings of all mix parameters. To reset all mix parameters on the 01V96i to their initial or default values, recall Scene memory #0.**

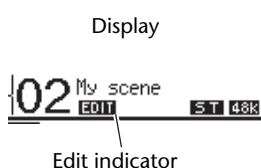
Also, the Initial Data Nominal check box on the Setup | Prefer1 page (see page 109) enables you to specify whether Input Channel faders are set to either 0 dB or  $-\infty$  dB when Scene memory #0 is recalled.

**Scene memory “Ud” is a special read-only memory that contains the mix settings in effect immediately before the most recently recalled or stored Scene.** To undo or redo Scene memory recall and store operations, recall Scene memory #U.

When you adjust parameters after recalling a Scene, the Edit indicators appear (“EDIT” at the top of the display), indicating that the mix settings no longer match those of the Scene that was most recently recalled. The contents of the Edit Buffer (where the current mix settings are stored) are retained while the 01V96i is turned off. This allows the 01V96i to restore the edited mix settings when you turn on the power.



The contents of recalled Scene memory #2 match the current settings on the 01V96i, and the Edit indicator remains off.



The parameters of recalled Scene memory #2 were edited. Therefore, the Edit indicators appear, indicating that the current settings on the 01V96i do not match Scene memory #2.

## Storing and Recalling Scenes

You can store and recall Scenes by pressing the buttons on the top panel or using the dedicated Scene memory page on the display.

### Note:

- When you store Scenes, make sure that there are no settings in the Edit Buffer that you do not want to store. Make sure that no settings, especially faders, have been adjusted unintentionally.
- If you are not sure of the Edit Buffer's contents, recall the last Scene, make the adjustments you want, then store the Scene. You may wish to store the current Scene to an unused Scene memory, just in case.

## Storing and Recalling Scenes Using the SCENE MEMORY Buttons

You can use the SCENE MEMORY buttons to store and recall Scenes.

1. Adjust the mix parameters on the 01V96i to the conditions you wish to store as a Scene.

2. Press the SCENE MEMORY Up [ $\blacktriangle$ ] or Down [ $\blacktriangledown$ ] buttons to select a Scene memory number.

If you select a Scene memory other than the currently-recalled Scene, its number flashes at the top of the display.

Scene memories #U ("Ud") and #0 ("00") are special read-only memories, to which you cannot store Scenes. Also, you cannot store Scenes to write-protected Scene memories.

3. Press the SCENE MEMORY [STORE] button.

The Title Edit window appears, which enables you to name the Scene to be stored.

**Tip:** You can disable this window by turning the Store Confirmation parameter to Off on the DIO/Setup | Prefer1 page (see page 109). In this case, the stored Scene will have the same name as the one recalled most-recently.

4. Enter the title, move the cursor to the OK button, then press [ENTER].

The Title Edit window closes and the current Scene is stored to the selected Scene memory.

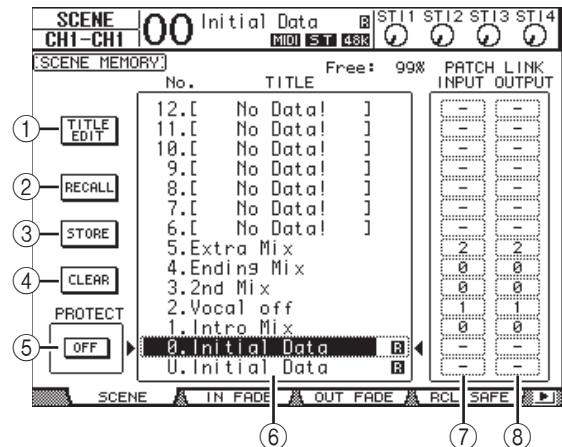
5. To recall a Scene, press the SCENE MEMORY Up [ $\blacktriangle$ ] or Down [ $\blacktriangledown$ ] buttons to select a Scene memory number, then press the SCENE MEMORY [RECALL] button.

**Tip:** If you turn the Recall Confirmation parameter to On on the DIO/Setup | Prefer1 page, a Scene recall confirmation window for Scene recalls appears before the Scene is recalled (see page 109).

## Storing and Recalling Scenes Using the Scene Memory Page

On the Scene Memory page, you can store, recall, write-protect, delete, and edit the titles of Scenes.

1. Adjust the mix parameters on the 01V96i to the conditions you wish to store as a Scene.
2. Press the DISPLAY ACCESS [SCENE] button repeatedly until the Scene | Scene page appears.



3. Rotate the Parameter wheel or press the [INC]/[DEC] buttons to select a Scene memory, move the cursor to one of the following buttons, then press [ENTER].

- ① **TITLE EDIT**  
Select this button to display the Title Edit window, which enables you to edit a selected Scene title.
- ② **RECALL**  
This button recalls the contents of the selected Scene memory.
- ③ **STORE**  
This button stores the current Scene to the selected Scene memory. By default, a confirmation window appears before you store the Scene.
- ④ **CLEAR**  
This button deletes the contents of the selected Scene memory.
- ⑤ **PROTECT ON/OFF**  
This button switches on and off the write-protection of the contents of the selected Scene memory. A padlock icon (  ) appears next to the title of a Scene memory that is write-protected.
- ⑥ **Library list**  
Scene memories 01–99 are listed in the library memory title list. The titles of stored Scenes are indicated in the title column. The message "No Data!" appears in the title column of empty library memories. The selected memory appears inside the dotted box between the  $\blacktriangle$  and  $\blacktriangledown$  marks.

## ⑦ PATCH LINK INPUT

This indicates the Input Patch library number that is linked to each scene. When you store a scene, the number of the input patch that was most recently recalled or stored will automatically be linked with that scene. When you recall that scene, this library number will also be automatically recalled. You can also move the cursor to the parameter boxes and change the library numbers.

## ⑧ PATCH LINK OUTPUT

This indicates the Output Patch library number that is linked to each scene. When you store a scene, the number of the output patch that was most recently recalled or stored will automatically be linked with that scene. When you recall that scene, this library number will also be automatically recalled. You can also move the cursor to the parameter boxes and change the library numbers.

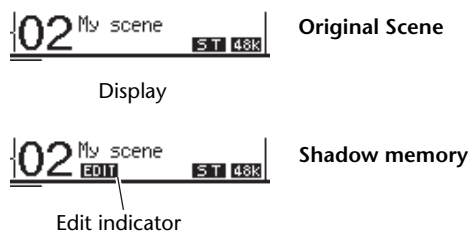
## Auto Scene Memory Update

If the Scene MEM Auto Update check box on the Setup | Prefer1 page (see page 109) is turned on, parameter edits are stored automatically in a **Shadow memory**, which is available for each Scene. This is called the **Auto Update function**.

If the Auto Update function is enabled, parameter edits made after the Scene was recalled are stored in the Scene's Shadow memory. When you again recall the Scene, the contents of the Original and Shadow memories are recalled alternately.

Therefore, **even after you recall the Original Scene memory, you can recall the edited version from Shadow memory to restore the most recent edits.**

If the "EDIT" indicator appears at the top of the display, the edited version from Shadow memory has been recalled.



If a Shadow memory is recalled, the edited version is stored when you store the Scene. (The contents of the Original and Shadow memories then become identical.)

## Fading Scenes

You can specify the time it takes the Input and Output Channel faders (or level controls) to move to their new positions when a Scene is recalled. This is called Fade Time, and it can be set for each channel in the range of 00.0 through 30.0 seconds (in 0.1 second steps). You can set the Fade Time for each Scene individually or for all Scenes globally.

## Fading Input Channels

To set the Fade Time for Input Channels 1–32 and ST IN Channels 1–4, press the DISPLAY ACCESS [SCENE] button repeatedly until the Scene | In Fade page appears. Move the cursor to the desired channel parameter box, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to modify the Fade Time setting.

### ① Global Fade Time

When this check box is checked, a Scene is recalled using the currently-specified Fade Time. (The Fade Time setting stored in the recalled Scene is temporarily ignored.) This check box setting works in unison with the Out Fade page.

### ② ALL INPUT CLEAR

This button resets all channel Fade Times on the page to 00.0 second.

### ③ INPUT CH1–32/ST IN 1–4

These parameters enable you to set the Fade Time for each Input Channel in the range of 00.0 through 30.0 seconds. The Fade Time setting for one channel in a pair works in unison with its partner.

#### Tip:

- If you operate a fader while fading channels, the fader's Fade Time setting is temporarily ignored.
- You can copy the currently-selected Input Channel Fade Time to all Input Channels by double-clicking the [ENTER] button to display a window for copying. This is convenient when you wish to set the Fade Time for all channels simultaneously.

## Fading Output Channels

To set the Fade Time for the Output Channels (Stereo Out, Bus Outs 1–8, Aux Outs 1–8), press the DISPLAY ACCESS [SCENE] button repeatedly until the Scene | Out Fade page appears.

The basic operation is the same as on the In Fade page.

### ① BUS1–8

These parameters enable you to set the Fade Time for each Bus Out (1–8) in the range of 00.0 through 30.0 seconds.

### ② AUX1–8

These parameters enable you to set the Fade Time for Aux Outs 1–8.

### ③ STEREO

This parameter enables you to set the Fade Time for the Stereo Out.

### ④ INPUT MASTER A–H

These parameters enable you to set the Fade Time for Input Fader Group Master A–H.

### ⑤ OUTPUT MASTER Q–T

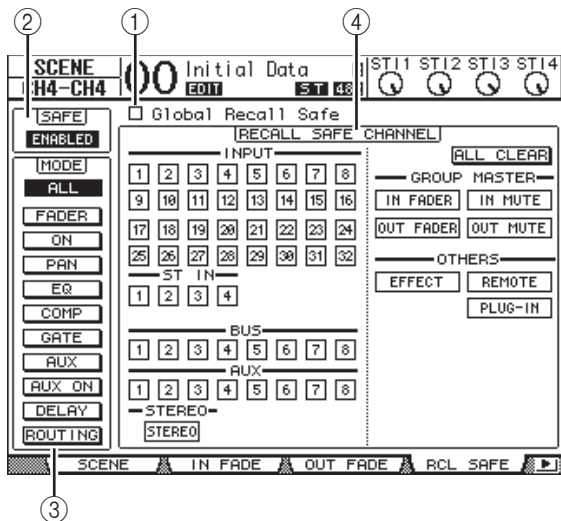
These parameters enable you to set the Fade Time for Output Fader Group Master Q–T.

**Tip:** You can copy the currently-selected Output Channel Fade Time setting to all Output Channels by double-clicking the [ENTER] button.

## Recalling Scenes Safely

When a Scene is recalled, all mix parameters are set accordingly. However, in some situations, **you can retain the current settings of certain parameters** on certain channels by using the **Recall Safe function**. You can set the Recall Safe function parameters for each Scene individually or for all Scenes globally.

To set the Recall Safe function, press the DISPLAY ACCESS [SCENE] button repeatedly until the Scene | Rcl Safe page appears.



### 1 Global Recall Safe

When this check box is checked, Recall Safe settings stored in Scene memories are ignored and the current settings are retained.

### 2 SAFE

This parameter enables or disables the Recall Safe function.

### 3 MODE

The following MODE buttons determine which Safe channel parameters will remain unaffected by Scene recalls. The MODE buttons correspond to the following parameters:

- **ALL** ..... All parameters
- **FADER** ..... Channel faders (or level controls)
- **ON** ..... Channel On/Off parameters
- **PAN** ..... Channel Pan parameters, Stereo Out balance
- **EQ** ..... Channel EQ parameters
- **COMP** ..... Channel Comp parameters
- **GATE** ..... Channel Gate parameters
- **AUX** ..... Channel Aux Send levels, Pre/Post
- **AUX ON** ..... Aux Send On/Off parameters
- **DELAY** ..... Channel Delay parameters
- **ROUTING** ..... Channel Routing parameters

**Tip:** The ALL button is mutually exclusive of the other buttons.

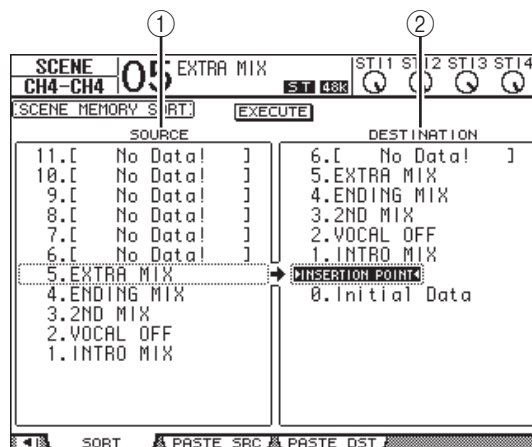
### 4 RECALL SAFE CHANNEL section

This section enables you to select which channels will remain unaffected by Scene recalls, including Input Channels 1–32, ST IN Channels 1–4, Bus Outs 1–8, Aux Outs 1–8, Stereo Out, internal effects, USER DEFINED Remote layers, and plug-in effects. The Recall Safe function is effective on channels and functions for which the buttons are turned on.

## Sorting Scenes

You can sort Scenes in Scene memories.

1. Press the DISPLAY ACCESS [SCENE] button repeatedly until the Scene | Sort page appears.

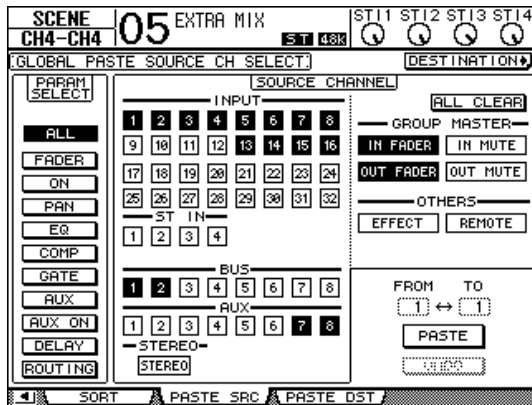


2. Move the cursor to the SOURCE list (1) in the left column, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the Scene memory you wish to move.
3. Move the cursor to the DESTINATION list (2) in the right column, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the position to which you want to move the source Scene memory.
4. Press [ENTER] to move the source Scene memory to the specified destination.  
The Scene memory numbers are updated accordingly.

## Copying and Pasting a Scene (Global Paste)

Any channel or parameter settings for the current scene can be copied and pasted into one or more scenes. This function is useful when you want to apply edited parameter settings in the current scene to other scenes.

1. Press the **DISPLAY ACCESS [SCENE]** button repeatedly until the **Paste SRC** page appears.

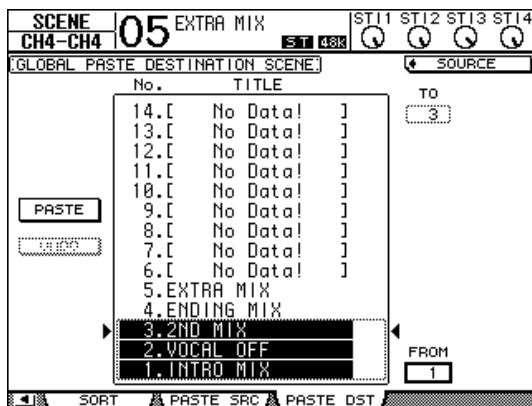


2. Use the cursor buttons, [SEL] buttons, or Parameter wheel to select the channel category, then use the [ENTER] button or the [INC]/[DEC] buttons to select the copy source channel.

The number of the source channel is highlighted.

You can also select Group Masters, internal Effects, and a User Defined Remote layer as copy sources.

3. Use the cursor buttons or Parameter wheel to select the copy source parameter, then press the [ENTER] button.
4. Press the **DISPLAY ACCESS [SCENE]** button repeatedly until the **Paste DST** page appears.



5. Use the Parameter wheel or [INC]/[DEC] buttons to select the destination scene(s).

Scenes specified between FROM and TO (inclusive) become the paste destination. You can paste up to 10 scenes at a time.

6. Use the cursor buttons to select the **PASTE** button, then use the [ENTER] button to paste the settings.

You cannot paste the settings to write-protected scenes.

To restore the previous settings that existed before the paste operation, click the **UNDO** button, then press [ENTER] button. However, if the settings in the scene are changed after the paste operation (such as by saving, clearing, or sorting the scene, or receiving scene data via MIDI Bulk Dump), the **UNDO** function is disabled. Also, note that you will not be able to undo the operation after you turn off the power to the console.

# Libraries

This chapter describes the 01V96i's various libraries.

## About the Libraries

The 01V96i features seven libraries that enable you to store Channel, Input Patch, Output Patch, Effects, and other data. You can also quickly recall this data from the libraries to restore previous parameter values.

The 01V96i offers the following libraries:

- Channel Library
- Input Patch Library
- Output Patch Library
- Effects Library
- Gate Library
- Compressor Library
- EQ Library

**Tip:**

- You can store library data to a computer hard disk using the included Studio Manager software. Be sure to back up your important data.
- You can also store library data to an external MIDI device, such as a MIDI data filer, by using MIDI Bulk Dump (see page 107).

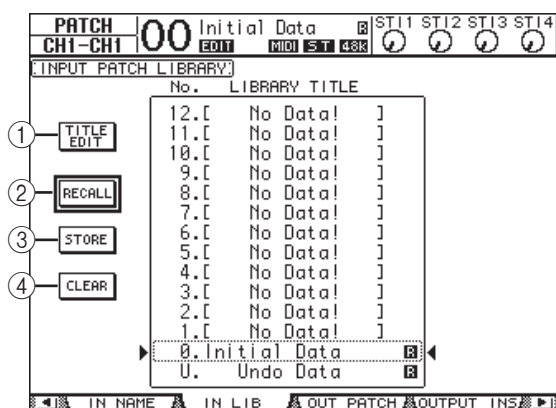
## General Library Operation

Most library functions are the same for each library.

### 1. Use the buttons on the top panel to locate the desired library pages.

The procedure for locating library pages varies depending on the library. Refer to the latter part of this chapter for more information on how to display the desired library page.

The example below assumes you have located the Input Patch library page.



The library memory title list is displayed in the middle of the page. The message “No Data!” appears in the title column of empty library memories.

An “R” icon is displayed next to the name of read-only preset memories. You cannot store, clear, or edit the titles of these memories.

Memories #0 and #U are special read-only memories. Recall memory #0 to reset the parameter settings to their initial values. Recall #U to undo memory recall and store operations.

### 2. Rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the desired memory.

The selected memory appears inside the dotted box.

### 3. Move the cursor to one of the following function buttons, then press [ENTER].

#### ① TITLE EDIT

This button displays the Title Edit window, which enables you to edit the title of the selected memory. Move the cursor to the OK button, then press [ENTER] to confirm the edited title. Refer to “Title Edit Window” in the Owner’s Manual (booklet) for more information on entering characters.

#### ② RECALL

This button recalls the contents of the selected library memory. If you turn on the Recall Confirmation parameter on the DIO/Setup | Prefer1 page, the 01V96i displays a memory recall confirmation window.

#### ③ STORE

This button stores the settings to the selected memory. Before you store the settings, you can enter or edit the title using the Title Edit window.

You can disable the Title Edit window by turning off the Store Confirmation parameter on the DIO/Setup | Prefer1 page. If you bypass the Edit Title window, the name “New Data” will be used as a title for the Scene memory.

#### ④ CLEAR

This button deletes the contents of the selected memory. After you press [ENTER], the 01V96i displays a confirmation window. To execute the delete operation, move the cursor to the YES button in the confirmation window, then press [ENTER].

**Note:** If you select a memory that already contains settings and execute the delete operation, the settings will be lost. Make sure that you do not accidentally delete important settings.

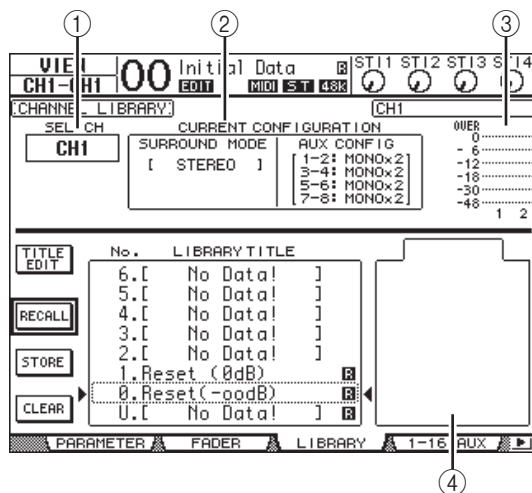
# Using Libraries

## Channel Library

Channel library enables you to store and recall Input Channel and Output Channel parameter settings. The library contains two preset memories and 127 user (readable & writable) memories.

You can recall only the settings for the currently-selected channels from the Channel library. For example, you cannot recall Input Channel 1–32 settings to ST IN Channels 1–4, Bus Outs 1–8, Aux Outs 1–8, or Stereo Out, with the exception that memories #0 and #1 can be recalled to any channels. Follow the steps below to use the Channel library.

1. Press the **DISPLAY ACCESS [VIEW]** button repeatedly until the View | Library page appears.



- ① **SEL CH**  
This parameter indicates the currently-selected channel.
- ② **CURRENT CONFIGURATION** section  
If the currently-selected channel is an Input Channel (1–32) or ST IN Channels (1–4), its Surround mode and Aux configuration information is displayed here.
- ③ **Level meters**  
These meters indicate the levels of the currently-selected channel and the available partner.
- ④ **STORED FROM**  
This parameter indicates the channel for which the settings were originally stored in the selected library memory. If the currently-selected library memory contains Input Channel 1–32 and ST IN Channels 1–4 settings, its Surround mode and Aux pairing information are also displayed below this parameter.

2. Use the **LAYER** buttons to select layers, then press the **[SEL]** buttons to select channels.

For details on the Store and Recall functions, see “General Library Operation” on page 74.

If the selected memory’s channel type does not match the type of the destination channel, an alarm mark (▲) and the word “CONFLICT” appear next to the STORED FROM parameter. These alarms indicate that you tried to recall unrecalable channel settings to the currently-selected channel.

The alarm indicators also appear when the Surround mode, Aux pair, and other non-channel parameter settings originally stored in the memory do not match those for the destination channel. However, if the channel type of the memory and that of the destination channel match, you can recall the settings even with the alarm indicators displayed. (For unmatched parameter settings, the 01V96i will use the settings in the memory that is to be recalled.)

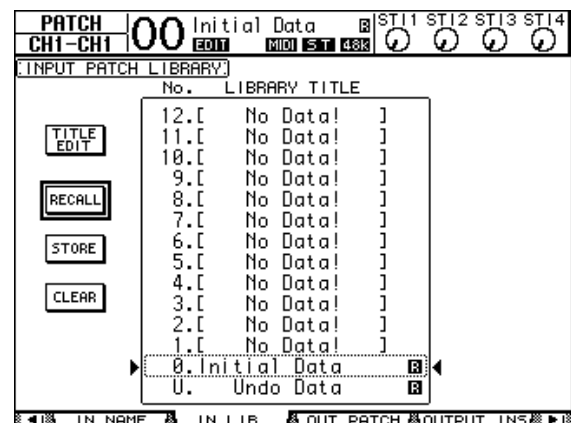
The following preset memories are available for the Channel library.

| No. | Preset Name   | Description                                                                                                                                                  |
|-----|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0   | Reset (–∞ dB) | This preset memory resets all parameters of the currently-selected channel to their initial values and sets the channel fader level to (–∞ dB).              |
| 1   | Reset (0 dB)  | This preset memory resets all parameters of the currently-selected channel to their initial values and sets the channel fader level to 0 dB (i.e., nominal). |

## Input Patch Library

The Input Patch library enables you to store and recall all Input Patch settings. The library contains one preset memory and 32 user (readable & writable) memories.

To access the Input Patch library, press the **DISPLAY ACCESS [PATCH]** button repeatedly until the Patch | IN LIB page appears. For details on storing and recalling memories, see “General Library Operation” on page 74.



Input Patch preset memory #0 contains the following settings:

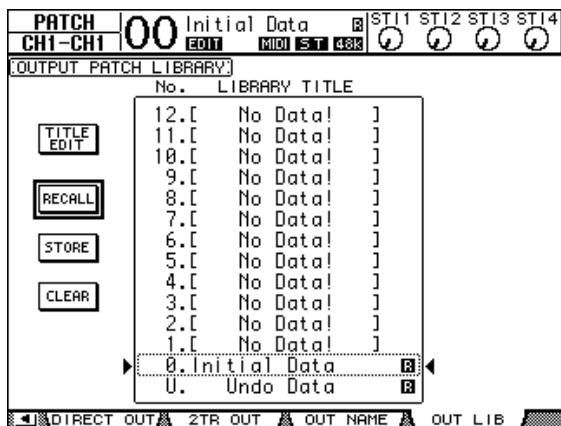
|                      |                                              |
|----------------------|----------------------------------------------|
| Input Channels 1–16  | INPUT connectors 1–16                        |
| Input Channels 17–24 | ADAT IN Channels 1–8                         |
| Input Channels 25–32 | Slot Channels 1–8                            |
| ST IN Channels 1–4   | Internal Effects Processor 1–4 Outputs 1 & 2 |

## Output Patch Library

The Output Patch library enables you to store and recall all Output Patch settings. The library contains one preset memory and 32 user (readable & writable) memories.

To access the Output Patch library, press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | Out LIB page appears.

For details on storing and recalling memories, see “General Library Operation” on page 74.



The Output Patch preset memory #0 contains the following settings:

|                           |              |
|---------------------------|--------------|
| Slot output channels 1–8  | Bus Outs 1–8 |
| Slot output channels 9–16 | Bus Outs 1–8 |
| ADAT OUT channels 1–8     | Bus Outs 1–8 |
| OMNI OUT connectors 1–4   | Aux Outs 1–4 |

## Effects Library

The Effects library enables you to store and recall Effects processor 1–4 programs. The library contains 56 preset programs (including Add-On Effects) and 72 user (readable & writable) programs.

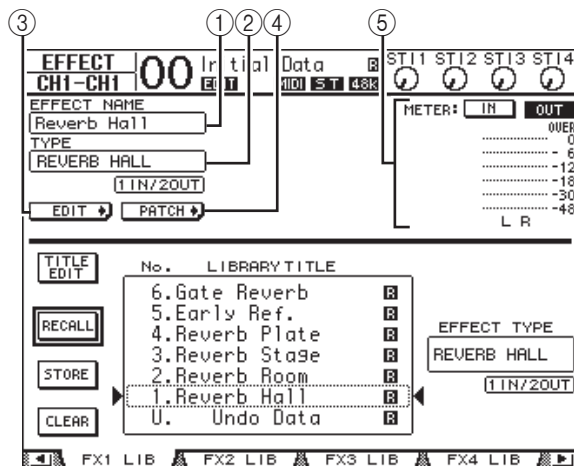
**Note:** The Effects library is shared by Effects processors 1–4. However, only Effects processors 1 and 2 enable the recall of Effect 19 “HQ Pitch” and Effect 42 “Freeze.”

To store and recall settings to and from the library, you must locate the corresponding Effects processor’s page.

To access the Effects library, press the DISPLAY ACCESS [EFFECT] button repeatedly until the library page for the desired Effects processor appears.

Each Effects processor features the library pages listed below:

- **Internal Effects Processor 1 Library** ... FX1 Lib page
- **Internal Effects Processor 2 Library** ... FX2 Lib page
- **Internal Effects Processor 3 Library** ... FX3 Lib page
- **Internal Effects Processor 4 Library** ... FX4 Lib page



### ① EFFECT NAME

This parameter displays the name of the Effects program currently selected by the Effects processor.

### ② TYPE

This parameter displays the effects type currently used by the Effects processor. The number of input and output channels for the currently-used effects appears below the TYPE parameter.

### ③ EDIT

Move the cursor to this button, then press [ENTER] to display the Effect | FX1 Edit, FX2 Edit, FX3 Edit, or FX4 Edit page to adjust the Effects parameters.

### ④ PATCH

Move the cursor to this button, then press [ENTER] to display the In Patch | Effect page to assign the input and output signals of Effects processors 1–4.

### ⑤ Level meters

These meters indicate the input or output levels of the currently-selected Effects processor. Select the IN button or OUT button to display the input levels or output levels respectively.

For details on storing and recalling programs, see “General Library Operation” on page 74.

The following tables list the preset effects programs in the Effects library:

- **Reverbs**

| No. | Preset Name  | Type         | Description                                     |
|-----|--------------|--------------|-------------------------------------------------|
| 1   | Reverb Hall  | REVERB HALL  | Concert hall reverberation simulation with gate |
| 2   | Reverb Room  | REVERB ROOM  | Room reverberation simulation with gate         |
| 3   | Reverb Stage | REVERB STAGE | Reverb designed for vocals, with gate           |
| 4   | Reverb Plate | REVERB PLATE | Plate reverb simulation with gate               |
| 5   | Early Ref.   | EARLY REF.   | Early reflections without the subsequent reverb |
| 6   | Gate Reverb  | GATE REVERB  | Gated early reflections                         |
| 7   | Reverse Gate | REVERSE GATE | Gated reverse early reflections                 |

- **Delays**

| No. | Preset Name  | Type         | Description                                   |
|-----|--------------|--------------|-----------------------------------------------|
| 8   | Mono Delay   | MONO DELAY   | Simple mono delay                             |
| 9   | Stereo Delay | STEREO DELAY | Simple stereo delay                           |
| 10  | Mod.delay    | MOD.DELAY    | Simple repeat delay with modulation           |
| 11  | Delay LCR    | DELAY LCR    | 3-tap (left, center, right) delay             |
| 12  | Echo         | ECHO         | Stereo delay with crossed left/right feedback |

- **Modulation-based Effects**

| No. | Preset Name | Type       | Description                                                                                     |
|-----|-------------|------------|-------------------------------------------------------------------------------------------------|
| 13  | Chorus      | CHORUS     | Chorus                                                                                          |
| 14  | Flange      | FLANGE     | Flanger                                                                                         |
| 15  | Symphonic   | SYMPHONIC  | Proprietary Yamaha effect that produces a richer and more complex modulation than normal chorus |
| 16  | Phaser      | PHASER     | 16-stage stereo phase shifter                                                                   |
| 17  | Auto Pan    | AUTO PAN   | Auto-panner                                                                                     |
| 18  | TREMOLO     | TREMOLO    | Tremolo                                                                                         |
| 19  | HQ.Pitch    | HQ.PITCH   | Mono pitch shifter, producing stable results (Available for internal effects 1 and 2.)          |
| 20  | Dual Pitch  | DUAL PITCH | Stereo pitch shifter                                                                            |
| 21  | Rotary      | ROTARY     | Rotary speaker simulation                                                                       |
| 22  | Ring Mod.   | RING MOD.  | Ring modulator                                                                                  |
| 23  | Mod.Filter  | MOD.FILTER | Modulated filter                                                                                |

- **Guitar Effects**

| No. | Preset Name  | Type         | Description           |
|-----|--------------|--------------|-----------------------|
| 24  | Distortion   | DISTORTION   | Distortion            |
| 25  | Amp Simulate | AMP SIMULATE | Guitar amp simulation |

- **Dynamic Effects**

| No. | Preset Name | Type        | Description                          |
|-----|-------------|-------------|--------------------------------------|
| 26  | Dyna.Filter | DYNA.FILTER | Dynamically controlled filter        |
| 27  | Dyna.Flange | DYNA.FLANGE | Dynamically controlled flanger       |
| 28  | Dyna.Phaser | DYNA.PHASER | Dynamically controlled phase shifter |

- Combination Effects

| No. | Preset Name  | Type         | Description                             |
|-----|--------------|--------------|-----------------------------------------|
| 29  | Rev+Chorus   | REV+CHORUS   | Reverb and chorus in parallel           |
| 30  | Rev->Chorus  | REV->CHORUS  | Reverb and chorus in series             |
| 31  | Rev+Flange   | REV+FLANGE   | Reverb and flanger in parallel          |
| 32  | Rev->Flange  | REV->FLANGE  | Reverb and flanger in series            |
| 33  | Rev+Sympho.  | REV+SYMPHO.  | Reverb and symphonic in parallel        |
| 34  | Rev->Sympho. | REV->SYMPHO. | Reverb and symphonic in series          |
| 35  | Rev->Pan     | REV->PAN     | Reverb and auto-pan in series           |
| 36  | Delay+ER.    | DELAY+ER.    | Delay and early reflections in parallel |
| 37  | Delay->ER.   | DELAY->ER.   | Delay and early reflections in series   |
| 38  | Delay+Rev    | DELAY+REV    | Delay and reverb in parallel            |
| 39  | Delay->Rev   | DELAY->REV   | Delay and reverb in series              |
| 40  | Dist->Delay  | DIST->DELAY  | Distortion and delay in series          |

- Others

| No. | Preset Name   | Type         | Description                                              |
|-----|---------------|--------------|----------------------------------------------------------|
| 41  | Multi.Filter  | MULTI.FILTER | 3-band parallel filter (24 dB/octave)                    |
| 42  | Freeze        | FREEZE       | Simple sampler (Available for internal effects 1 and 2.) |
| 43  | Stereo Reverb | ST REVERB    | Stereo reverb                                            |
| 44  | M.Band Dyna.  | M.BAND DYNA. | 3-band dynamics processor                                |

- Add-On Effects

| No. | Preset Name    | Type         | Description                                                                                                                                                                                          |
|-----|----------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 45  | Comp276        | COMP276      | This emulates the characteristics of an analog compressor that has become a standard in recording studios.                                                                                           |
| 46  | Comp276S       | COMP276S     | This is a stereo model of Comp276.                                                                                                                                                                   |
| 47  | Comp260        | COMP260      | This emulates the characteristics of a compressor/limiter of the mid-1970s that has now become a standard for live sound reinforcement.                                                              |
| 48  | Comp260S       | COMP260S     | This is a stereo model of Comp260.                                                                                                                                                                   |
| 49  | Equalizer601   | EQUALIZER601 | This emulates the characteristics of an analog equalizer of the 1970s.                                                                                                                               |
| 50  | OpenDeck       | OPENDECK     | This is a mastering effect that emulates the tape compression produced by two open-reel tape recorders, a recording deck and a reproduction deck.                                                    |
| 51  | REV-X Hall     | REV-X HALL   | REV-X reverb provides a high-density, richly reverberant sound quality, with smooth decay, spaciousness and depth that enhance the original sound. Three types are available: hall, room, and plate. |
| 52  | REV-X Room     | REV-X ROOM   |                                                                                                                                                                                                      |
| 53  | REV-X Plate    | REV-X PLATE  |                                                                                                                                                                                                      |
| 54  | Max100         | MAX100       | This emulates a vintage phaser effect that was manufactured only during the second half of the 1970s.                                                                                                |
| 55  | Vintage Phaser | VNTG PHASER  | Rather than limiting itself to reproducing any particular model, this phaser offers an extremely high level of freedom in creating phaser sounds.                                                    |
| 56  | Dual Phaser    | DUAL PHASER  | This phaser emulates a vintage effect manufactured during the mid-1970s.                                                                                                                             |

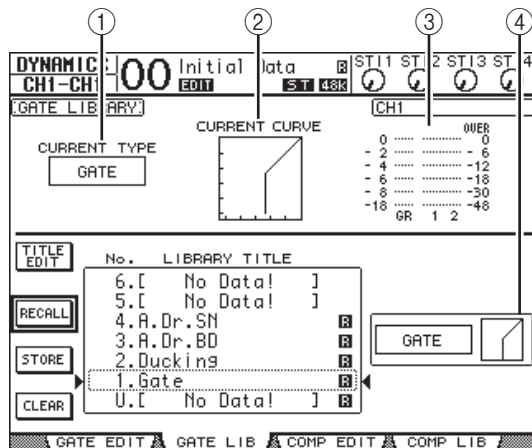
## Gate Library

The Gate library enables you to store and recall Input Channel gate settings. The library contains four preset memories and 124 user (readable & writable) memories.

Follow the steps below to use the Gate library.

### 1. Press the DISPLAY ACCESS [DYNAMICS] button, then press the [F2] button.

The Dynamics | Gate Lib page appears.



#### ① CURRENT TYPE

This parameter displays the currently-selected channel gate type (Gate or Ducking).

#### ② CURRENT CURVE

This graph displays the current channel gate curve.

#### ③ GR meters

These meters indicate the amount of gain reduction being applied by the gate, and the post-gate levels of the currently-selected channel and its available pair partner.

#### ④ Type & Curve section

The type (Gate or Ducking) and curve of the currently-selected memory is displayed here.

**Tip:** If you selected an ST IN Channel (1–4), Aux Out (1–8), Bus Out (1–8), or Stereo Out that does not feature a gate, the 01V96i indicates “XXX has no Gate!” (in which XXX represents a channel name).

### 2. Use the LAYER buttons to select layers, then press the [SEL] buttons to select channels.

You can now store the selected channel gate settings or recall the gate library memories to channels. For details on storing and recalling memories, see “General Library Operation” on page 74.

The following table lists the preset memories in the Gate library:

| No. | Preset Name | Type    | Description                                   |
|-----|-------------|---------|-----------------------------------------------|
| 1   | Gate        | GATE    | Gate template                                 |
| 2   | Ducking     | DUCKING | Ducking template                              |
| 3   | A. Dr. BD   | GATE    | Gate preset for use with acoustic bass drums  |
| 4   | A. Dr. SN   | GATE    | Gate preset for use with acoustic snare drums |

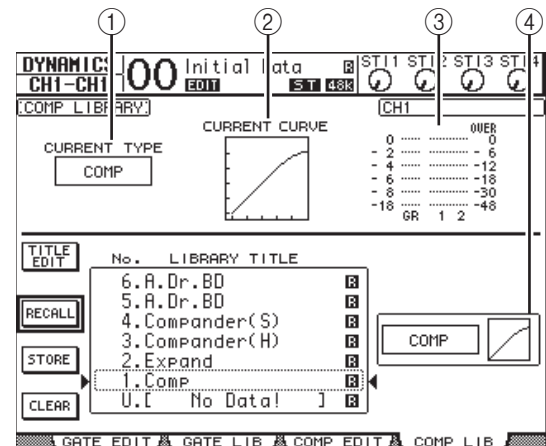
## Compressor Library

This library enables you to store and recall settings for the compressors on Input Channels, Bus Outs 1–8, Aux Outs 1–8, and Stereo Out. The library contains 36 preset memories and 92 user (readable & writable) memories.

Follow the steps below to use the Compressor library.

### 1. Press the DISPLAY ACCESS [DYNAMICS] button, then press the [F4] button.

The Dynamics | Comp Lib page appears.



#### ① CURRENT TYPE

This parameter displays the currently-selected channel comp type (Compressor, Expander, Compander Soft, Compander Hard).

#### ② CURRENT CURVE

This graph displays the current compressor curve.

#### ③ GR meters

These meters indicate the amount of gain reduction being applied by the compressor, and the post-comp levels of the currently-selected channel and its available pair partner.

#### ④ Type & Curve section

The type and curve of the currently-selected memory is displayed here.

### 2. Use the LAYER buttons to select layers, then press the [SEL] buttons to select channels.

You can now store the selected channel comp settings and recall the compressor library memories to channels. For details on storing and recalling memories, see “General Library Operation” on page 74. Since ST IN Channels do not feature compressors, if you select an ST IN Channel, the message “Stereo in has no Comp!” appears on the display.

The following table lists the preset memories in the Compressor library:

| No. | Preset Name           | Type      | Description                                                                                                                                                                                         |
|-----|-----------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <b>Comp</b>           | COMP      | Compressor for reducing the overall volume level. Use it on the stereo output during mixdown, or with paired Input or Output Channels.                                                              |
| 2   | <b>Expand</b>         | EXPAND    | Expander template.                                                                                                                                                                                  |
| 3   | <b>Compander (H)</b>  | COMPAND-H | Hard-kneed compressor template.                                                                                                                                                                     |
| 4   | <b>Compander (S)</b>  | COMPAND-S | Soft-kneed compressor template.                                                                                                                                                                     |
| 5   | <b>A. Dr. BD</b>      | COMP      | Compressor for use with acoustic bass drum.                                                                                                                                                         |
| 6   | <b>A. Dr. BD</b>      | COMPAND-H | Hard-kneed compander for use with acoustic bass drum.                                                                                                                                               |
| 7   | <b>A. Dr. SN</b>      | COMP      | Compressor for use with acoustic snare drum.                                                                                                                                                        |
| 8   | <b>A. Dr. SN</b>      | EXPAND    | Expander for use with acoustic snare drum.                                                                                                                                                          |
| 9   | <b>A. Dr. SN</b>      | COMPAND-S | Soft-kneed compander for use with acoustic snare drum.                                                                                                                                              |
| 10  | <b>A. Dr. Tom</b>     | EXPAND    | Expander for use with acoustic tom toms, which automatically reduces the volume when the tom toms are not played, improving mic separation.                                                         |
| 11  | <b>A. Dr. OverTop</b> | COMPAND-S | Soft-kneed compander for emphasizing the attack and ambience of cymbals recorded with overhead mics. It automatically reduces the volume when the cymbals are not played, improving mic separation. |
| 12  | <b>E. B. Finger</b>   | COMP      | Compressor for leveling the attack and volume of a finger-picked electric bass guitar.                                                                                                              |
| 13  | <b>E. B. Slap</b>     | COMP      | Compressor for leveling the attack and volume of a slapped electric bass guitar.                                                                                                                    |
| 14  | <b>Syn. Bass</b>      | COMP      | Compressor for controlling or emphasizing the level of a synth bass.                                                                                                                                |
| 15  | <b>Piano1</b>         | COMP      | Compressor for brightening the tonal color of a piano.                                                                                                                                              |
| 16  | <b>Piano2</b>         | COMP      | A variation on preset 15, using a deep threshold to change the overall attack and level.                                                                                                            |
| 17  | <b>E. Guitar</b>      | COMP      | Compressor for electric guitar “cutting” or arpeggio-style backing. The sound color can be varied by playing different styles.                                                                      |
| 18  | <b>A. Guitar</b>      | COMP      | Compressor for acoustic guitar “stroke” or arpeggio-style backing.                                                                                                                                  |
| 19  | <b>Strings1</b>       | COMP      | Compressor for use with strings.                                                                                                                                                                    |
| 20  | <b>Strings2</b>       | COMP      | A variation on preset 19, intended for violas or cellos.                                                                                                                                            |
| 21  | <b>Strings3</b>       | COMP      | A variation on preset 20, intended for string instruments with a very low range, such as cellos or contrabass.                                                                                      |
| 22  | <b>BrassSection</b>   | COMP      | Compressor for brass sounds with a fast and strong attack.                                                                                                                                          |
| 23  | <b>Syn. Pad</b>       | COMP      | Compressor for musical instruments that feature gentle sounds which, depending on the tones, could diffuse, such as synth pad. Intended to prevent diffusion of the sound.                          |
| 24  | <b>SamplingPerc</b>   | COMPAND-S | Compressor for making sampled percussion sound like real acoustic percussion.                                                                                                                       |
| 25  | <b>Sampling BD</b>    | COMP      | A variation on preset 24, intended for sampled bass drum sounds.                                                                                                                                    |
| 26  | <b>Sampling SN</b>    | COMP      | A variation on preset 25, intended for sampled snare drum sounds.                                                                                                                                   |
| 27  | <b>Hip Comp</b>       | COMPAND-S | A variation on preset 26, intended for sampled loops and phrases.                                                                                                                                   |
| 28  | <b>Solo Vocal1</b>    | COMP      | Compressor for use with main vocals.                                                                                                                                                                |
| 29  | <b>Solo Vocal2</b>    | COMP      | A variation on preset 28.                                                                                                                                                                           |
| 30  | <b>Chorus</b>         | COMP      | A variation on preset 28, intended for choruses.                                                                                                                                                    |
| 31  | <b>Click Erase</b>    | EXPAND    | Expander for removing a click track that may bleed through from a musician’s headphones.                                                                                                            |
| 32  | <b>Announcer</b>      | COMPAND-H | Hard-kneed compander for reducing the level of the music when an announcer speaks.                                                                                                                  |
| 33  | <b>Limiter1</b>       | COMPAND-S | A soft-kneed compander with a slow release.                                                                                                                                                         |
| 34  | <b>Limiter2</b>       | COMP      | A “peak-stop” compressor.                                                                                                                                                                           |
| 35  | <b>Total Comp1</b>    | COMP      | Compressor for reducing the overall volume level. Use it on the stereo output during mixdown, or with paired Input or Output Channels.                                                              |
| 36  | <b>Total Comp2</b>    | COMP      | A variation on preset 35, but with more compression.                                                                                                                                                |

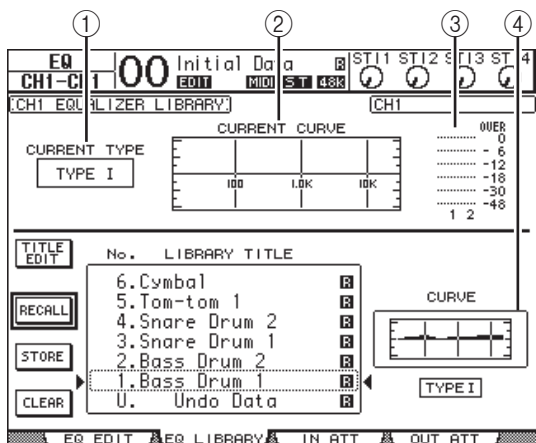
## EQ Library

This library enables you to store and recall EQ settings for Input Channels, Bus Outs 1–8, Aux Outs 1–8, and Stereo Out. The library contains 40 preset memories and 160 user (readable & writable) memories.

Follow the steps below to use the EQ library.

### 1. Press the DISPLAY ACCESS [EQ] button, then press the [F2] button.

The EQ | EQ Library page appears.



#### ① CURRENT TYPE

This parameter displays the currently-selected channel EQ type (TYPE I or II).

#### ② CURRENT CURVE

This graph displays the current EQ curve.

#### ③ Level meters

These meters indicate the post-EQ levels of the currently-selected channel and its available pair partner.

#### ④ Type & Curve section

The type and curve of the currently-selected EQ program are displayed here.

### 2. Use the LAYER buttons to select layers, then press the [SEL] buttons to select channels.

You can now store the selected channel EQ settings or recall the EQ library memories to channels. For details on storing and recalling memories, see “General Library Operation” on page 74.

The following table lists the preset memories in the EQ library:

| No. | Preset Name    | Description                                                                                                               |
|-----|----------------|---------------------------------------------------------------------------------------------------------------------------|
| 1   | Bass Drum 1    | Emphasizes the low range of a bass drum and the attack created by the beater.                                             |
| 2   | Bass Drum 2    | Creates a peak around 80 Hz, producing a tight, stiff sound.                                                              |
| 3   | Snare Drum 1   | Emphasizes “snappy” and rimshot sounds.                                                                                   |
| 4   | Snare Drum 2   | Emphasizes various ranges for that classic rock snare drum sound.                                                         |
| 5   | Tom-tom 1      | Emphasizes the attack of tom-toms, and creates a long, “leathery” decay.                                                  |
| 6   | Cymbal         | Emphasizes the attack of crash cymbals, extending the “sparkling” decay.                                                  |
| 7   | High Hat       | Use on a tight high-hat, emphasizing the mid to high range.                                                               |
| 8   | Percussion     | Emphasizes attack and adds clarity to the high-range of instruments, such as shakers, cabasas, and congas.                |
| 9   | E. Bass 1      | Produces a tight electric bass sound by cutting very low frequencies.                                                     |
| 10  | E. Bass 2      | Unlike preset 9, this preset emphasizes the low range of an electric bass.                                                |
| 11  | Syn. Bass 1    | Use on a synth bass with emphasized low range.                                                                            |
| 12  | Syn. Bass 2    | Emphasizes the attack that is peculiar to synth bass.                                                                     |
| 13  | Piano 1        | Makes pianos sound brighter.                                                                                              |
| 14  | Piano 2        | Used in conjunction with a compressor, this preset emphasizes the attack and low range of pianos.                         |
| 15  | E. G. Clean    | Use for line-level recording of an electric or semi-acoustic guitar to get a slightly harder sound.                       |
| 16  | E. G. Crunch 1 | Adjusts the tonal quality of a slightly distorted guitar sound.                                                           |
| 17  | E. G. Crunch 2 | A variation on preset 16.                                                                                                 |
| 18  | E. G. Dist. 1  | Makes a heavily distorted guitar sound clearer.                                                                           |
| 19  | E. G. Dist. 2  | A variation on preset 18.                                                                                                 |
| 20  | A. G. Stroke 1 | Emphasizes the bright tones of acoustic guitars.                                                                          |
| 21  | A. G. Stroke 2 | A variation on preset 20. You can also use it with an acoustic-electric nylon string guitar.                              |
| 22  | A. G. Arpeg. 1 | Ideal for arpeggio playing on acoustic guitars.                                                                           |
| 23  | A. G. Arpeg. 2 | A variation on preset 22.                                                                                                 |
| 24  | Brass Sec.     | Use with trumpets, trombones, or saxes. When used with a single instrument, try adjusting the HIGH or HIGH-MID frequency. |
| 25  | Male Vocal 1   | An EQ template for male vocals. Try adjusting the HIGH or HIGH-MID parameters according to the voice quality.             |

| No. | Preset Name             | Description                                                                                                     |
|-----|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| 26  | <b>Male Vocal 2</b>     | A variation on preset 25.                                                                                       |
| 27  | <b>Female Vo. 1</b>     | An EQ template for female vocals. Try adjusting the HIGH or HIGH-MID parameters according to the voice quality. |
| 28  | <b>Female Vo. 2</b>     | A variation on preset 27.                                                                                       |
| 29  | <b>Chorus&amp;Harmo</b> | An EQ template for brightening choruses.                                                                        |
| 30  | <b>Total EQ 1</b>       | Use on a stereo mix during mixdown. Sounds even better when used with a compressor.                             |
| 31  | <b>Total EQ 2</b>       | A variation on preset 30.                                                                                       |
| 32  | <b>Total EQ 3</b>       | A variation on preset 30. Can also be used with paired Input or Output Channels.                                |
| 33  | <b>Bass Drum 3</b>      | A variation on preset 1, with low and mid range reduced.                                                        |
| 34  | <b>Snare Drum 3</b>     | A variation on preset 3, creating a thicker sound.                                                              |
| 35  | <b>Tom-tom 2</b>        | A variation on preset 5, emphasizing the mid and high ranges.                                                   |
| 36  | <b>Piano 3</b>          | A variation on preset 13.                                                                                       |
| 37  | <b>Piano Low</b>        | Emphasizes the low range of pianos recorded in stereo.                                                          |
| 38  | <b>Piano High</b>       | Emphasizes the high range of pianos recorded in stereo.                                                         |
| 39  | <b>Fine-EQ Cass</b>     | Add clarity when recording to or from cassette tape.                                                            |
| 40  | <b>Narrator</b>         | Ideal for recording narration.                                                                                  |

# Remote Control

This chapter describes the Remote function, which enables you to control external equipment directly from the 01V96i top panel.

## About Remote Function

The 01V96i's Remote function enables you to control external DAW (Digital Audio Workstation) equipment, MIDI devices, etc.

There are two types of Remote functions (Remote and Machine Control):

### ■ REMOTE (Remote Layer)

To use these types of Remote functions, you must connect the 01V96i to a target device via USB or an optional MY16-mLAN card installed in the slot, and operate the faders and [ON] buttons on the top panel to control the external device remotely.

You can specify a target device and parameter values on the DIO/Setup | Remote page. This layer is enabled when you turn on the LAYER [REMOTE] button. During Remote operation, the controls on the top panel enable you to control the external device. (You cannot adjust the 01V96i's parameters unless you select a different layer.)

You can assign functions of a target device to the controls on the top panel of the 01V96i by using Remote layer. The following targets are available for remote control:

- **ProTools**  
You can remotely control Digidesign Pro Tools.
- **Nuendo**  
You can remotely control Steinberg Nuendo.
- **Cubase**  
You can remotely control Steinberg Cubase.
- **General DAW**  
You can remotely control DAW software that supports the protocol used by Pro Tools.
- **User Defined**  
You can also assign MIDI messages to the faders or [ON] buttons to remotely control a connected MIDI device, such as a synthesizer.
- **User Assignable Layer**  
You can combine the 01V96i channels to create a custom layer. (See Owner's Manual for more information on this function.)

### ■ Machine Control

By using MIDI Machine Control commands and the DIO/Setup | Machine page, you can control an external recording machine that is connected to the 01V96i MIDI port, USB port, or optional MY16-mLAN card installed in the slot.

**Tip:** To control external devices from the 01V96i, you can also use the User Defined buttons. Refer to "Other Functions" on page 109 for more information.

## Pro Tools Remote Layer

The 01V96i features Remote Layer target especially designed for controlling Pro Tools.

## Connections and Configuring Pro Tools

Follow the steps below to connect the 01V96i to your computer via the USB port so that you can control Pro Tools from the 01V96i.

**Note:** You cannot control Pro Tools via MIDI connections. Be sure to connect your computer via the USB or an optional MY16-mLAN card installed in the 01V96i slot.

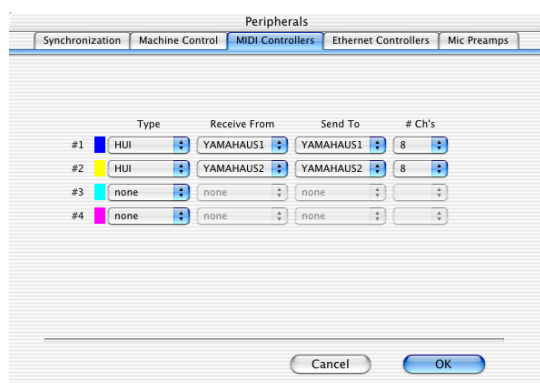
### ■ Configuring Windows Computers

- 1. Download the Yamaha Steinberg USB Driver from the following URL.**  
<http://www.yamahaproaudio.com/>
- 2. Install the driver in your computer as described in the installation guide included in the downloaded file.**
- 3. Connect the 01V96i TO HOST USB port to a USB port on your PC using a USB cable.**
- 4. Make the necessary settings in Pro Tools.**  
Refer to the Pro Tools Owner's Manual for more information about Pro Tools settings.

## ■ Configuring Macintosh Computers

1. Download the Yamaha Steinberg USB Driver from the following URL.  
<http://www.yamahaproaudio.com/>
2. Install the driver in your computer as described in the installation guide included in the downloaded file.
3. Connect the 01V96i TO HOST USB port to a USB port on your Mac using a USB cable.
4. Make sure that the 01V96i is powered-on.
5. Launch Pro Tools.
6. Choose Peripherals from the Setups menu to open the Peripherals window.
7. Double-click the MIDI Controllers tab.
8. Refer to the screen below to set the Type, Receive From, Send To, and #Ch's parameters.

The 01V96i can emulate up to two MIDI controllers.



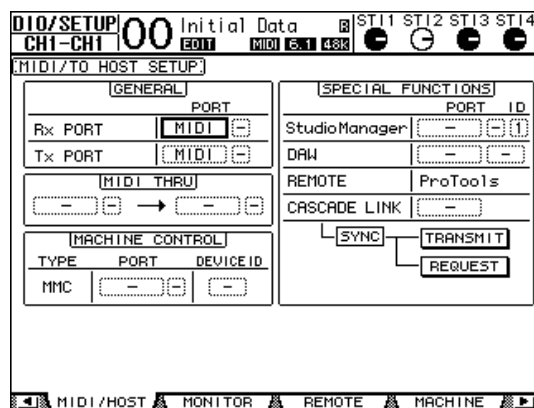
**Tip:** To control Pro Tools remotely, you need one port for every eight audio channels.

9. When you finish setting the parameters, close the window.

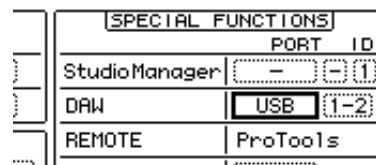
## Configuring the 01V96i

Follow the steps below to set up the 01V96i so that you can remotely control Pro Tools from the 01V96i Remote Layer.

1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | MIDI/Host page appears.

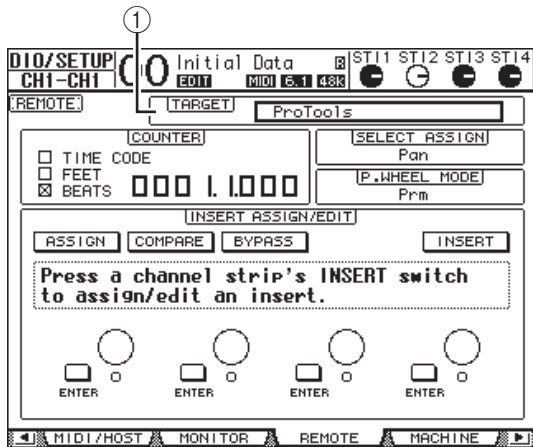


2. Move the cursor to the first DAW parameter box in the SPECIAL FUNCTIONS section, then rotate the Parameter wheel to select USB as the port.
3. Press [ENTER] to confirm the setting.
4. Move the cursor to the adjacent parameter box (on the right), then rotate the Parameter wheel to specify the port ID.



**Note:** If you select an incorrect port, you will be unable to use the Remote function. Be sure to match the port ID with that specified in the Peripherals window in Pro Tools.

5. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Remote page appears.

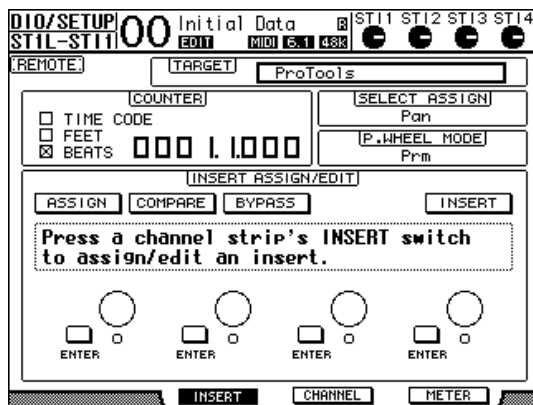


6. Select ProTools (as the target device) for the Target parameter (1) located in the upper-right corner of the page.

By default, the Remote layer target is set to ProTools. If another target has been selected, rotate the Parameter wheel to select ProTools.

7. Press the LAYER [REMOTE] button.

The Remote Layer is now available for control, enabling you to remotely control Pro Tools.



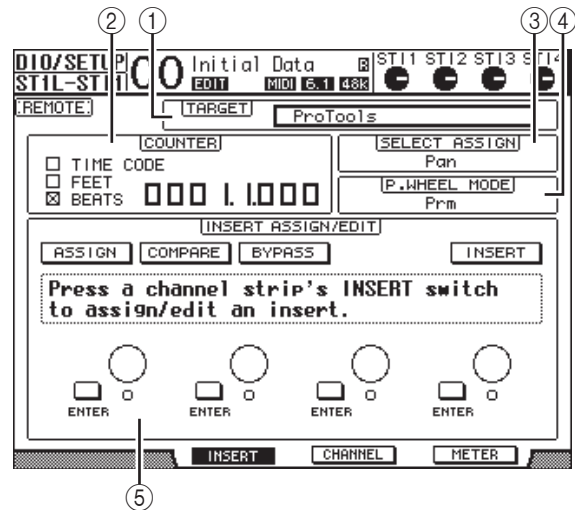
**Note:** When the Pro Tools Remote layer is selected, the 01V96i's top panel faders and other channel buttons are available for remote control. To control the 01V96i, you need to select an Input Channel Layer or the Master Layer.

## Display

While the Pro Tools layer is selected, you can use the [F2]–[F4] buttons as well as the left and right [◀]/[▶] Tab Scroll buttons to select display modes. You can select the following display modes using these buttons:

### ■ Insert Display mode ([F2] button)

Press the [F2] button to select Insert Display mode. In this mode, you can assign and edit plug-ins.



#### ① TARGET

This parameter enables you to select the remote control target device.

#### ② COUNTER

This counter indicates the current position. This counter works in unison with the timecode counter on Pro Tools. The display format of the counter is specified in Pro Tools. The following three check boxes in the COUNTER section indicate the currently-selected format.

##### • TIME CODE

Pro Tools timecode format is set to “Time Code.”

##### • FEET

Pro Tools timecode format is set to “Feet:Frames.”

##### • BEATS

Pro Tools timecode format is set to “Bars:Beats.”

##### • If no check boxes are selected

Pro Tools timecode format is set to “Minutes:Seconds” or “Samples.”

#### ③ SELECT ASSIGN

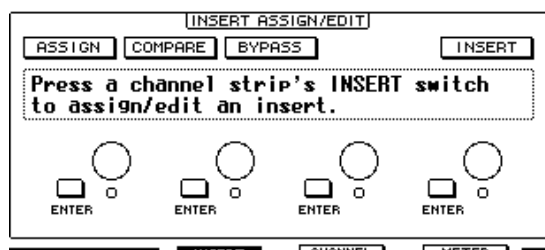
This parameter indicates the current parameter, which can be adjusted via the parameter controls on the page. For example, Pan, PanR, SndA, SndB, SndC, SndD, or SndE (see page 87).

#### ④ P.WHEEL MODE

This parameter indicates the function currently assigned to the Parameter wheel (see page 87).

## ⑤ INSERT ASSIGN/EDIT section

This section enables you to insert plug-ins into Pro Tools channels and adjust plug-in settings. Use the left and right [◀]/[▶] Tab Scroll buttons to change the parameters displayed in this section.



- **ASSIGN**

Turn on this button to insert plug-ins into Pro Tools channels. (If you are using the TDM system, you can also assign outboard effects processors.)

- **COMPARE**

You can compare your edits with the original settings by turning on this button. This button works in unison with the Compare button in the Pro Tools Inserts and Sends windows.

- **BYPASS**

Turning on this button bypasses the plug-ins (see page 92).

- **INSERT/PARAM**

Switching this button to INSERT enables you to assign plug-ins using four rotary controls on the page. Switching this button to PARAM enables you to adjust the plug-in parameters using the four rotary controls (see page 91).

- **Information box**

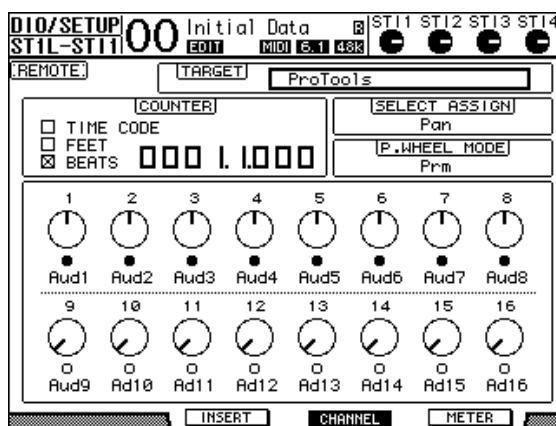
This box displays plug-in parameter names, values, alarm messages from Pro Tools, etc.

- **Rotary controls 1–4**

These controls enable you to select plug-ins or adjust the selected plug-in parameters.

## ■ Channel Display mode ( [F3] button)

Press the [F3] button to select this display mode, in which the parameter controls for tracks 1–16 are displayed.

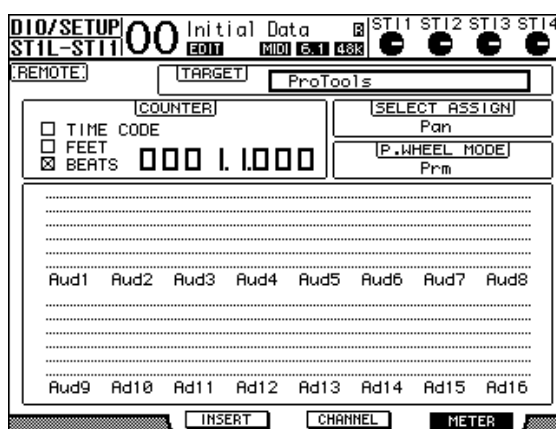


- **Parameter controls 1–16**

Channel parameter controls, such as channel 1–16 pan-pots, Send A–E send levels, etc. are displayed.

## ■ Meter Display mode ( [F4] button)

Press the [F4] button to select this display mode, in which the level meters for tracks 1–16 are displayed.



- **Channels 1–16**

The channel 1–16 levels or Send levels are displayed.

## Control Surface Operation

When the Pro Tools Remote layer is selected, the 01V96i controls on the top panel engage the following functions:

### ■ Channel Strip section

- **[SEL] buttons**  
These buttons select Pro Tools channels, inserts, and Automation mode.
- **[SOLO] buttons**  
These buttons solo Pro Tools channels. The button indicators for the soloed channels light up.
- **[ON] buttons**  
These buttons mute Pro Tools channels.
- **Faders**  
The faders set Pro Tools channel levels, including the audio tracks, MIDI tracks, master fader, Aux Ins, etc. If 16 or fewer channels are displayed in Pro Tools, faders are assigned starting from the left-most channel.

### ■ FADER MODE Section

- **[AUX 1]–[AUX 5] buttons**  
These buttons select Sends A–E so that you can adjust the corresponding Pro Tools channel send level.
- **[AUX 6] button**  
Press and hold down this button and press the desired [SEL] button to reset the corresponding channel fader level.  
Move the cursor to the parameter control on the display, then press and hold down this button and press [ENTER] to reset the corresponding channel panpot to center. While you are holding down the [AUX 6] button, the SELECT ASSIGN parameter indicates “DFLT.”
- **[AUX 7] button**  
When this button is turned on, you can adjust the selected channel panpot using the SELECTED CHANNEL [PAN] control. If you turn on this button while a Channel Display mode page is selected, you can adjust each channel panpot using parameter controls 1–16.  
To adjust the stereo channel panpots, press this button repeatedly to toggle between L and R channels.
- **[AUX 8] button**  
Use this button along with the desired [SEL] button to assign a plug-in to the corresponding Pro Tools channel (see page 90).
- **[HOME] button**  
This button turns Flip mode (see page 90) on or off. Flip mode enables you to adjust the Aux Send parameters using the faders, [ON] buttons, and the [PAN] control.

### ■ DISPLAY ACCESS section

- **[PAIR/GROUP] button**  
Press this button while a Channel Display mode or Meter Display mode page is selected to display a Group ID to which each channel belongs.
- **[EFFECT] button**  
Press this button to display or hide the Insert window in Pro Tools.

### ■ Display section

- **[F1] button**  
Press this button to reset the Clipping and Peak Hold indicators on Meter Display mode pages.
- **Tab Scroll buttons ([◀]/[▶])**  
These buttons switch the INSERT ASSIGN/EDIT parameter settings on Insert Display mode pages.

### ■ Data Entry section

- **[ENTER] button**  
This button switches the on/off status of the buttons on the display.
- **Left, Right, Up, Down ([◀]/[▶]/[▲]/[▼]) cursor buttons**  
These buttons move the cursor on the display.
- **[INC] & [DEC] buttons**  
The [INC] button works the same as the Enter key on your computer keyboard. The [DEC] button works the same as the Esc key on your computer keyboard.
- **Parameter wheel**  
The Parameter wheel enables you to adjust the currently-selected parameter, or execute the shuttle and scrub operation. By default, it adjusts the value of the currently-selected parameter (The P.WHEEL MODE parameter indicates “Prm.”).

### ■ USER DEFINED KEYS section

- **[1]–[8] buttons**  
You can assign one of 194 parameters to each of these buttons. In particular, if you assign any of 54 Remote Control parameters to these buttons, you can operate the transport section and select various Pro Tools modes from the 01V96i top panel. For more information on assigning functions to keys, refer to “Using the User Defined Keys” in the Owner’s Manual (separate booklet).

| Parameter | Function                                                                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAW REC   | Places Pro Tools in Record Enabled mode. The button indicator flashes while the transport section is stopped. The indicator lights up when recording starts. |
| DAW PLAY  | Starts playback from the current cursor position.                                                                                                            |
| DAW STOP  | Stops playback and recording.                                                                                                                                |
| DAW FF    | Fast forwards the cursor position.                                                                                                                           |

| Parameter                | Function                                                                                                                                                                                                                              |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DAW REW</b>           | Fast rewinds the cursor position.                                                                                                                                                                                                     |
| <b>DAW SHUTTLE</b>       | Switches the Wheel mode to Shuttle.                                                                                                                                                                                                   |
| <b>DAW SCRUB</b>         | Switches the Wheel mode to Scrub (Jog).                                                                                                                                                                                               |
| <b>DAW AUDITION</b>      | You can audition the pre-roll, post-roll, in-point area, or out-point area by holding down the button to which this function is assigned and pressing a button to which DAW PRE, DAW POST, DAW IN, or DAW OUT is assigned.            |
| <b>DAW PRE</b>           | Plays back from the pre-roll point up to the beginning of the selected area.                                                                                                                                                          |
| <b>DAW IN</b>            | Plays back from the beginning of the selected area for a duration specified as the pre-roll.                                                                                                                                          |
| <b>DAW OUT</b>           | Plays back to the end of the selected area for a duration specified as the post-roll.                                                                                                                                                 |
| <b>DAW POST</b>          | Plays back from the end of the selected area for a duration specified as the post-roll.                                                                                                                                               |
| <b>DAW RTZ</b>           | Moves the playback cursor to the beginning of the session.                                                                                                                                                                            |
| <b>DAW END</b>           | Moves the playback cursor to the end of the session.                                                                                                                                                                                  |
| <b>DAW ONLINE</b>        | Toggles between on-line and off-line.                                                                                                                                                                                                 |
| <b>DAW LOOP</b>          | Toggles Loop Playback on and off.                                                                                                                                                                                                     |
| <b>DAW QUICKPUNCH</b>    | Toggles QuickPunch on and off.                                                                                                                                                                                                        |
| <b>DAW AUTO FADER</b>    | Correspond to the Automation Overwrite (Auto Enable) functions.                                                                                                                                                                       |
| <b>DAW AUTO MUTE</b>     |                                                                                                                                                                                                                                       |
| <b>DAW AUTO PAN</b>      |                                                                                                                                                                                                                                       |
| <b>DAW AUTO SEND</b>     |                                                                                                                                                                                                                                       |
| <b>DAW AUTO PLUGIN</b>   |                                                                                                                                                                                                                                       |
| <b>DAW AUTO SENDMUTE</b> |                                                                                                                                                                                                                                       |
| <b>DAW AUTO READ</b>     | Select Automation modes.                                                                                                                                                                                                              |
| <b>DAW AUTO TOUCH</b>    |                                                                                                                                                                                                                                       |
| <b>DAW AUTO LATCH</b>    |                                                                                                                                                                                                                                       |
| <b>DAW AUTO WRITE</b>    |                                                                                                                                                                                                                                       |
| <b>DAW AUTO TRIM</b>     |                                                                                                                                                                                                                                       |
| <b>DAW AUTO OFF</b>      |                                                                                                                                                                                                                                       |
| <b>DAW AUTO SUSPEND</b>  | Cancels Automation recording and playback for all channels. When Automation is interrupted, the LED flashes, and channel strip controls maintain the current settings.                                                                |
| <b>DAW AUTO STATUS</b>   | Displays the channel Automation mode (Read, Tch, Ltch, Wrt, or Off). The mode setting appears at the bottom of each channel on a Channel or Meter Display page when you press and hold the button to which this function is assigned. |

| Parameter                | Function                                                                                                                                                                                                                       |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DAW GROUP STATUS</b>  | Displays a Group ID (to which each channel belongs) below each channel number on a Channel or Meter Display page (in all caps for a main group and in lowercase letters for a sub-group).                                      |
| <b>DAW MONI STATUS</b>   | Pressing the key (to which this function is assigned) enables you to view the current monitoring mode and the channel strip type.                                                                                              |
| <b>DAW CREATE GROUP</b>  | Pressing the key (to which this function is assigned) enables you to execute the function specified in the menu of the Pro Tools Group list.                                                                                   |
| <b>DAW SUSPEND GROUP</b> | Suspends all mix groups temporarily. Press the button again to undo suspension.                                                                                                                                                |
| <b>DAW WIN TRANSPORT</b> | Shows or hides the Transport window.                                                                                                                                                                                           |
| <b>DAW WIN INSERT</b>    | Shows or hides the Insert window.                                                                                                                                                                                              |
| <b>DAW WIN MIX/EDIT</b>  | Toggles between the Mix window and Edit window. (Both windows are not displayed at the same time.)                                                                                                                             |
| <b>DAW WIN MEM-LOC</b>   | Shows or hides the Memory Locations window.                                                                                                                                                                                    |
| <b>DAW WIN STATUS</b>    | Shows or hides the Status window.                                                                                                                                                                                              |
| <b>DAW UNDO</b>          | Executes the Edit menu's Undo/Redo command.                                                                                                                                                                                    |
| <b>DAW SAVE</b>          | Executes the Edit menu's Save command.                                                                                                                                                                                         |
| <b>DAW EDIT MODE</b>     | Pressing the button (to which this function is assigned) repeatedly selects Shuffle, Slip, Spot, or Grid edit mode in this order.                                                                                              |
| <b>DAW EDIT TOOL</b>     | Pressing the button (to which this function is assigned) repeatedly selects one of seven edit tools (Zoomer, Trimmer, Selector, Grabber, Smart Tool, Scrubber, and Pencil, in this order).                                     |
| <b>DAW SHIFT/ADD</b>     | Functions in the same way as Macintosh keyboard keys (Shift, Option, Control, and Alt). Pressing one of the buttons (to which these functions are assigned) along with another button enables you to execute various commands. |
| <b>DAW OPTION/ALL</b>    |                                                                                                                                                                                                                                |
| <b>DAW CTRL/CLUCH</b>    |                                                                                                                                                                                                                                |
| <b>DAW ALT/FINE</b>      | Executes the Bank Swap operation. Pressing the button (to which this function is assigned) switches the entire 16-channel bank.                                                                                                |
| <b>DAW BANK +</b>        |                                                                                                                                                                                                                                |
| <b>DAW BANK –</b>        | Executes the Channel Scroll operation. Pressing the buttons (to which these functions are assigned) enables you to scroll channels horizontally.                                                                               |
| <b>DAW Channel +</b>     |                                                                                                                                                                                                                                |
| <b>DAW Channel –</b>     |                                                                                                                                                                                                                                |

| Parameter       | Function                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAW REC/RDY 1   | Pressing the buttons (to which these functions are assigned) places the corresponding channel strips in Record Ready mode. At this time, the indicator of the button you pressed flashes. It lights up when recording starts.                                                                                                                                       |
| DAW REC/RDY 2   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 3   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 4   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 5   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 6   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 7   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 8   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 9   |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 10  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 11  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 12  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 13  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 14  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 15  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY 16  |                                                                                                                                                                                                                                                                                                                                                                     |
| DAW REC/RDY ALL | If no channel strips are in Record Enabled mode, pressing the button (to which this function is assigned) places all channel strips in Record Enabled mode. The button indicator flashes if any channel strip in any bank is in Record Enabled mode. Pressing the button while the button indicator is flashing cancels Record Enabled mode for all channel strips. |

## Selecting Channels

To select a single Pro Tools channel, press the [SEL] button that corresponds to the desired channel.

To select multiple Pro Tools channels simultaneously, while holding down one [SEL] button, press the [SEL] buttons of the other channels you wish to add. Press the [SEL] buttons again to cancel the selection.

## Setting Channel Levels

### 1. Make sure that the FADER MODE [HOME] button indicator is lit steadily.

If the indicator is flashing, press the [HOME] button to turn on the button indicator.

### 2. Operate the faders to set channel levels.

Press and hold down the [AUX 6] button and press the desired [SEL] button to reset the corresponding channel fader level.

## Muting Channels

To mute Pro Tools channels, press the [ON] buttons. The [ON] button indicators of muted channels turn off. Grouped channels are muted together.

Press the [ON] buttons again to unmute channels. The [ON] button indicators of unmuted channels light up.

There are two mute modes in Pro Tools: Implicit mute and Explicit mute. You can check the mute mode by viewing the [ON] button indicators.

#### • Implicit mute

This is a forced mute mode in which the channels are muted because other channels are soloed. In this mode, the [ON] button indicators flash.

#### • Explicit mute

In this mode, the channels are turned off manually. In this mode, the [ON] button indicators turn off.

## Panning Channels

You can adjust the Pro Tools channel pan settings.

### 1. Press the FADER MODE [AUX 7] button.

The button indicator lights up.

### 2. Press the [F3] button to select Channel Display mode.

On a Channel Display mode page, parameter controls 1–16 indicate the pan settings.

### 3. Press the [SEL] button of the channel for which you want to adjust the pan setting.

To adjust the stereo channel panpots, press the STEREO [SEL] button, then press the [AUX 7] button to select the L or R channel. Pressing the [AUX 7] button repeatedly toggles between the left and right channels. When the left channel is selected, the [AUX 7] button indicator lights up and the SELECT ASSIGN parameter on the display indicates “Pan.” When the right channel is selected, the [AUX 7] button indicator flashes and the SELECT ASSIGN parameter indicates “PanR.”

**Note:** Before you adjust monaural channel panpots, first be sure the [AUX 7] button indicator is illuminated steadily. If the indicator is flashing, operating the [PAN] control will be ineffective.

### 4. Adjust the selected channel panpot using the SELECTED CHANNEL [PAN] control.

### 5. To reset the corresponding channel panpot to center, move the cursor to the parameter control on the display, then press and hold down the [AUX 6] button and press [ENTER].

You can reset the pan settings only when the [AUX 7] button indicator is lit steadily.

## Soloing Channels

To solo Pro Tools channels, press the [SOLO] buttons of the desired channels. Grouped channels are soloed together, and other channels are muted.

Press the [SOLO] buttons again to unsolo the channels.

## Configuring Sends A–E as Pre or Post

You can set Pro Tools channels for the selected Sends (A–E) to pre or post.

1. Press the [F3] button to select Channel Display mode.
2. Press the FADER MODE [AUX 1]–[AUX 5] buttons to select the desired Sends (A–E).
3. To toggle between pre and post, move the cursor to the parameter control on the display, then press [ENTER].  
Pressing [ENTER] repeatedly toggles between pre and post.

## Setting Send Levels

You can adjust Pro Tools Send (A–E) send levels as follows.

1. Press the [F3] button to select Channel Display mode.
2. Press the AUX SELECT [AUX 1]–[AUX 5] buttons to select the desired Sends (A–E).
3. Move the cursor to the parameter control of the channel for which you want to adjust the Send level, then rotate the Parameter wheel.  
You can set Send levels by operating the faders if faders, [ON] buttons, and the [PAN] control are in Flip mode. Refer to “Flip Mode” for more information.

## Muting Sends A–E

You can mute Sends by pressing the [ON] buttons if faders, [ON] buttons, and the [PAN] control are in Flip mode. Refer to “Flip Mode” for more information.

## Panning Sends A–E

You can pan channel signals sent to stereo Aux Sends by rotating the SELECTED CHANNEL [PAN] control if faders, [ON] buttons, and the [PAN] control are in Flip mode. Refer to the next section for more information.

## Flip Mode

In Flip mode, you can use the faders, [ON] buttons, and the [PAN] control to control send levels, pre/post positions, and mute settings as shown in the following table.

| Control       | Normal mode   | Flip Mode      |
|---------------|---------------|----------------|
| Faders        | Channel level | AUX Send level |
| [ON] buttons  | Channel mute  | AUX Send mute  |
| [PAN] control | Channel pan   | AUX Send pan   |

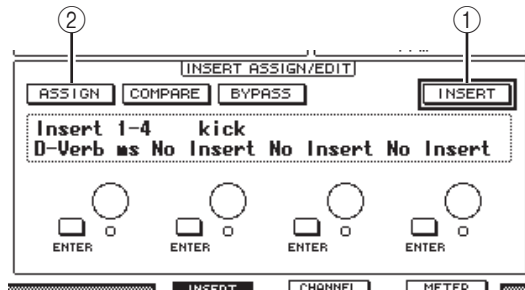
1. Press the FADER MODE [HOME] button repeatedly so that the button indicator flashes.  
The SELECT ASSIGN parameter on the display indicates “FLIP.”
2. Press the FADER MODE [AUX 1]–[AUX 5] buttons to select the desired Aux Sends (A–E).  
The button indicator of the selected send lights up.
3. Use the faders, [ON] buttons, and the [PAN] control to control the currently-selected Aux send.  
For stereo Aux input channels, you can set the left and right panpots individually. To do this, press the FADER MODE [AUX 7] button repeatedly. When the button indicator is lit continuously, you can set the left panpot. When the button indicator is flashing, you can set the right panpot.

## Assigning Plug-ins to Pro Tools Channels

You can assign plug-ins to five inserts available for Pro Tools channel strips as follows.

1. Press the [F2] button to select Insert Display mode.
2. Press the FADER MODE [AUX 8] button.  
The [AUX 8] button indicator flashes. You can now select a channel to which you want to insert plug-ins.
3. Press the [SEL] button of each desired channel.
4. Make sure that the INSERT/PARAM button (①) is selected in the INSERT ASSIGN/EDIT section.

If the PARAM button is selected instead, move the cursor to the button, then press [ENTER] to select INSERT.



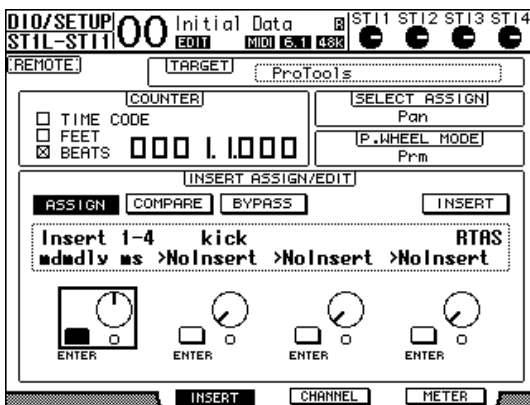
5. Move the cursor to the ASSIGN button (②), then press [ENTER] to turn on the button.

You can now select plug-ins. If you press another channel's [SEL] button after you turn on the ASSIGN button, the button turns off. If you wish to assign plug-ins to other channels, turn on the ASSIGN button again.

6. Move the cursor to one of the four parameter controls, then rotate the Parameter wheel to select a plug-in.

By default, the parameter controls enable you to select plug-ins to be assigned to channel inserts #1–#4. To assign a plug-in to insert #5, press the Tab Scroll button [▶] to change the indication in the INSERT ASSIGN/EDIT section.

If you are using the TDM system, you can also assign out-board effects processors.



7. Press [ENTER] to confirm the assignment.

Repeat Steps 6 and 7 to assign more plug-ins to other insert positions in the channel strip.

8. In the same way, assign plug-ins to other channels.

9. When you finish assigning plug-ins, press the [AUX 8] button.

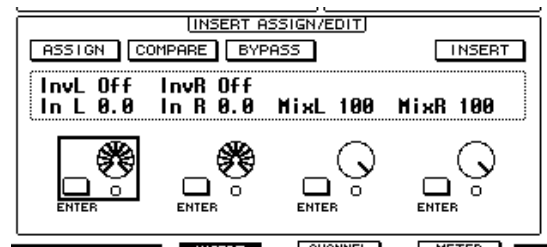
The button indicator turns off.

## Editing Plug-ins

You can edit plug-ins inserted in the channel strips as follows:

1. Press the [F2] button to select Insert Display mode.
2. Press the corresponding [SEL] button to select the channel that was assigned the plug-in you want to edit.
3. In the INSERT ASSIGN/EDIT section, move the cursor to the parameter control (Insert 1–4) that was assigned the parameter you want to edit.

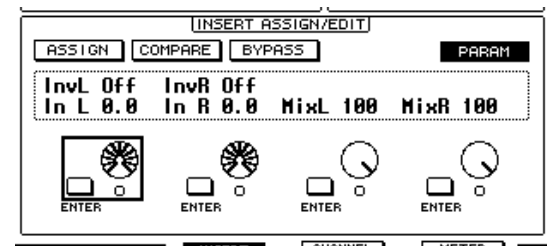
**Note:** To adjust a plug-in assigned to insert #5, press the Tab Scroll button [▶] to change the parameter indication in the INSERT ASSIGN/EDIT section, then select a parameter control.



4. Press [ENTER] to display the parameters.

In the INSERT ASSIGN/EDIT section, the PARAM button is automatically selected and the Information box indicates the selected plug-in parameters.

You can now use parameter controls 1–4 and the [ENTER] button to adjust the parameters.

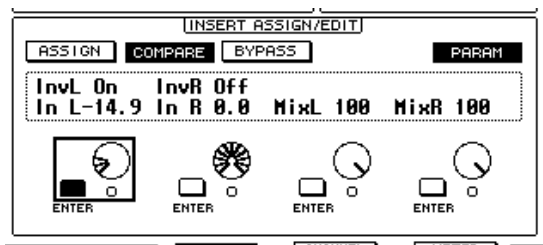


5. Use the Tab Scroll buttons to display the parameter value you wish to change.

Most plug-ins feature five or more parameters. To edit the fifth or subsequent parameters, use the Tab Scroll buttons to display the desired parameters and their values in the INSERT ASSIGN/EDIT section. The current page number and the plug-in name appear for a moment immediately after you press the Tab Scroll buttons.

- 6. Move the cursor to a parameter control, then rotate the Parameter wheel or press the [ENTER] button to adjust the value.**

One or two parameters are assigned to a single parameter control. To turn the parameter setting on or off, press [ENTER]. To modify the parameter variable, rotate the Parameter wheel.

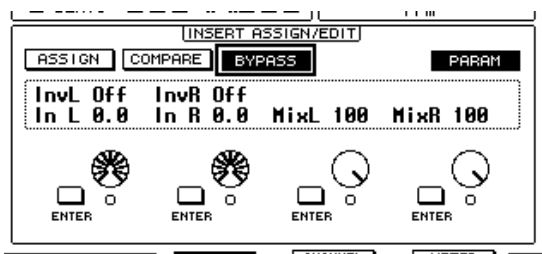


- 7. When you finish adjusting the parameters, move the cursor to the INSERT/PARAM button, then press [ENTER] to switch it to INSERT.**

## Bypassing Plug-ins

You can bypass plug-ins assigned to Pro Tools channels. Before bypassing plug-ins, you must press the corresponding [SEL] button to select a channel to which the plug-ins have been assigned, then press the [F2] button to select Insert Display mode.

To bypass plug-ins, display the parameters of the plug-in you wish to bypass in the INSERT ASSIGN/EDIT section, then turn on the BYPASS button.



## Scrub & Shuttle

By assigning the DAW SCRUB parameter to one of the User Defined buttons [1]–[8], you can scrub Pro Tools tracks back and forth by turning the Parameter wheel. By assigning the DAW SHUTTLE parameter to one of the User Defined buttons [1]–[8], you can shuttle back and forth by turning the Parameter wheel.

- 1. Assign the DAW SCRUB or DAW SHUTTLE parameter to one of the User Defined buttons [1]–[8].**

Before assigning parameters to these buttons, you must switch layers to cancel the Remote function. For more information on assigning the user defined keys, refer to “Using the User Defined Keys” in the Owner’s Manual (separate booklet).

- 2. Press the LAYER [REMOTE] button to enable remote control of Pro Tools.**

- 3. Make sure that Pro Tools is stopped.**

- 4. Press the User Defined button to which you assigned the DAW SCRUB or DAW SHUTTLE parameter in Step 1.**

You can now use the Scrub or Shuttle function.

- 5. Rotate the Parameter wheel.**

Rotate the Parameter wheel clockwise to scrub or shuttle forwards. Turn it counterclockwise to scrub or shuttle backwards.

The minimum scrub playback step varies depending on the zoom setting in the Pro Tools Edit window.

- 6. To cancel the Scrub or Shuttle function, press the User Defined button or DAW SHUTTLE to which you assigned the DAW SCRUB parameter in Step 1.**

Alternatively, you can cancel the Scrub or Shuttle function by pressing the User Defined button to which the DAW STOP parameter is assigned. The Scrub function is automatically cancelled if you commence playback or fast forward.

**Note:** The Scrub/Shuttle operation might be stopped unexpectedly by Pro Tools. Therefore, whenever you use the Scrub or Shuttle function, make sure that the P.WHEEL MODE parameter indicates “SCRUB” or “SHUTTLE.” You can check the Scrub/Shuttle function status by viewing the corresponding User Defined button indicator.

## Automation

If you assign a parameter that controls Pro Tools Automation mode (such as DAW Auto Read, DAW Auto Touch, etc.) to one of the User Defined buttons, you can control the Automation settings for each channel by using that User Defined button. For more information on assigning functions to the user defined keys, refer to “Using the User Defined Keys” in the Owner’s Manual (separate booklet).

Press the STEREO OUT channel [SEL] button. The button indicator lights up, and the Channel 1–16 [SEL] buttons become available for the Automation mode setting.

Press the desired channel [SEL] buttons while pressing the programmed User Defined button to switch the corresponding channels’ Automation settings.

While the channel [SEL] buttons are available for the Automation mode setting, pressing the [SEL] buttons will cause the Fader Touch or Untouch command to be transmitted to Pro Tools. This is useful for Automation punch in and out recording.

**Note:** Operating a fader also causes the Fader Touch command to be transmitted. Also, whenever the transport mode changes (such as Play and Stop), the Fader Untouch command is transmitted.

Depending on the currently-selected Automation mode, the channel [SEL] button indicators operate as follows:

| User Defined Keys<br>Function | Pro Tools<br>Automation<br>Mode | [SEL] Button<br>Indicators                        |
|-------------------------------|---------------------------------|---------------------------------------------------|
| DAW AUTO WRITE                | Auto write                      | Flashing red<br>(Record Ready)<br>Red (Recording) |
| DAW AUTO TOUTCH               | Auto touch                      |                                                   |
| DAW AUTO LATCH                | Auto latch                      |                                                   |
| DAW AUTO READ                 | Auto read                       | Illuminated<br>steadily                           |
| DAW AUTO OFF                  | Auto off                        | Off                                               |

## Nuendo/Cubase Remote Layer

You can remotely control Nuendo and Cubase using the Remote Layer.

### ■ Configuring Computers

1. Download the Yamaha Steinberg USB Driver from the following URL, and install the driver as described in the included installation guide.  
<http://www.yamahaproaudio.com/>
2. Use a USB cable to connect the 01V96i.
3. Make sure that the 01V96i is powered-on.
4. Launch Nuendo/Cubase, select the Device Setup menu, and set up Nuendo/Cubase so that the 01V96i can communicate with the software.

Refer to the Nuendo/Cubase User’s Manual for more information on setting up the software.

### ■ Configuring the 01V96i

1. Refer to page 84 to configure the DIO/Setup | MIDI/HOST page.
2. Press the LAYER [REMOTE] button to set the TARGET parameter to Nuendo/Cubase.

You can now remotely control Nuendo/Cubase using the Remote Layer.

# Other DAW Remote Layer

You can remotely control DAW software that supports the Pro Tools protocol.

## ■ Configuring Computers

1. Download the Yamaha Steinberg USB Driver from the following URL, and install the driver as described in the included installation guide.  
<http://www.yamahaproaudio.com/>
2. Launch and set up the DAW software so that the 01V96i communicates with the software.  
Refer to the DAW software's user's manual for more information on setting up the software.

## ■ Configuring the 01V96i

1. Refer to page 84 to configure the DIO/Setup | MIDI/HOST page.
2. Use a USB cable to connect the 01V96i.
3. Press the LAYER [REMOTE] button to set the TARGET parameter to General DAW.  
You can now remotely control the DAW software using the Remote Layer.

# MIDI Remote Layer

If you select USER DEFINED as the target for the Remote Layer, you can remotely control the parameters of external MIDI devices (such as synthesizers and tone generators) by operating the channel [ON] buttons, and faders to output various MIDI messages. (This is called MIDI Remote function.)

You can store MIDI messages assigned to the channel controls in four banks. When the 01V96i is shipped from the factory, it includes MIDI settings in these banks, which you can quickly recall to use the MIDI Remote function.

If necessary, you can also assign other MIDI messages to the faders or [ON] buttons to remotely control the parameters of a connected MIDI device.

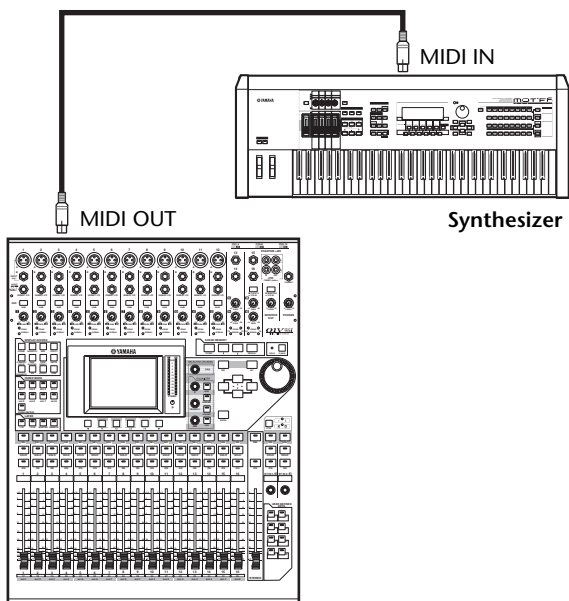
## Using the MIDI Remote Function

This section describes how to recall and use the factory-preset MIDI Remote settings stored in the banks.

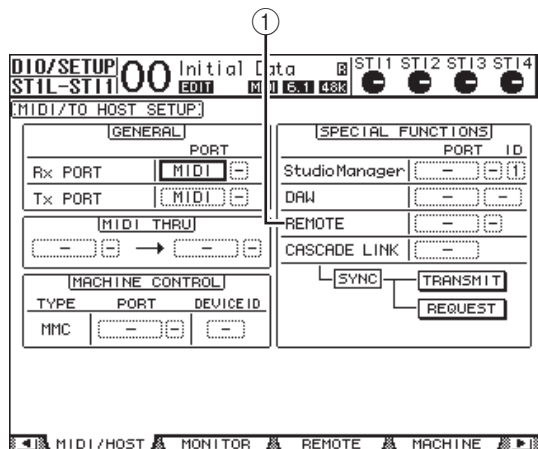
By default, the 01V96i's four MIDI Remote banks (Banks 1–4) contain the following MIDI messages.

| Bank | Usage                                              | Control Function |             |
|------|----------------------------------------------------|------------------|-------------|
|      |                                                    | [ON] buttons     | Faders      |
| 1    | Panning and setting GM sound levels                | —                | Volume      |
| 2    | Setting GM sound effect send levels                | —                | Effect Send |
| 3    | Setting XG sound levels                            | —                | Volume      |
| 4    | Adjusting mute, and levels for Cubase series mixer | Mute             | Volume      |

1. Connect the 01V96i's MIDI OUT port to the MIDI IN port of the MIDI device.



2. Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | MIDI/Host** page appears.



3. Move the cursor to the **REMOTE** parameter box (1) in the **SPECIAL FUNCTIONS** section, rotate the Parameter wheel to select **MIDI**, then press **[ENTER]**.

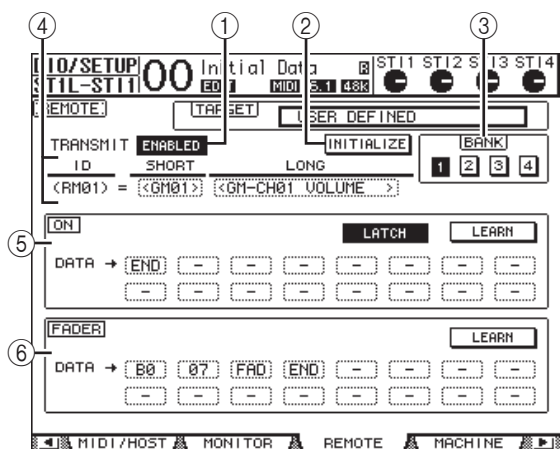
If the MIDI port is already in use, a window confirming the assignment change appears. Move the cursor to the **YES** button, then press **[ENTER]**.

**Tip:** If the **REMOTE** parameter box is grayed out, proceed to Steps 4 and 5 to set the **TARGET** parameter, then return to Steps 2 and 3.

4. Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | Remote** page appears.

5. Move the cursor to the **TARGET** parameter box, rotate the Parameter wheel to select **USER DEFINED**, then press **[ENTER]**.

The confirmation window for changing the setting appears. Move the cursor to the **YES** button, then press **[ENTER]**. The display changes as follows:



1. **TRANSMIT ENABLE/DISABLE**

This button switches the MIDI Remote function between enable and disable.

2. **INITIALIZE**

This button resets the settings stored in the bank selected by the **BANK** parameter to their default settings.

3. **BANK**

This parameter enables you to select one of four banks.

4. **ID, SHORT, LONG**

These parameters display the channel names. The **ID** parameter displays the channel ID (RM01–RM16) for the currently-controlled MIDI device.

5. **ON section**

This section displays the type of MIDI messages (in hexadecimal or alphabet) assigned to the **[ON]** buttons for the currently-selected channels (RM01–RM16).

#### • LATCH/UNLATCH

This button toggles between Latch and Unlatch for **[ON]** button operation.

#### • LEARN

When you turn on this button, MIDI messages received at the MIDI IN port are assigned to the **DATA** parameter boxes.

#### • DATA parameter boxes

These boxes display the type of MIDI messages (in hexadecimal or alphabets) assigned to the **[ON]** button).

6. **FADER section**

This section displays the type of MIDI messages (in hexadecimal or alphabet) assigned to the faders for the currently-selected channels (RM01–RM16).

6. Move the cursor to the desired bank button (**BANK** parameter buttons 1–4), then press **[ENTER]**.

7. Press the **LAYER [REMOTE]** button to select Remote layer.

You can now use the MIDI Remote function.

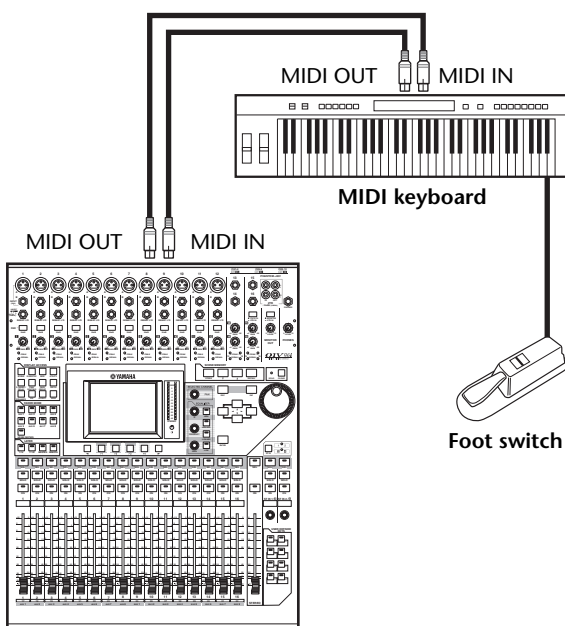
8. Use the faders and **[ON]** buttons to control the MIDI device.

## Assigning MIDI Messages to Channel Controls

You can quickly use the MIDI Remote function if you use the factory presets in the banks. However, you can also assign the desired MIDI messages to the faders or [ON] buttons.

This section describes how to assign MIDI messages to the channel controls, using the example of assigning Hold On/Off messages (Control Change #64; Values 127 & 0) to the Channel 1 [ON] button.

1. Connect the 01V96i's MIDI IN port to the MIDI OUT port of a MIDI keyboard to which a Hold On/Off controllable foot switch is connected. Enable the MIDI Remote function on the 01V96i.



2. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Remote page appears, then set the TARGET parameter to USER DEFINED.

You can now use the MIDI Remote function. Refer to the previous section for more information on using the MIDI Remote function.

3. Move the cursor to the desired bank button (BANK parameter buttons 1–4), then press [ENTER].

4. Press the [SEL] buttons for the desired channels.

Currently-assigned MIDI messages appear in the ON and FADER sections.

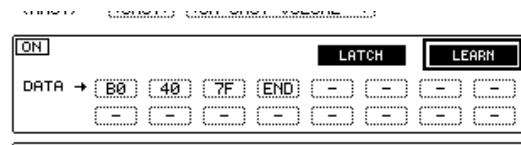
**Tip:** You can also choose the desired channels using the ID, SHORT, and LONG parameters.

5. Move the cursor to the LEARN button in the ON section, then press [ENTER].

MIDI messages received at the MIDI IN port of the 01V96i will be assigned to the DATA parameter boxes in the ON section.

6. Press and hold down the MIDI keyboard foot switch.

The MIDI Hold On message is assigned in the DATA parameter box.



MIDI messages are described below:

- 00–7F

MIDI messages are expressed in hexadecimal.

- END

This message indicates the end of MIDI messages. Subsequent messages assigned in the DATA parameter boxes will be ignored.

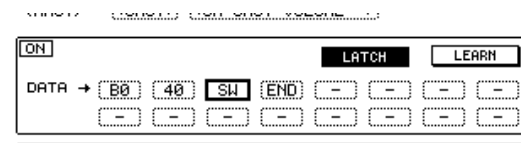
- –

This message indicates that no messages are assigned to the DATA parameter boxes.

**Tip:** When you click the LEARN button to assign MIDI messages, the 01V96i automatically recognizes the end of the messages and assigns END and “–”.

7. While continuing to hold down the foot switch, turn off the LEARN button.

8. Move the cursor to the third parameter box (“7F” in this example), then rotate the Parameter wheel to change the value to SW.



“SW” is a variable that changes depending on the [ON] button's on/off status. You can use the following variables in MIDI messages.

- SW

This variable is selectable only in the DATA parameter boxes of the ON section. When the [ON] buttons are turned on, “7F” (127 in decimal) is output. When the [ON] buttons are turned off, “00” (0 in decimal) is output.

- FAD

This variable is selectable only in the DATA parameter boxes of the FADER section. When you operate the faders, continuously changing values in the range of 00 to 7F (0–127 in decimal) are output.

**Tip:** If “SW” is not assigned in the DATA parameter boxes of the ON section, the current MIDI messages are output.

**Note:** Be sure to set one of the DATA parameter boxes of the FADER section to “FAD.” If no “FAD” is assigned, fader operation is ignored.

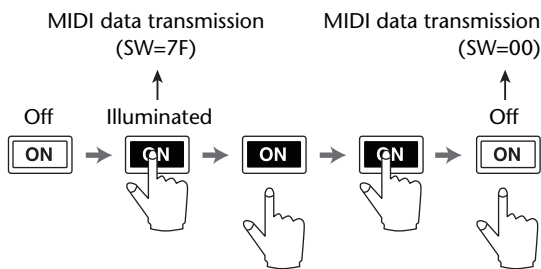
**9. Move the cursor to the LATCH/UNLATCH button, then press [ENTER] to select LATCH or UNLATCH depending on how you want the [ON] buttons to function.**

- **LATCH**..... Pressing the [ON] buttons repeatedly transmits alternating On and Off messages.
- **UNLATCH**..... Pressing and holding down the [ON] buttons transmits On messages, and releasing the [ON] buttons transmits Off messages.

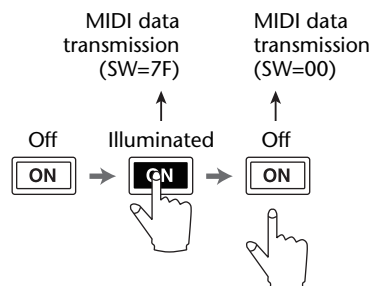
**Tip:** Refer to the diagrams below for information on how the [ON] buttons behave when Latch or Unlatch is selected.

**■ When “SW” is assigned:**

• **LATCH**

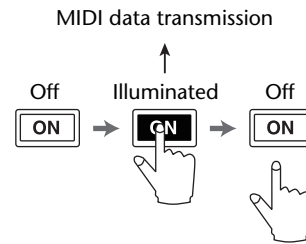


• **UNLATCH**



**■ When “SW” is not assigned:**

• **UNLATCH**



**Tip:** In most situations, select Unlatch if SW is not assigned.

**10. To change the channel name, move the cursor to the ID LONG parameter box, then press [ENTER] to display the Title Edit window.**

For more information on entering names, refer to “Title Edit Window” in the Owner’s Manual (separate booklet).

**Tip:**

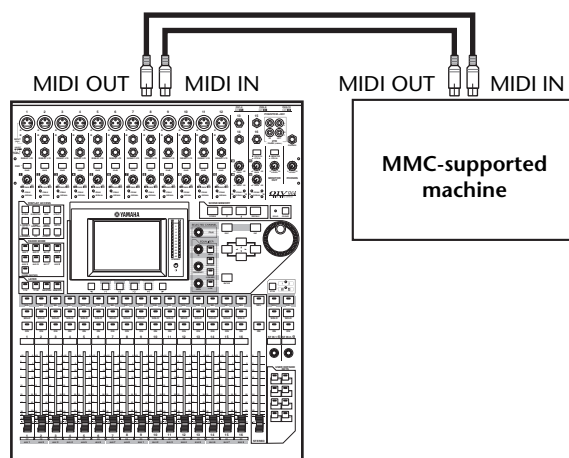
- Move the cursor to the INITIALIZE button, then press [ENTER]. A window is displayed that enables you to reset the parameter settings in the currently-selected bank.
- You can also assign MIDI messages to the parameter boxes manually without using the LEARN button.

## Machine Control Function

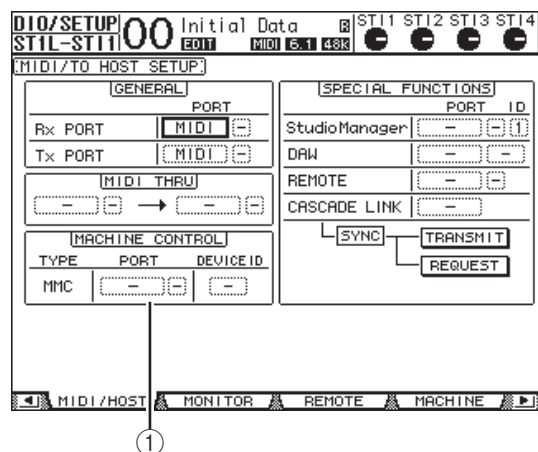
The 01V96i can control the transport functions and select tracks on external recording machines that support MMC by transmitting commands via the MIDI OUT port or USB port.

*Note: Controllable parameters vary depending on the connected devices. Refer to the User's Manual for the external device for more information on controllable parameters.*

1. Refer to the diagram below for information on connecting the 01V96i to an external device.



2. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | MIDI/Host page appears.



3. Move the cursor to the PORT parameter box in the MACHINE CONTROL section (1), then rotate the Parameter wheel to select the MMC destination.

The following ports and slot are available as the MMC destination.

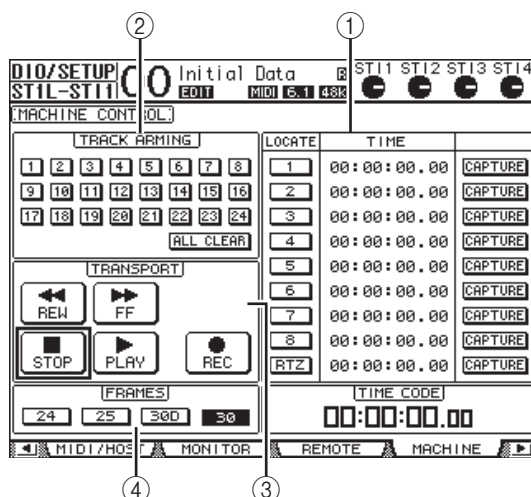
- MIDI .....MIDI port
- USB .....USB port
- SLOT .....Slot with an MY16-mLAN (mLAN card) installed

If USB is selected, move the cursor to the adjacent parameter box (on the right), and select one of eight ports.

4. Move the cursor to the DEVICE ID parameter box, then rotate the Parameter wheel to set the 01V96i MMC Device ID to the same ID number as the external device.

MMC commands are effective on devices that use the same Device ID. Therefore, the MMC Device ID needs to match the ID of the devices you wish to control.

5. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | Machine page appears.



This page contains the following parameters:

### ① LOCATE/TIME section

This section enables you to set the locate points.

- LOCATE 1-8.....These buttons locate the positions (specified by the TIME values) on external machines.
- RTZ.....This Return To Zero button locates the zero timecode position on external machines.
- TIME.....Locate points are specified in hour/minute/second/frame format.
- CAPTURE .....These buttons capture the current position on external machines and import the information into the TIME column.

### ② TRACK ARMING section

This section controls the tracks on external machines.

- 1-24 buttons.....These buttons turn external tracks 1-24 on or off, and set or cancel their Record Ready mode.
- ALL CLEAR.....Turning on this button switches all buttons (1-24) simultaneously.

### ③ TRANSPORT section

This section enables you to control the transport functions on external machines.

- **REW**..... This button starts rewind on external machines.
- **FF**..... This button starts fast forward on external machines.
- **STOP**..... This button stops external machines.
- **PLAY**..... This button starts playback on external machines.
- **REC**..... This button is used in conjunction with the PLAY button to start recording on external machines.

### ④ FRAMES

This parameter selects the timecode frame rate from 24, 25, 30D (drop frame), and 30.

- 6. To control the transport functions, move the cursor to the desired button in the TRANSPORT section, then press [ENTER].**

- 7. If you desire, move the cursor to the buttons and parameters in the LOCATE/TIME section and the TRACK ARMING section, then press the [ENTER] button or rotate the Parameter wheel to control the transport functions on external machines.**

***Tip:** You can also use the programmed User Defined buttons to control Machine Control functions. For more information on assigning functions to the user defined keys, refer to “Using the User Defined Keys” in the Owner’s Manual (separate booklet).*

# MIDI

This chapter describes the 01V96i's MIDI-related functions.

## MIDI & the 01V96i

Using Control Changes, Program Changes, and other MIDI messages enables you to recall Scenes and edit parameters on the 01V96i, and store 01V96i internal data on external MIDI devices.

The 01V96i supports the following MIDI messages. Each of these MIDI messages can be individually turned on or off for transmission and reception.

- **Program Changes**

If you assign the 01V96i's Scenes to Program Change numbers, the 01V96i transmits Program Changes when it recalls Scenes. Also, the 01V96i will switch Scenes when it receives Program Changes.

- **Control Changes**

If you assign the 01V96i's parameters to Control Change numbers, the 01V96i transmits the assigned Control Changes when the parameter values change. Also, the 01V96i changes certain parameter values when it receives the corresponding Control Changes.

- **System Exclusive Messages**

The 01V96i transmits System Exclusive Parameter Changes in real-time when the parameter values change. Also, the 01V96i notifies certain parameter values when it receives assigned Parameter Changes.

- **MMC (MIDI Machine Control)**

MMC is used for external machine control.

- **MIDI Note On/Off**

These messages are used to adjust the Freeze effect.

- **Bulk Dump Messages**

These messages enable you to store the 01V96i's internal data to a sequencer or MIDI filer. When the 01V96i receives these messages, they overwrite the 01V96i data

The 01V96i features the following interface for transmitting and receiving MIDI data.

- **MIDI IN/THRU/OUT ports**

These ports transmit and receive MIDI data to and from standard MIDI devices. Each port is a single port interface that transmits and receives single-port data (16 channels x 1 ports). The MIDI THRU port outputs MIDI messages received at the MIDI IN port without modification (as is).

- **USB port**

This port is used to connect a computer and transfer MIDI messages. This is a multiport interface that transmits and receives up to eight-port data (16 channels x 8 ports). In order to connect the 01V96i via USB to a computer, the appropriate driver software must be installed in the computer. You can download this software from the Yamaha Pro Audio website.

<http://www.yamahaproaudio.com/>

For more information about installation and setup, refer to the above website and to the installation guide included with the program you downloaded.

**Note:** If the computer is turned on but the USB MIDI application has not been launched, 01V96i performance may be slow. In this case, cancel the assignment of the USB port as the MIDI message transmission port.

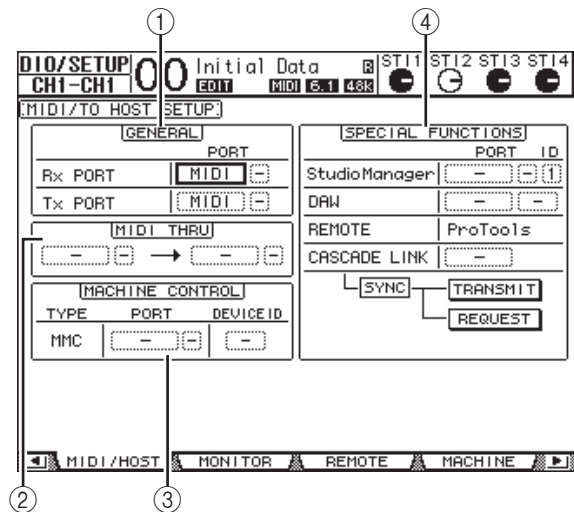
- **SLOT**

If an optional "MY16-mLAN" I/O card is installed in the slot, MIDI data transfer to and from an external MIDI device is available via the MY16-mLAN card.

# MIDI Port Setup

## Selecting a Port for MIDI Message Transfer

To configure MIDI ports for MIDI message transfer, press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | MIDI/Host page appears. This page enables you to set MIDI message input and output.



The following parameters are available on this page:

### ① GENERAL section

This section enables you to select ports that transmit and receive MIDI messages, such as Program Changes and Control Changes.

#### • Rx PORT

This parameter specifies a port for general MIDI data reception. In the left parameter box, select MIDI, USB, or SLOT. If you select USB or SLOT, specify the port number (1–8) in the right parameter box.

#### • Tx PORT

This parameter specifies a port for general MIDI data transmission. The available ports are the same as for the Rx PORT parameter.

### ② MIDI THRU section

These parameters enable you to route incoming MIDI data from one port or slot to another without changes. Select a port for reception in the first parameter box, and select a port for transmission in the next parameter box (located to the right of the arrow). If you select USB or SLOT, specify the port number in the small parameter box adjacent to the port parameter box.

### ③ MACHINE CONTROL section

This section enables you to select a remote control method and a remote control port to control external devices that support MMC.

#### • PORT

Select MIDI, USB, or SLOT for MMC command transfer. If you select USB or SLOT, specify the port number in the right parameter box.

#### • DEVICE ID

Specify the 01V96i's MMC Device ID. MMC Device IDs identify connected devices, enabling recognition during MMC transmission and reception.

### ④ SPECIAL FUNCTIONS section

This section enables you to specify ports for various special functions.

#### • Studio Manager

In the left parameter box, select MIDI, USB or SLOT as the port used by the included Studio Manager software. In the two small parameter boxes on the right, specify a port number (if you selected USB), and an ID number.

#### • DAW

Select USB or SLOT as a port for use with a DAW. Specify in the right parameter box a port number pair (1–2, 3–4, 5–6, 7–8).

#### • REMOTE

This parameter indicates the target currently selected for Remote Layer. If the target is set to "USER DEFINED," you can select a MIDI message destination port.

#### • CASCADE LINK

This parameter determines whether MIDI messages are transmitted between two cascaded 01V96is. If you select MIDI, MIDI messages will be transferred between two cascaded units. If you select "–," no MIDI messages are transferred.

The TRANSMIT and REQUEST buttons are used to synchronize all parameters that are cascade-linked. The TRANSMIT button synchronizes the connected 01V96i's parameters to your primary 01V96i's parameters. The REQUEST button synchronizes your 01V96i's parameters to the connected 01V96i's parameters.

## Selecting MIDI Messages for Transmission and Reception

You can select MIDI messages to be transmitted or received at a specified port.

To do so, press the DISPLAY ACCESS [MIDI] button, then press the [F1] button to display the MIDI | Setup page.

The screenshot shows the MIDI Setup screen with the following parameters:

|                     | Tx       | Rx  | OMNI | ECHO |
|---------------------|----------|-----|------|------|
| ① CHANNEL           | 1        | 1   | -    | -    |
| ② PROGRAM CHANGE    | OFF      | ON  | OFF  | OFF  |
| ③ CONTROL CHANGE    | OFF      | OFF | -    | OFF  |
| ④ PARAMETER CHANGE  | OFF      | ON  | -    | OFF  |
| ⑤ BULK              | -        | OFF | -    | -    |
| ⑥ OTHER COMMANDS    | -        | -   | -    | OFF  |
| ⑦ Fader Resolution: | HIGH LOW |     |      |      |

At the bottom, there are tabs for SETUP, PGM ASGN, CTL ASGN, and BULK.

Select MIDI channels for transmission and reception in the CHANNEL row, and turn the transmission and reception of each MIDI message on or off using the buttons in the parameter rows from PROGRAM CHANGE to OTHER COMMANDS.

### ① CHANNEL

This parameter row enables you to specify MIDI Channels for MIDI message transmission and reception. The following parameters are available in this row:

- **Tx** ..... This parameter box specifies a MIDI Transmit Channel.
- **Rx** ..... This parameter box specifies a MIDI Receive Channel.

### ② PROGRAM CHANGE

This parameter row enables or disables transmission and reception of Program Changes.

- **Tx ON/OFF** ..... Transmission of Program Change messages is enabled or disabled.
- **Rx ON/OFF** ..... Reception of Program Change messages is enabled or disabled.
- **OMNI ON/OFF** ..... When this button is turned on, Program Changes on all MIDI Channels are received regardless of the CHANNEL row settings.
- **ECHO ON/OFF** ..... This button determines whether Program Change messages received at the MIDI IN port are echoed through to the MIDI OUT port.

### ③ CONTROL CHANGE

This parameter row enables or disables transmission and reception of Control Changes.

- **Tx ON/OFF** ..... Transmission of Control Change messages is enabled or disabled.
- **Rx ON/OFF** ..... Reception of Control Change messages is enabled or disabled.
- **ECHO ON/OFF** ..... This button determines whether Control Change messages received at the MIDI IN port are echoed through to the MIDI OUT port.

### ④ PARAMETER CHANGE

This parameter row enables or disables transmission and reception of Parameter Changes.

- **Tx ON/OFF** ..... Transmission of Parameter Change messages is enabled or disabled.
- **Rx ON/OFF** ..... Reception of Parameter Change messages is enabled or disabled.
- **ECHO ON/OFF** ..... This button determines whether Parameter Change messages received at the MIDI IN port are echoed through to the MIDI OUT port.

### ⑤ BULK

This parameter row enables or disables reception of Bulk Dump data.

- **Rx ON/OFF** ..... Reception of Bulk Dump data is enabled or disabled.

### ⑥ OTHER COMMANDS

- **ECHO ON/OFF** ..... This button determines whether other MIDI messages received at the MIDI IN port are echoed through to the MIDI OUT port.

### ⑦ Fader Resolution

This parameter specifies the resolution of the value output when you operate the 01V96i's faders. To transfer fader value data between two cascaded 01V96is, or to record the 01V96i operation to or play it back from a sequencer, select the HIGH button. When the LOW button is selected, the fader resolution switches to 256 steps.

## Assigning Scenes to Program Changes for Remote Recall

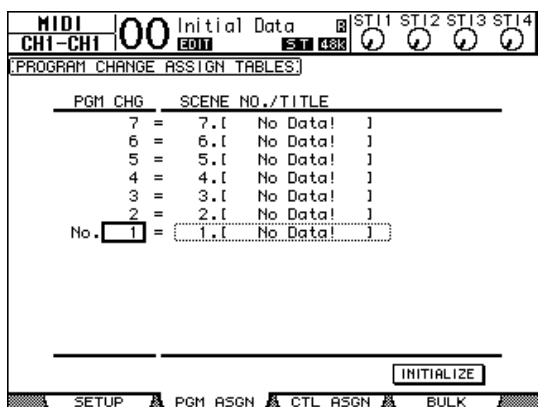
You can assign 01V96i Scenes to MIDI Program Changes for remote recall. When you recall a Scene on the 01V96i, the unit transmits the assigned Program Change to the connected MIDI device. When the 01V96i receives a Program Change, the assigned Scene is recalled.

Initially, Scenes 1 through 99 are assigned sequentially to Program Changes 1 through 99, and Scene #0 is assigned to Program Change #100, although you can change these assignments.

**Tip:** You can store a Scene to Program Change assignment table to an external device by using MIDI Bulk Dump or the Studio Manager software.

1. Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | MIDI/Host** page appears, then specify ports for transmission and reception of MIDI messages (see page 101).
2. Make connections using the ports selected in Step 1 so that the 01V96i can transfer MIDI messages to and from the external device.
3. Press the **DISPLAY ACCESS [MIDI]** button, then press the **[F2]** button.

The **MIDI | Pgm Asgn** page appears.



4. Move the cursor to a parameter box in the **PGM CHG** column, and rotate the Parameter wheel or press the **[INC]/[DEC]** buttons to select the Program Change numbers to which you want to assign Scenes.

5. Press the cursor button **[▶]** to move the cursor to a parameter box in the **SCENE NO./TITLE** column, then rotate the Parameter wheel or press the **[INC]/[DEC]** buttons to select Scenes.

**Tip:**

- If you assign a Scene to multiple Program Changes, the Program Change with the lowest number becomes effective.
- You can initialize the Scene to Program Change assignment table by moving the cursor to the **INITIALIZE** button, then pressing **[ENTER]**.

6. Press the **DISPLAY ACCESS [MIDI]** button, then press the **[F1]** button to display the **MIDI | Setup** page, then specify the MIDI Transmit and Receive Channels.

7. Turn on the **PROGRAM CHANGE Tx ON/OFF** and **Rx ON/OFF** buttons.

Now, when the 01V96i receives the Program Changes on the specified MIDI Channels, the corresponding Scenes are recalled. Also, when you switch Scenes on the 01V96i, the 01V96i transmits the Program Changes on the specified MIDI Channels.

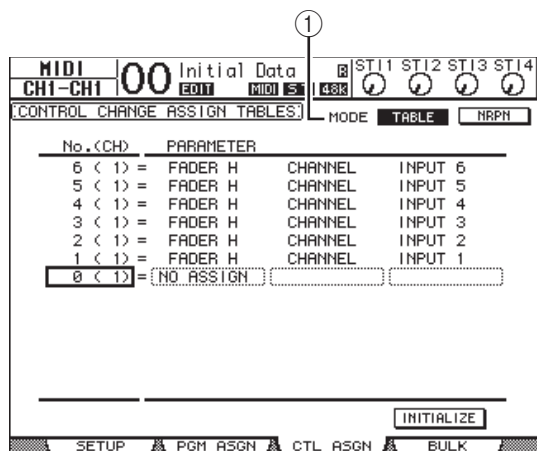
## Assigning Parameters to Control Changes for Real-time Control

You can assign 01V96i parameters to MIDI Control Changes for real-time control. When the 01V96i receives a Control Change, the assigned 01V96i parameter is set accordingly. Also, when you adjust a parameter on the 01V96i, the 01V96i transmits the assigned Control Change message.

**Tip:** You can store a Parameter to Control Change assignment table to an external device by using MIDI Bulk Dump or the Studio Manager software.

1. Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | MIDI/Host** page appears, then specify ports for transmission and reception of MIDI messages (see page 101).
2. Make connections using the ports selected in Step 1 so that the 01V96i can transfer MIDI messages to and from the external device.
3. Press the **DISPLAY ACCESS [MIDI]** button, then press the **[F3]** button.

The **MIDI | Ctl Asgn** page appears. This page enables you to assign 01V96i parameters to Control Changes.



**Tip:** See page 157 for information on the default Parameter to Control Change assignments.

4. Move the cursor to the **MODE** parameter's **TABLE** button (①), then press **[ENTER]**.  
The **MODE** parameter determines which MIDI messages are transmitted when 01V96i parameters are adjusted. The following options are available for the **MODE** parameter:
- **TABLE**  
MIDI Control Change messages are transmitted in accordance with the assignments on this page.

- **NRPN**

The assignments on the **Ctl Asgn** page are ignored, and predefined NRPNs (Non Registered Parameter Numbers) are transmitted for remote control.

**Tip:** NRPNs are special MIDI messages that combine three different Control Changes. They enable you to control many parameters on a single MIDI Channel.

5. If you turned on the **TABLE** button in Step 4, move the cursor to a parameter box in the **No. (CH)** column, then rotate the **Parameter wheel** or press the **[INC]/[DEC]** buttons to select the MIDI channels and Control Changes to which you want to assign parameters.

You can assign parameters to up to 16-channel Control Changes on the **Ctl Asgn** page, regardless of the MIDI Channels currently selected for transmission and reception.

Skip Steps 5 and 6 if you turned on the **NRPN** button in Step 4.

6. Select parameters in the parameter boxes in the three **PARAMETER** columns.

Select a parameter group in the parameter box in the first **PARAMETER** column, and specify the desired values in the parameter boxes in the second and third **PARAMETER** columns.

The following parameters and values are available:

|         | HIGH      | MID                  | LOW |
|---------|-----------|----------------------|-----|
|         | NO ASSIGN | —                    | —   |
| FADER H | CHANNEL   | INPUT1–32/ST IN1–4   |     |
|         | MASTER    | BUS1–8/AUX1–8/STEREO |     |
|         | AUX1 SEND | INPUT1–32/ST IN1–4   |     |
|         | AUX2 SEND |                      |     |
|         | AUX3 SEND |                      |     |
|         | AUX4 SEND |                      |     |
|         | AUX5 SEND |                      |     |
|         | AUX6 SEND |                      |     |
|         | AUX7 SEND |                      |     |
|         | AUX8 SEND |                      |     |
|         | BUS TO ST | BUS1–8               |     |
| FADER L | CHANNEL   | INPUT1–32/ST IN1–4   |     |
|         | MASTER    | BUS1–8/AUX1–8/STEREO |     |
|         | AUX1 SEND | INPUT1–32/ST IN1–4   |     |
|         | AUX2 SEND |                      |     |
|         | AUX3 SEND |                      |     |
|         | AUX4 SEND |                      |     |
|         | AUX5 SEND |                      |     |
|         | AUX6 SEND |                      |     |
|         | AUX7 SEND |                      |     |
|         | AUX8 SEND |                      |     |
|         | BUS TO ST | BUS1–8               |     |

| HIGH      | MID        | LOW                                      |
|-----------|------------|------------------------------------------|
| ON        | CHANNEL    | INPUT1–32/ST IN1–4                       |
|           | MASTER     | BUS1–8/AUX1–8/STEREO                     |
|           | AUX1 SEND  | INPUT1–32/ST IN1–4                       |
|           | AUX2 SEND  |                                          |
|           | AUX3 SEND  |                                          |
|           | AUX4 SEND  |                                          |
|           | AUX5 SEND  |                                          |
|           | AUX6 SEND  |                                          |
|           | AUX7 SEND  |                                          |
|           | AUX8 SEND  |                                          |
|           | BUS TO ST  | BUS1–8                                   |
| PHASE     | CHANNEL    | INPUT1–32/ST IN1L–4R                     |
| INSERT ON | CHANNEL    | INPUT1–32                                |
|           | MASTER     | BUS1–8/AUX1–8/STEREO                     |
| PRE/POST  | AUX1 SEND  | INPUT1–32/ST IN1–4                       |
|           | AUX2 SEND  |                                          |
|           | AUX3 SEND  |                                          |
|           | AUX4 SEND  |                                          |
|           | AUX5 SEND  |                                          |
|           | AUX6 SEND  |                                          |
|           | AUX7 SEND  |                                          |
|           | AUX8 SEND  |                                          |
| IN DELAY  | ON         | INPUT1–32                                |
|           | TIME HIGH  |                                          |
|           | TIME MID   |                                          |
|           | TIME LOW   |                                          |
|           | MIX HIGH   |                                          |
|           | MIX LOW    |                                          |
|           | FB GAIN H  |                                          |
|           | FB GAIN L  |                                          |
| OUT DELAY | ON         | BUS1–8/AUX1–8/STEREO L,R                 |
|           | TIME HIGH  |                                          |
|           | TIME MID   |                                          |
|           | TIME LOW   |                                          |
|           |            |                                          |
| EQ        | ON         | INPUT1–32/ST IN 1–4/BUS1–8/AUX1–8/STEREO |
|           | Q LOW      |                                          |
|           | F LOW      |                                          |
|           | G LOW H    |                                          |
|           | G LOW L    |                                          |
|           | Q LO-MID   |                                          |
|           | F LO-MID   |                                          |
|           | G LO-MID H |                                          |
|           | G LO-MID L |                                          |
|           | Q HI-MID   |                                          |
|           | F HI-MID   |                                          |
|           | G HI-MID H |                                          |
|           | G HI-MID L |                                          |
|           | Q HIGH     |                                          |
|           | F HIGH     |                                          |
|           | G HIGH H   |                                          |
|           | G HIGH L   |                                          |
|           | ATT H      |                                          |
|           | ATT L      |                                          |
|           | HPF ON     |                                          |
|           | LPF ON     |                                          |

| HIGH     | MID       | LOW                            |
|----------|-----------|--------------------------------|
| GATE     | ON        | INPUT1–32                      |
|          | ATTACK    |                                |
|          | THRESH H  |                                |
|          | THRESH L  |                                |
|          | RANGE     |                                |
|          | HOLD H    |                                |
|          | HOLD L    |                                |
|          | DECAY H   |                                |
|          | DECAY L   |                                |
|          |           |                                |
|          |           |                                |
| COMP     | ON        | INPUT1–32/BUS1–8/AUX1–8/STEREO |
|          | ATTACK    |                                |
|          | THRESH H  |                                |
|          | THRESH L  |                                |
|          | RELEASE H |                                |
|          | RELEASE L |                                |
|          | RATIO     |                                |
|          | KNEE      |                                |
| PAN      | CHANNEL   | INPUT1–32/ST IN1L–4R           |
|          | AUX1–2    |                                |
|          | AUX3–4    |                                |
|          | AUX5–6    |                                |
|          | AUX7–8    |                                |
|          | BUS TO ST | BUS1–8                         |
| BALANCE  | MASTER    | STEREO                         |
| SURROUND | LFE H     | INPUT1–32/ST IN1L–4R           |
|          | LFE L     |                                |
|          | DIV (F)   |                                |
|          | DIV R     |                                |
|          | LR        |                                |
|          | FR        |                                |
|          | WIDTH     |                                |
|          | DEPTH     |                                |
|          | OFS LR    |                                |
|          | OFS FR    |                                |
| EFFECT   | BYPASS    | EFFECT1–4                      |
|          | MIX       |                                |
|          | PARAM1 H  |                                |
|          | PARAM1 L  |                                |
|          | :         |                                |
|          | PARAM32 H |                                |
|          | PARAM32 L |                                |

Parameters that feature a setting range of more than 128 steps (such as Fader and Delay Time parameters) require two or more Control Change messages to specify the values.

For example, if you wish to control Fader parameters on certain channels using Control Changes, you must assign the same channel to two Control Change numbers, and select “FADER H” and “FADER L” for the Control Changes in the parameter boxes in the first PARAMETER column.

|        |   |           |         |         |
|--------|---|-----------|---------|---------|
| 3 < 12 | = | FADER H   | CHANNEL | INPUT 3 |
| 2 < 13 | = | FADER L   | CHANNEL | INPUT 1 |
| 1 < 14 | = | FADER H   | CHANNEL | INPUT 1 |
| 0 < 15 | = | NO ASSIGN |         |         |

If you wish to control Delay Time parameters on certain channels using Control Changes, you must assign the same channel Delay parameter to three Control Change numbers, and select “TIME LOW,” “TIME MID,” and “TIME HIGH” for the Control Changes in the parameter boxes in the second (middle) PARAMETER column.

|        |   |           |           |         |
|--------|---|-----------|-----------|---------|
| 01 < 2 | = | NO ASSIGN |           |         |
| 60 < 2 | = | IN DELAY  | TIME HIGH | INPUT 1 |
| 59 < 2 | = | IN DELAY  | TIME MID  | INPUT 1 |
| 58 < 2 | = | IN DELAY  | TIME LOW  | INPUT 1 |
| 57 < 2 | = | NO ASSIGN |           |         |

**Note:** Parameters that feature a setting range in excess of 128 steps require an appropriate combination of range parameters for successful MIDI Control Change.

**Tip:** You can initialize the Parameter to Control Change assignment table by moving the cursor to the INITIALIZE button, then pressing [ENTER].

7. Press the DISPLAY ACCESS [MIDI] button, then press the [F1] button to display the MIDI | Setup page, then specify MIDI Transmit and Receive Channels.

8. Turn on the CONTROL CHANGE Tx ON/OFF and Rx ON/OFF buttons.

01V96i parameters will now be set accordingly when the 01V96i receives corresponding Control Changes. Also, when you adjust parameters on the 01V96i, the 01V96i will transmit corresponding Control Changes.

**Note:** Before controlling parameters using Control Changes, make sure that both Tx and Rx ON/OFF buttons in the PARAMETER CHANGE row on the MIDI | Setup page are turned off.

## Controlling Parameters by Using Parameter Changes

You can control 01V96i parameters in real time by using Parameter Change messages that are System Exclusive messages, instead of using MIDI Control Changes.

See “MIDI Data Format” at the end of this Manual for detailed information on available Parameter Changes.

1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup | MIDI/Host page appears, then specify ports for transmission and reception of MIDI messages (see page 101).
2. Make connections using the ports selected in Step 1 so that the 01V96i can transmit and receive MIDI messages to and from the external device.
3. Press the DISPLAY ACCESS [MIDI] button, then press the [F1] button to display the MIDI | Setup page, then turn off the Tx and Rx ON/OFF buttons in the PARAMETER CHANGE row.

The 01V96i will now set certain parameter values when it receives corresponding Parameter Changes. Also, when you adjust certain parameters on the 01V96i, it transmits corresponding Parameter Changes.

**Note:** Before controlling parameters using Parameter Changes, make sure that both Tx and Rx ON/OFF buttons in the CONTROL CHANGE row are turned off.

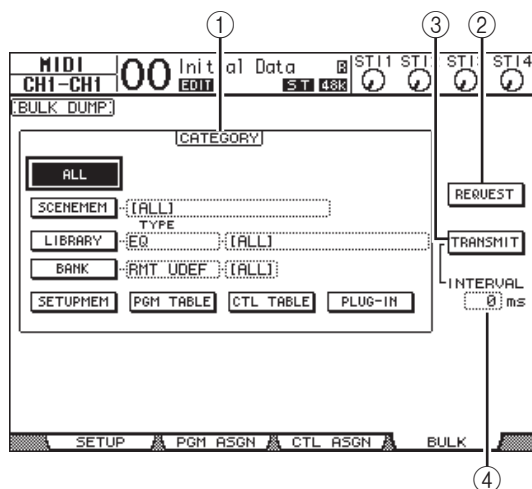
## Transmitting Parameter Settings via MIDI (Bulk Dump)

You can back up data stored in the 01V96i, such as libraries and Scenes, to an external MIDI device by using MIDI Bulk Dump. In this way, you can later restore previous 01V96i settings by transmitting this MIDI data back to the 01V96i.

**Note:** Some of the data transmitted from the 01V96i to the sequence software may occasionally drop out during Bulk Dump transmission. To avoid this, we recommend that you use the Studio Manager software to store 01V96i data to an external device.

1. Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | MIDI/Host** page appears, then specify ports for transmission and reception of MIDI messages (see page 101).
2. Make connections using the ports selected in Step 1 so that the 01V96i can transmit and receive MIDI messages to and from the external device.
3. Press the **DISPLAY ACCESS [MIDI]** button, then press the **[F4]** button.

The MIDI | Bulk page appears.



The page includes the following parameters:

- 1 **CATEGORY** section  
This section enables you to select data for transmission and reception.
- 2 **REQUEST**  
Move the cursor to this button, then press **[ENTER]** to transmit messages from the 01V96i that request a second 01V96i (connected to the first 01V96i) to transmit the data specified in the CATEGORY section. This button is used primarily when two 01V96is are connected in cascade.

### 3 TRANSMIT

Move the cursor to this button, then press **[ENTER]** to transmit data specified in the CATEGORY section to an external MIDI device.

### 4 INTERVAL

This parameter specifies the interval between data packets during bulk transmission in 50 millisecond steps. If the external device drops part of the bulk data, increase this parameter value.

## 4. In the CATEGORY section, move the cursor to the button of the data type you want to transmit, then press **[ENTER]**.

The following options are available:

- **ALL**  
This button selects all data available for bulk dump. When this button is turned on, all other buttons in this section are turned off.
- **SCENEMEM**  
This button selects Scene memories. You can select Scenes you wish to transmit in the parameter box next to the button.
- **LIBRARY**  
This button selects libraries. You can select the type of library in the TYPE parameter box (next to the button), then specify the library number in the parameter box on the right.
- **BANK**  
This parameter enables you to select the User Defined Key banks (KEYS UDEF), User Defined Remote Layer banks (RMT UDEF), or User Assignable Layer banks (USR LAYER) for bulk dump. You can select one of these three types in the parameter box next to the button, and select the banks in the parameter box on the right.
- **SETUPMEM**  
This button selects the 01V96i setup data (i.e., system settings).
- **PGM TABLE**  
This button selects the MIDI | Pgm Asgn page settings.
- **CTL TABLE**  
This button selects the MIDI | Ctl Asgn page settings.
- **PLUG-IN**  
This button selects the settings of an optional card installed in the slot.

**Note:** Data selected by the **SETUPMEM** button includes MIDI transmission and reception port settings and message settings. After you store to an external device bulk dump data that has its reception disabled, if the 01V96i later starts to receive this particular data, 01V96i bulk dump reception will be turned off immediately, and the 01V96i will be unable to receive subsequent data. Therefore, before you store the data selected by the **SETUPMEM** button using Bulk Dump, be sure to enable bulk data transmission and reception.

5. If necessary, move the cursor to the parameter box next to the selected button, then rotate the Parameter wheel or press the [INC]/[DEC] buttons to select the desired bulk dump data.

**Tip:** If you selected [ALL] in the parameter box, all data selected by the corresponding button is transmitted as bulk dump data.

6. To start transmitting bulk data, move the cursor to the TRANSMIT button, then press [ENTER].

Bulk Dump is executed. During the operation, the Bulk Dump window appears, indicating the current bulk dump status. To abort the bulk dump operation, move the cursor to the CANCEL button in the window, then press [ENTER].

**Tip:** To transmit bulk dump request messages, move the cursor to the REQUEST button, then press [ENTER]. If you set up the 01V96i so that it will transmit and receive MIDI messages to and from another 01V96i, the other 01V96i will respond to the bulk dump request and transmit the bulk dump data to the 01V96i you are operating.

7. To receive bulk data, press the DISPLAY ACCESS [MIDI] button again to display the MIDI | Setup page, then turn on the Rx ON/OFF button in the BULK row.

Now, when the 01V96i receives bulk data, the corresponding internal data is updated.

**Note:** Bulk data can be transmitted and received between the 01V96i and the 01V96V2 / 01V96VCM. Compatibility depends on the type of data, as follows.

Data that can be transmitted and received between the 01V96i and the 01V96V2 / 01V96VCM in either direction

SCENE MEM:  
EQ LIBRARY:  
GATE LIBRARY:  
COMP LIBRARY:  
CHANNEL LIBRARY:  
EFFECT LIBRARY:  
BANK:  
SETUP MEMORY:  
PGM TABLE:  
CTL TABLE:

Data that can be only be transmitted by the 01V96V2 / 01V96VCM and received by the 01V96i (and not in the other direction)

INPUT PATCH LIBRARY:  
OUTPUT PATCH LIBRARY:

# Other Functions

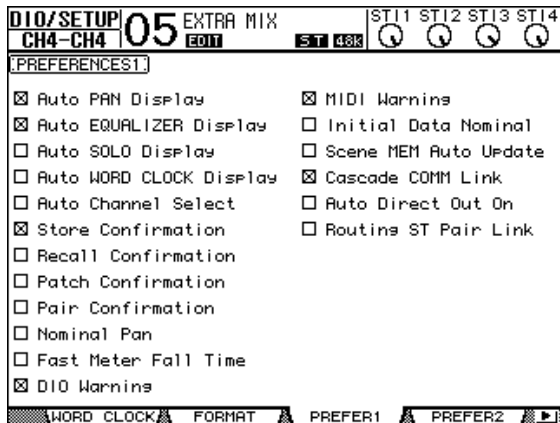
This chapter describes the 01V96i's miscellaneous functions.

## Setting Preferences

You can change the default settings and environmental settings of the 01V96i by using the DIO/Setup | Prefer1 and Prefer2 pages. To locate one of the Preferences page, press the DISPLAY ACCESS [DIO/SETUP] button repeatedly.

### Prefer1 page

This page enables you to set the 01V96i so that when you press a button on the top panel, the 01V96i displays the corresponding display page, and shows or hides confirmation and alarm messages.



This page contains the following parameters. (These parameters are explained in the order from the top of the left column to the bottom of the right column.)

- **Auto PAN Display**  
If this check box is on, the Pan/Route pages appear automatically when you operate the [PAN] control in the SELECTED CHANNEL section. In Stereo Surround mode, operating the [PAN] control enables you to adjust the left and right Pan setting. Otherwise, it enables you to adjust the Surround Pan settings.
- **Auto EQUALIZER Display**  
If this check box is on, the EQ | EQ Edit page appears automatically when you press an EQ-related button in the SELECTED CHANNEL section.
- **Auto SOLO Display**  
If this check box is on, the DIO/Setup | Monitor page appears automatically when you solo an Input Channel.
- **Auto WORD CLOCK Display**  
If this check box is on, the DIO/Setup | Word Clock page appears automatically if the currently-selected external wordclock source fails.

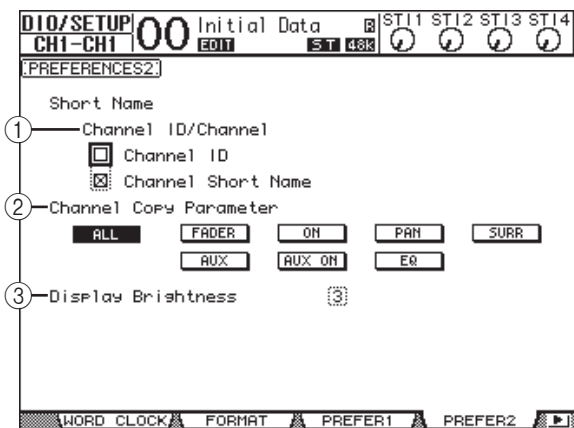
- **Auto Channel Select**  
If this check box is on, you can select a channel by moving the corresponding fader, or by turning on the corresponding channel [SOLO] or [ON] button.
- **Store Confirmation**  
If this check box is on, the Title Edit window to input a Scene or library memory name appears when you store a Scene or library memory.
- **Recall Confirmation**  
If this check box is on, a confirmation window appears when you recall a Scene or library memory.
- **Patch Confirmation**  
If this check box is on, a confirmation message appears when you edit the Input and Output Patches.
- **Pair Confirmation**  
If this check box is on, a confirmation message appears when you create or cancel a pair.
- **Nominal Pan**  
If this check box is checked, and when Input Channel signals are panned hard left or hard right, the signals on the left/odd channels and right/even channels will be at the nominal level. If this check box is not checked, these signals will be boosted by 3 dB. (When the signals are panned to center, they will be at the nominal level.) In Surround mode, the same thing applies when any Surround pan channel is panned hard left or right.
- **Fast Meter Fall Time**  
If this check box is on, the level meters fall more quickly.
- **DIO Warning**  
If this check box is on, a warning message appears when any errors are detected in digital audio signals received at the Slot or 2TR Digital Inputs.
- **MIDI Warning**  
If this check box is on, a warning message appears when any errors are detected in the incoming MIDI messages.
- **Initial Data Nominal**  
If this check box is on, Input Channel faders and ST IN Channel level controls are set to nominal (0 dB) when you recall Scene #0. (If this check box is off, they are set to  $-\infty$ .)
- **Scene MEM Auto Update**  
If this check box is on, you can use the Scene Memory Auto Update function (see page 70).
- **Cascade COMM Link**  
If this check box is on, various functions and parameters are linked between cascaded 01V96is (See page 111 for more information on cascade connection). When the check box is off, only the Solo function is linked.
- **Auto Direct Out On**  
If this check box is on and you change the channel Direct Out destination from “–” to any other output, the channel Direct Out is automatically enabled. If you change the channel Direct Out destination from an output to “–,” the channel Direct Out is automatically disabled.

- **Routing ST Pair Link**

When this check box is checked, paired channels' routing to the Stereo Bus will be linked.

## Prefer2 page

The Prefer2 page enables you to name the channel indicated on the display, and adjust the display brightness.



This page contains the following parameters:

① **Channel ID/Channel**

This parameter selects a style for the displayed channel. If the Channel ID check box is selected, the Channel ID appears (e.g., CH1, CH16, AUX1). If the Channel Short Name check box is on, the Channel Short name appears.

② **Channel Copy Parameter**

This parameter selects the channel parameters to be copied when you assign the Channel Copy function to one of the User Defined buttons. You can select multiple options.

- **ALL** ..... This button selects all parameters that can be copied. When you turn on this button, all other options are cancelled.
- **FADER** ..... Copies the fader values.
- **ON** ..... Copies the on/off status of the [ON] buttons.
- **PAN** ..... Copies the pan settings.
- **SURR** ..... Copies the surround pan settings.
- **AUX** ..... Copies the Aux Send levels.
- **AUX ON** ..... Copies the on/off status of the Channel to Aux signals.
- **EQ** ..... Copies the EQ parameter values.

③ **Display Brightness**

This parameter sets the brightness of the LED indicators in the range of 1 through 4.

## Creating a Custom Layer by Combining Channels (User Assignable Layer)

If you set the Remote Layer target to "USER ASSIGNABLE," you can create a custom layer by combining any 01V96i channels (excluding the Stereo Out). This custom layer is called "User Assignable layer."

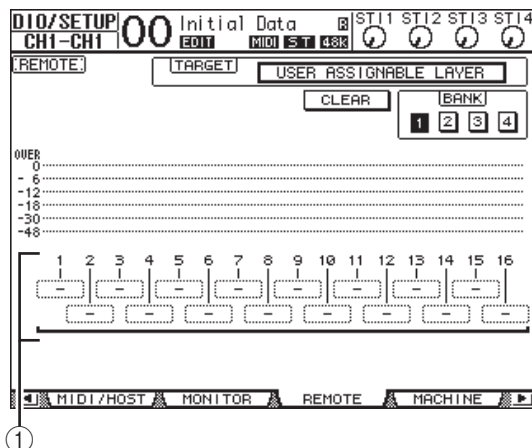
1. Press the DISPLAY ACCESS [DIO/SETUP] button repeatedly until the DIO/Setup Remote page appears.

2. Set the TARGET parameter to USER ASSIGNABLE, then press [ENTER].

A confirmation window appears.

3. Move the cursor to the YES button, then press [ENTER].

The 01V96i displays the page shown below.



4. Select the channels you wish to assign to the User Assignable layer using the 1–16 parameter boxes (①).

You can store up to four 16-channel setups in four banks by switching Banks 1–4 via the BANK 1–4 buttons. If you press [ENTER] before selecting the channels to assign, you will still be able to select the channels you wish to assign in the User CH Select window.

**Tip:** You can reset the assignment to default by moving the cursor to the CLEAR button and pressing [ENTER].

5. Use the LAYER [REMOTE] button to assign or recall the User Assignable layer.

You can use the faders and [ON] buttons to control the assigned channels.

# Cascading Consoles

The 01V96i features a Cascade Bus that enables cascade connection. You can connect two 01V96is in cascade using the digital inputs and outputs, or the OMNI IN and OMNI OUT connectors. In this way, two consoles work just like one big console, integrating each unit's Buses 1–8, Aux Sends 1–8, Stereo Bus, and Solo Bus.

The following functions are linked between two cascaded 01V96is via the MIDI IN and OUT ports.

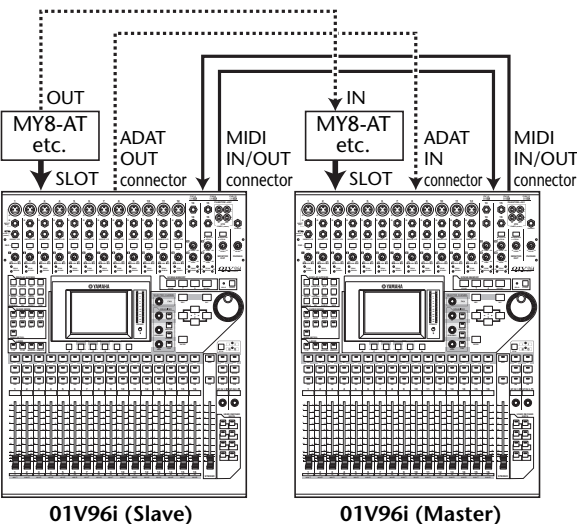
- Display page selection
- Solo function
- Fader Mode
- Metering Position
- Peak Hold On/Off
- Meter Fast Fall on/off
- Scene Store, Recall, and Title Edit

**Tip:**

- To link functions and parameters (excluding the Solo function), turn on the Cascade COMM Link check box on the Setup | Prefer1 page (see page 109).
- The Solo function is always linked regardless of the status of the Cascade COMM Link check box.

The following paragraphs explain how to make a cascade connection using two 01V96is and the inputs and outputs of the digital I/O card installed in the slot of each 01V96i.

1. Install digital I/O cards into the slot on each of two 01V96is.
2. Connect two 01V96is as follows:
  - Connect the digital I/O card output on the transmitting 01V96i (slave) to the digital I/O card input on the receiving 01V96i (master).
  - Connect the ADAT IN connector on the master unit to the ADAT OUT connector on the slave unit.
  - Connect the MIDI IN port on the master unit to the MIDI OUT port on the slave unit using a MIDI cable.
  - Connect the MIDI OUT port on the master unit to the MIDI IN port on the slave unit using a MIDI cable.

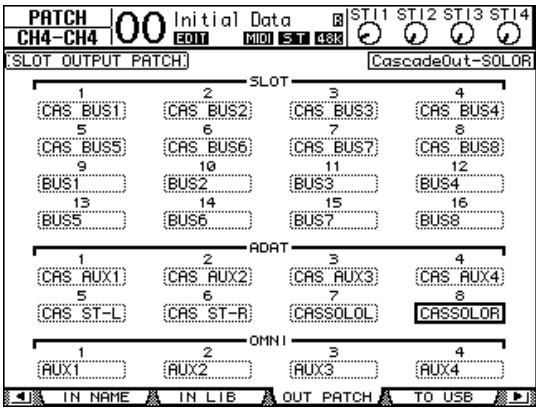


3. On the slave unit, press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | Out Patch page appears.
4. Assign the Bus signals to the channels that are used for the cascade connection.

The following signals are available:

| Options            | Description                   |
|--------------------|-------------------------------|
| CAS BUS1–BUS8      | Bus 1–8 Cascade Outs          |
| CAS AUX1–AUX8      | Aux Bus 1–8 Cascade Outs      |
| CAS ST-L, CAS ST-R | Stereo Bus L & R Cascade Outs |
| CASSOLOL, CASSOLOR | Solo Bus L & R Cascade Outs   |

The following display page is an example of integrating Bus 1–8, Aux Send 1–4, Stereo Bus, and Solo Bus signals via the ADAT IN and OUT connectors and two 8-channel digital I/O cards (such as MY8-AT).



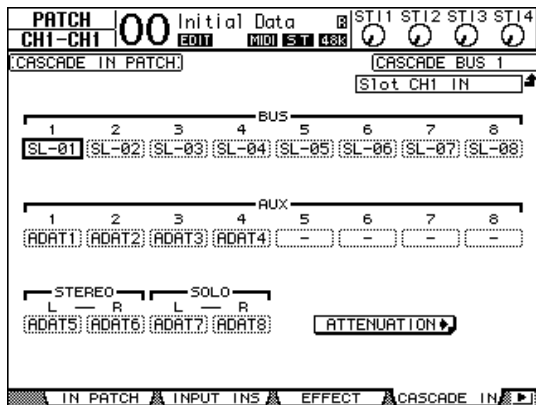
**Tip:** Patching may vary depending on the type and number of buses used for the cascade connection.

**Note:** Since the number of channels available on the digital I/O card is limited, only Aux Sends 1–4 are cascaded in this example. Using a 16-channel digital I/O card (such as MY16-AT) enables you to cascade all buses.

5. On the master unit, press the DISPLAY ACCESS [PATCH] button repeatedly until the Patch | Cascade In page appears.
6. Select the Input Channels on the master unit to which the Bus signals are input from the Slave unit.

The following display page is an example of receiving the slave unit's Bus 1–8, Aux Send 1–4, Stereo Bus, and Solo

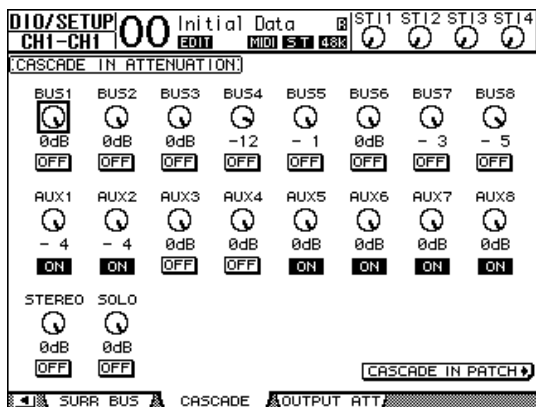
Bus signals via the ADAT IN and OUT connectors and two 8-channel digital I/O cards (such as MY8-AT).



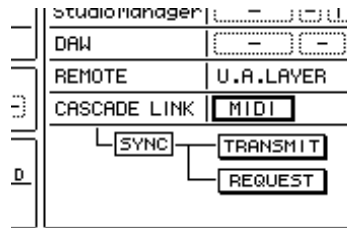
**Note:** Be sure to patch the slave Bus signals to the same Buses on the master unit. Incorrect patching will result in an incorrect cascade connection.

- On the master unit, press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly until the **DIO/Setup | Cascade** page appears, then adjust the Attenuators using the parameter controls.

The **DIO/Setup | Cascade** page enables you to adjust the level of signals input to the Cascade Bus using the dedicated attenuators. You can also turn the Cascade Buses on or off using the buttons below the parameter controls.



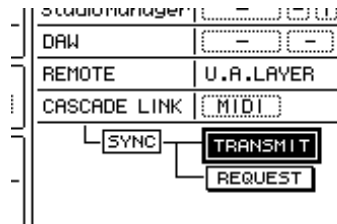
- Press the **DISPLAY ACCESS [DIO/SETUP]** button repeatedly to display the **DIO/Setup | MIDI/Host** page, then set the Cascade Link parameter to "MIDI."



- Repeat Step 8 for the master unit.

After Steps 8 and 9, the slave unit will be able to transmit and receive MIDI messages.

- To match the parameters of both 01V96is, locate the **DIO/Setup | MIDI/Host** page on the copy source unit. Move the cursor to the **TRANSMIT** button for the **SYNC** parameter, then press **[ENTER]**.

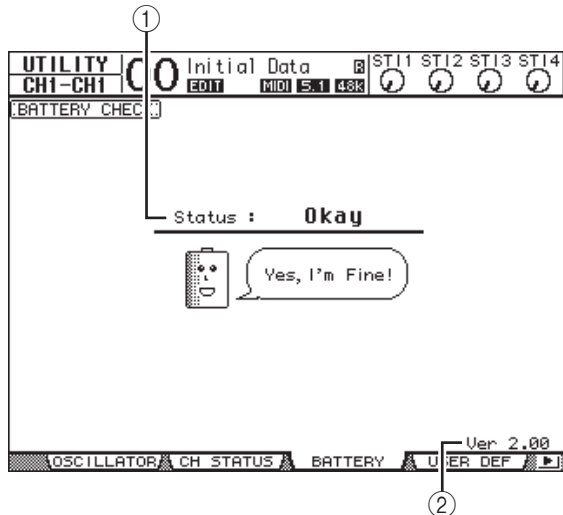


Parameters for cascade link (page 111) will be copied to the other 01V96i via the **REMOTE** connector. If you select the **REQUEST** button instead of the **TRANSMIT** button for the **SYNC** parameter, you can reverse the copy direction.

At this point, Bus 1–8, Aux 1–4, and the Stereo Bus on both 01V96is are integrated, and the data is output via Bus Outs 1–8, Aux Outs 1–4, and the Stereo Out on the master unit. If you solo channels on one of the 01V96is, you can monitor the soloed signals via the Monitor outputs.

## Checking the Battery and the System Version

The Utility | Battery page enables you to check the condition of the internal memory-backup battery and the system version number. To locate this page, press the DISPLAY ACCESS [UTILITY] button repeatedly.



### ① Status

If the Status is “Okay,” the battery has sufficient voltage for operation. If the Status is “Voltage Low!,” ask your Yamaha dealer or authorized Yamaha service center to replace the battery as soon as possible. Failure to replace a low battery may result in data loss.

**Note:** Do not attempt to replace the battery yourself as a malfunction may occur.

### ② Ver X.XX (X.XX represents the version number.)

This indicator identifies the system version number. Check the current system version number before you update the firmware.

Visit the following website to check the latest system version number:

<http://www.yamahaproaudio.com/>

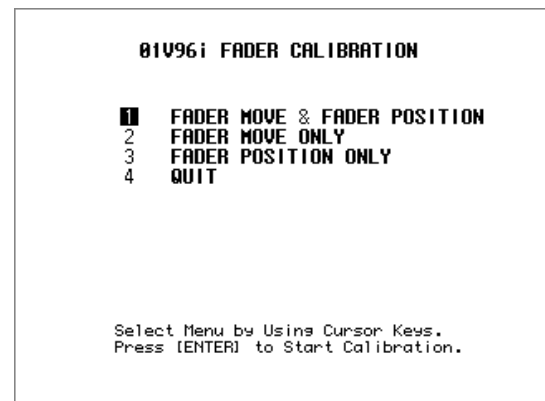
## Calibrating the Faders

The 01V96i motorized fader positions may shift over time depending on the operating conditions and environment. You can correct the shifted faders using the Calibration function.

**1. Make sure that the power to the 01V96i is turned off.**

**2. Press and hold down the [ENTER] button, then turn on the POWER ON/OFF switch.**

After a while, the following calibration window appears.



**3. Make sure that “1 FADER MOVE & FADER POSITION” is selected, then press [ENTER].**

To adjust only the motor fader movement, use the cursor buttons to select “2 FADER MOVE ONLY,” then press [ENTER].

To adjust only the fader position, use the cursor buttons to select “3 FADER POSITION ONLY,” then press [ENTER]. Proceed to Step 5.

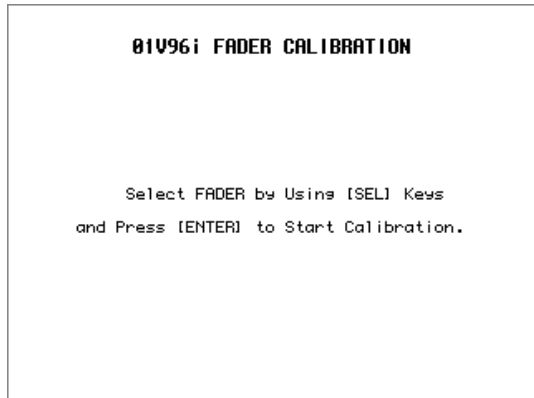
To cancel the calibration operation, use the cursor buttons to select “4 QUIT,” then press [ENTER]. The 01V96i starts in normal mode.

**4. The calibration operation begins, adjusting the motor fader movement, and the 01V96i displays a message that indicates the calibration operation is in progress.**

The calibration operation takes about two minutes. DO NOT touch the faders during the operation.

- 5. When the calibration operation is complete, the 01V96i displays a window in which you can select faders for position adjustment.**

If you selected “2 FADER MOVE ONLY” in Step 3, the fader adjustment is complete. The 01V96i starts in normal mode.



- 6. Use the channel [SEL] buttons to select faders for which you wish to calibrate the position, then press [ENTER].**

The selected channel [SEL] button indicators flash. (When you press [ENTER], they light up steadily.) At the beginning, all [SEL] buttons are flashing. However, if an error occurs and the unit is trying calibration again, only the [SEL] button indicator of a problematic fader flashes.

- 7. Follow the instruction in the window to set the position of the selected faders to  $-\infty$ , then press [ENTER].**

- 8. Set the position of the selected faders to the level instructed in the window, then press [ENTER]. Set faders 1–16 to  $-15$ , and Stereo fader to  $-30$ .**

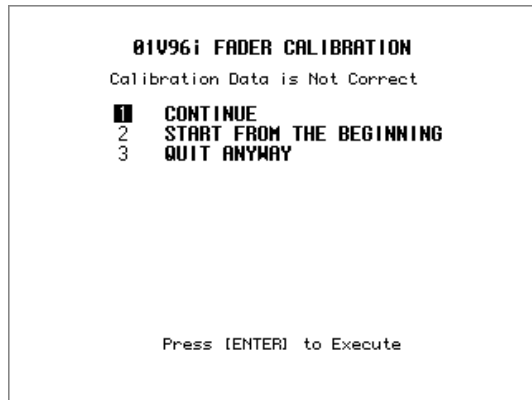
- 9. Set the position of the selected faders to the level instructed in the window, then press [ENTER]. Set faders 1–16 to 0, and Stereo fader to any position.**

- 10. Set the position of the selected faders to the level instructed in the window, then press [ENTER]. Set faders 1–16 to  $+10$ , and Stereo fader to 0.**

If there is no problem with the calibration result, this concludes the calibration operation. The 01V96i will start in normal mode.

- 11. If there is any problem with the calibration result, the 01V96i displays the following window.**

Also, the channel [SEL] button indicator of a problematic fader flashes.



Use the cursor buttons to select one of the following three options, then press [ENTER].

- **CONTINUE**  
While the [SEL] button indicator of a problematic fader is flashing, the calibration process returns to Step 5.
- **START FROM THE BEGINNING**  
The calibration process returns to Step 2.
- **QUIT ANYWAY**  
The 01V96i cancels the calibration operation and starts in normal mode. The standard setting will be applied to problematic faders.

If this window appears after you try the calibration process several times, consult your nearest Yamaha dealer. If the calibration data has some problems, the 01V96i displays the following window when it starts up. In this case, calibrate the position of the faders specified in the window.



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# Appendix: Parameter Lists

## USER DEFINED KEYS

| #  | Function                        | Display          |
|----|---------------------------------|------------------|
| 0  | No Assign                       | No Assign        |
| 1  | Scene MEM. Recall +1            | Scene +1 Recall  |
| 2  | Scene MEM. Recall -1            | Scene -1 Recall  |
| 3  | Scene MEM. Recall No. XX        | Scene XX Recall  |
| 4  | Effect-1 Lib. Recall +1         | Fx1 Lib+1 Recall |
| 5  | Effect-1 Lib. Recall -1         | Fx1 Lib-1 Recall |
| 6  | Effect-1 Lib. Recall No.XX      | Fx1 LibXXX RCL.  |
| 7  | Effect-2 Lib. Recall +1         | Fx2 Lib+1 Recall |
| 8  | Effect-2 Lib. Recall -1         | Fx2 Lib-1 Recall |
| 9  | Effect-2 Lib. Recall No.XX      | Fx2 LibXXX RCL.  |
| 10 | Effect-3 Lib. Recall +1         | Fx3 Lib+1 Recall |
| 11 | Effect-3 Lib. Recall -1         | Fx3 Lib-1 Recall |
| 12 | Effect-3 Lib. Recall No.XX      | Fx3 LibXXX RCL.  |
| 13 | Effect-4 Lib. Recall +1         | Fx4 Lib+1 Recall |
| 14 | Effect-4 Lib. Recall -1         | Fx4 Lib-1 Recall |
| 15 | Effect-4 Lib. Recall No.XX      | Fx4 LibXXX RCL.  |
| 16 | Effect-1 Bypass On/Off          | Fx1 Bypass       |
| 17 | Effect-2 Bypass On/Off          | Fx2 Bypass       |
| 18 | Effect-3 Bypass On/Off          | Fx3 Bypass       |
| 19 | Effect-4 Bypass On/Off          | Fx4 Bypass       |
| 20 | Channel Lib. Recall +1          | CH Lib+1 Recall  |
| 21 | Channel Lib. Recall -1          | CH Lib-1 Recall  |
| 22 | Channel Lib. Recall No. XX      | CH LibXXX Recall |
| 23 | GATE Lib. Recall +1             | Gate Lib+1 RCL.  |
| 24 | GATE Lib. Recall -1             | Gate Lib-1 RCL.  |
| 25 | GATE Lib. Recall No. XX         | Gate LibXXX RCL. |
| 26 | COMP Lib. Recall +1             | Comp Lib+1 RCL.  |
| 27 | COMP Lib. Recall -1             | Comp Lib-1 RCL.  |
| 28 | COMP Lib. Recall No. XX         | Comp LibXXX RCL. |
| 29 | EQ Lib. Recall +1               | EQ Lib+1 Recall  |
| 30 | EQ Lib. Recall -1               | EQ Lib-1 Recall  |
| 31 | EQ Lib. Recall No. XX           | EQ LibXXX Recall |
| 32 | Input Patch Lib. Recall +1      | IN Patch Lib+1   |
| 33 | Input Patch Lib. Recall -1      | IN Patch Lib-1   |
| 34 | Input Patch Lib. Recall No. XX  | IN Patch LibXX   |
| 35 | Output Patch Lib. Recall +1     | Out Patch Lib+1  |
| 36 | Output Patch Lib. Recall -1     | Out Patch Lib-1  |
| 37 | Output Patch Lib. Recall No. XX | Out Patch LibXX  |
| 38 | Input Fader Group Enable A      | IN Fader Group A |
| 39 | Input Fader Group Enable B      | IN Fader Group B |
| 40 | Input Fader Group Enable C      | IN Fader Group C |
| 41 | Input Fader Group Enable D      | IN Fader Group D |
| 42 | Input Fader Group Enable E      | IN Fader Group E |
| 43 | Input Fader Group Enable F      | IN Fader Group F |
| 44 | Input Fader Group Enable G      | IN Fader Group G |
| 45 | Input Fader Group Enable H      | IN Fader Group H |
| 46 | Input MUTE Group Enable I       | IN Mute Group I  |
| 47 | Input MUTE Group Enable J       | IN Mute Group J  |
| 48 | Input MUTE Group Enable K       | IN Mute Group K  |
| 49 | Input MUTE Group Enable L       | IN Mute Group L  |
| 50 | Input MUTE Group Enable M       | IN Mute Group M  |
| 51 | Input MUTE Group Enable N       | IN Mute Group N  |

| #   | Function                       | Display           |
|-----|--------------------------------|-------------------|
| 52  | Input MUTE Group Enable O      | IN Mute Group O   |
| 53  | Input MUTE Group Enable P      | IN Mute Group P   |
| 54  | Output Fader Group Enable Q    | OutFader Group Q  |
| 55  | Output Fader Group Enable R    | OutFader Group R  |
| 56  | Output Fader Group Enable S    | OutFader Group S  |
| 57  | Output Fader Group Enable T    | OutFader Group T  |
| 58  | Output MUTE Group Enable U     | Out Mute Group U  |
| 59  | Output MUTE Group Enable V     | Out Mute Group V  |
| 60  | Output MUTE Group Enable W     | Out Mute Group W  |
| 61  | Output MUTE Group Enable X     | Out Mute Group X  |
| 62  | Input Fader Group Assign X     | IN Fader Assign X |
| 63  | Input Mute Group Assign X      | IN Mute Assign X  |
| 64  | Input EQ Group Assign X        | IN EQ Assign x    |
| 65  | Input COMP Group Assign X      | IN COMP Assign x  |
| 66  | Output Fader Group Assign X    | OutFader Assign X |
| 67  | Output Mute Group Assign X     | Out Mute Assign X |
| 68  | Output EQ Group Assign X       | Out EQ Assign x   |
| 69  | Output COMP Group Assign X     | Out COMP Assign x |
| 70  | Input Mute Group Master X      | In Mute Master X  |
| 71  | Output MUTE Group Master X     | Out Mute Master X |
| 72  | PEAK HOLD On/Off               | Peak Hold         |
| 73  | OSCILLATOR On/Off              | OSC ON/OFF        |
| 74  | SOLO Enable                    | SOLO ENABLE       |
| 75  | FADER/SOLO RELEASE Mode On/Off | FaderSolo RELEASE |
| 76  | Control Room Monitor MONO      | C-R MONO          |
| 77  | Pan / Surround Link            | PAN/SURR LINK     |
| 78  | Channel Name ID/Short          | CH ID/Short       |
| 79  | Channel Copy                   | Channel Copy      |
| 80  | Channel Paste                  | Channel Paste     |
| 81  | Display Back                   | Display Back      |
| 82  | Display Forward                | Display Forward   |
| 83  | UDEF KEYS BANK +1              | UDEF KEYS BANK+1  |
| 84  | UDEF KEYS BANK -1              | UDEF KEYS BANK-1  |
| 85  | UDEF KEYS BANK X               | UDEF KEYS BANK x  |
| 86  | REMOTE USER DEFINE BANK +1     | RMT UDEF BANK+1   |
| 87  | REMOTE USER DEFINE BANK -1     | RMT UDEF BANK-1   |
| 88  | REMOTE USER DEFINE BANK X      | RMT UDEF BANK X   |
| 89  | REMOTE USER ASS LAYER BANK +1  | USR LAYER BANK+1  |
| 90  | REMOTE USER ASS LAYER BANK -1  | USR LAYER BANK-1  |
| 91  | REMOTE USER ASS LAYER BANK X   | USR LAYER BANK X  |
| 92  | MIDI NOTE No.XX                | MIDI NOTE XXX     |
| 93  | MIDI Program change No.XX      | MIDI PGM XXX      |
| 94  | MIDI Control Change No.XX      | MIDI CC XXX       |
| 95  | Machine REC                    | Machine REC       |
| 96  | Machine PLAY                   | Machine PLAY      |
| 97  | Machine STOP                   | Machine STOP      |
| 98  | Machine FF                     | Machine FF        |
| 99  | Machine REW                    | Machine REW       |
| 100 | Machine SHUTTLE                | Machine SHUTTLE   |
| 101 | Machine SCRUB                  | Machine SCRUB     |
| 102 | Machine LOCATE X               | Machine LOCATE X  |
| 103 | Machine Set LOCATE X           | Machine Capture X |
| 104 | Machine RTZ                    | Machine RTZ       |

| #   | Function               | Display           |
|-----|------------------------|-------------------|
| 105 | Machine Set RTZ        | Machine Set RTZ   |
| 106 | Track Arming 1         | Track Arming 1    |
| 107 | Track Arming 2         | Track Arming 2    |
| 108 | Track Arming 3         | Track Arming 3    |
| 109 | Track Arming 4         | Track Arming 4    |
| 110 | Track Arming 5         | Track Arming 5    |
| 111 | Track Arming 6         | Track Arming 6    |
| 112 | Track Arming 7         | Track Arming 7    |
| 113 | Track Arming 8         | Track Arming 8    |
| 114 | Track Arming 9         | Track Arming 9    |
| 115 | Track Arming 10        | Track Arming 10   |
| 116 | Track Arming 11        | Track Arming 11   |
| 117 | Track Arming 12        | Track Arming 12   |
| 118 | Track Arming 13        | Track Arming 13   |
| 119 | Track Arming 14        | Track Arming 14   |
| 120 | Track Arming 15        | Track Arming 15   |
| 121 | Track Arming 16        | Track Arming 16   |
| 122 | Track Arming 17        | Track Arming 17   |
| 123 | Track Arming 18        | Track Arming 18   |
| 124 | Track Arming 19        | Track Arming 19   |
| 125 | Track Arming 20        | Track Arming 20   |
| 126 | Track Arming 21        | Track Arming 21   |
| 127 | Track Arming 22        | Track Arming 22   |
| 128 | Track Arming 23        | Track Arming 23   |
| 129 | Track Arming 24        | Track Arming 24   |
| 130 | Track Arming All Clear | Track Arming CLR  |
| 131 | DAW REC                | DAW REC           |
| 132 | DAW PLAY               | DAW PLAY          |
| 133 | DAW STOP               | DAW STOP          |
| 134 | DAW FF                 | DAW FF            |
| 135 | DAW REW                | DAW REW           |
| 136 | DAW SHUTTLE            | DAW SHUTTLE       |
| 137 | DAW SCRUB              | DAW SCRUB         |
| 138 | DAW AUDITION           | DAW AUDITION      |
| 139 | DAW PRE                | DAW PRE           |
| 140 | DAW IN                 | DAW IN            |
| 141 | DAW OUT                | DAW OUT           |
| 142 | DAW POST               | DAW POST          |
| 143 | DAW RTZ                | DAW RTZ           |
| 144 | DAW END                | DAW END           |
| 145 | DAW ONLINE             | DAW ONLINE        |
| 146 | DAW LOOP               | DAW LOOP          |
| 147 | DAW QUICKPUNCH         | DAW QUICKPUNCH    |
| 148 | DAW GROUP STATUS       | DAW GROUP STATUS  |
| 149 | DAW AUTO FADER         | DAW AUTO FADER    |
| 150 | DAW AUTO MUTE          | DAW AUTO MUTE     |
| 151 | DAW AUTO PAN           | DAW AUTO PAN      |
| 152 | DAW AUTO SEND          | DAW AUTO SEND     |
| 153 | DAW AUTO PLUGIN        | DAW AUTO PLUGIN   |
| 154 | DAW AUTO SEND MUTE     | DAW AUTO SENDMUTE |
| 155 | DAW AUTO READ          | DAW AUTO READ     |
| 156 | DAW AUTO TOUCH         | DAW AUTO TOUCH    |
| 157 | DAW AUTO LATCH         | DAW AUTO LATCH    |
| 158 | DAW AUTO WRITE         | DAW AUTO WRITE    |
| 159 | DAW AUTO TRIM          | DAW AUTO TRIM     |
| 160 | DAW AUTO OFF           | DAW AUTO OFF      |
| 161 | DAW AUTO SUSPEND       | DAW AUTO SUSPEND  |
| 162 | DAW AUTO STATUS        | DAW AUTO STATUS   |
| 163 | DAW MONITOR STATUS     | DAW MONI STATUS   |

| #   | Function                                       | Display           |
|-----|------------------------------------------------|-------------------|
| 164 | DAW CREATE GROUP                               | DAW CREATE GROUP  |
| 165 | DAW SUSPEND GROUP                              | DAW SUSPEND GRP   |
| 166 | DAW WINDOW TRANSPORT                           | DAW WIN TRANSPORT |
| 167 | DAW WINDOW INSERT                              | DAW WIN INSERT    |
| 168 | DAW WINDOW MIX/EDIT                            | DAW WIN MIX/EDIT  |
| 169 | DAW WINDOW MEM-LOC                             | DAW WIN MEM-LOC   |
| 170 | DAW WINDOW STATUS                              | DAW WIN STATUS    |
| 171 | DAW Shortcut UNDO                              | DAW UNDO          |
| 172 | DAW Shortcut SAVE                              | DAW SAVE          |
| 173 | DAW Shortcut EDIT MODE                         | DAW EDIT MODE     |
| 174 | DAW Shortcut EDIT TOOL                         | DAW EDIT TOOL     |
| 175 | DAW Shortcut SHIFT/ADD                         | DAW SHIFT/ADD     |
| 176 | DAW Shortcut OPTION/ALL                        | DAW OPTION/ALL    |
| 177 | DAW Shortcut CTRL/CLUCH                        | DAW CTRL/CLUCH    |
| 178 | DAW Shortcut ALT/FINE                          | DAW ALT/FINE      |
| 179 | DAW BANK +                                     | DAW BANK +        |
| 180 | DAW BANK –                                     | DAW BANK –        |
| 181 | DAW Channel +                                  | DAW Channel +     |
| 182 | DAW Channel –                                  | DAW Channel –     |
| 183 | DAW REC/RDY X                                  | DAW REC/RDY X     |
| 184 | DAW REC/RDY ALL                                | DAW REC/RDY ALL   |
| 185 | Studio Manager Window Control Close            | SM CTRL Close     |
| 186 | Studio Manager Window Control Close All        | SM CTRL Close All |
| 187 | Studio Manager Window Control Selected Channel | SM CTRL Sel Ch    |
| 188 | Studio Manager Window Control Library          | SM CTRL Library   |
| 189 | Studio Manager Window Control Patch Editor     | SM CTRL Patch     |
| 190 | Studio Manager Window Control Surround Editor  | SM CTRL Surround  |
| 191 | Studio Manager Window Control Effect Editor    | SM CTRL Effect    |
| 192 | Studio Manager Window Control Meter            | SM CTRL Meter     |
| 193 | Studio Manager Window Control Layer            | SM CTRL Layer     |
| 194 | Studio Manager Window Control Master           | SM CTRL Master    |

## USER DEFINED KEYS Initial Assignments

|       | BANK A         | BANK B           | BANK C           | BANK D         | BANK E          | BANK F         | BANK G           | BANK H    |
|-------|----------------|------------------|------------------|----------------|-----------------|----------------|------------------|-----------|
| TITLE | Scene Recall   | Group Enable     | DAW 1            | DAW 2          | Machine Control | Program Change | Special Function | No Assign |
| 1     | Scene 1 Recall | IN Fader Group A | UDEF BANK D      | UDEF BANK C    | Machine SHUTTLE | MIDI PGM 1     | Display Back     | No Assign |
| 2     | Scene 2 Recall | IN Mute Group I  | DAW WIN MIX/EDIT | DAW OPTION/ALL | Machine SCRUB   | MIDI PGM 2     | Display Forward  | No Assign |
| 3     | Scene 3 Recall | IN Fader Group B | DAW BANK –       | DAW AUTO READ  | Machine RTZ     | MIDI PGM 3     | Channel Copy     | No Assign |
| 4     | Scene 4 Recall | IN Mute Group J  | DAW BANK +       | DAW AUTO TOUCH | Machine REC     | MIDI PGM 4     | Channel Paste    | No Assign |
| 5     | Scene 5 Recall | IN Fader Group C | DAW SHUTTLE      | DAW AUTO LATCH | Machine STOP    | MIDI PGM 5     | No Assign        | No Assign |
| 6     | Scene 6 Recall | IN Mute Group K  | DAW SCRUB        | DAW AUTO WRITE | Machine PLAY    | MIDI PGM 6     | No Assign        | No Assign |
| 7     | Scene 7 Recall | IN Fader Group D | DAW STOP         | DAW AUTO TRIM  | Machine REW     | MIDI PGM 7     | No Assign        | No Assign |
| 8     | Scene 8 Recall | IN Mute Group L  | DAW PLAY         | DAW AUTO OFF   | Machine FF      | MIDI PGM 8     | No Assign        | No Assign |

## Input Patch Parameters

| INPUT   |             | INSERT IN |             | EFFECT IN |                | CASCADE |              |
|---------|-------------|-----------|-------------|-----------|----------------|---------|--------------|
| Port ID | Description | Port ID   | Description | Port ID   | Description    | Port ID | Description  |
| –       | NONE        | –         | NONE        | –         | NONE           | –       | NONE         |
| AD1     | AD IN 1     | AD1       | AD IN 1     | AUX1      | AUX1           | ADAT1   | ADAT1 IN     |
| AD2     | AD IN 2     | AD2       | AD IN 2     | AUX2      | AUX2           | ADAT2   | ADAT2 IN     |
| AD3     | AD IN 3     | AD3       | AD IN 3     | AUX3      | AUX3           | ADAT3   | ADAT3 IN     |
| AD4     | AD IN 4     | AD4       | AD IN 4     | AUX4      | AUX4           | ADAT4   | ADAT4 IN     |
| AD5     | AD IN 5     | AD5       | AD IN 5     | AUX5      | AUX5           | ADAT5   | ADAT5 IN     |
| AD6     | AD IN 6     | AD6       | AD IN 6     | AUX6      | AUX6           | ADAT6   | ADAT6 IN     |
| AD7     | AD IN 7     | AD7       | AD IN 7     | AUX7      | AUX7           | ADAT7   | ADAT7 IN     |
| AD8     | AD IN 8     | AD8       | AD IN 8     | AUX8      | AUX8           | ADAT8   | ADAT8 IN     |
| AD9     | AD IN 9     | AD9       | AD IN 9     | INS CH1   | InsertOut-CH1  | SL-01   | Slot CH1 IN  |
| AD10    | AD IN 10    | AD10      | AD IN 10    | INS CH2   | InsertOut-CH2  | SL-02   | Slot CH2 IN  |
| AD11    | AD IN 11    | AD11      | AD IN 11    | INS CH3   | InsertOut-CH3  | SL-03   | Slot CH3 IN  |
| AD12    | AD IN 12    | AD12      | AD IN 12    | INS CH4   | InsertOut-CH4  | SL-04   | Slot CH4 IN  |
| AD13    | AD IN 13    | AD13      | AD IN 13    | INS CH5   | InsertOut-CH5  | SL-05   | Slot CH5 IN  |
| AD14    | AD IN 14    | AD14      | AD IN 14    | INS CH6   | InsertOut-CH6  | SL-06   | Slot CH6 IN  |
| AD15    | AD IN 15    | AD15      | AD IN 15    | INS CH7   | InsertOut-CH7  | SL-07   | Slot CH7 IN  |
| AD16    | AD IN 16    | AD16      | AD IN 16    | INS CH8   | InsertOut-CH8  | SL-08   | Slot CH8 IN  |
| ADAT1   | ADAT1 IN    | ADAT1     | ADAT1 IN    | INS CH9   | InsertOut-CH9  | SL-09   | Slot CH9 IN  |
| ADAT2   | ADAT2 IN    | ADAT2     | ADAT2 IN    | INS CH10  | InsertOut-CH10 | SL-10   | Slot CH10 IN |
| ADAT3   | ADAT3 IN    | ADAT3     | ADAT3 IN    | INS CH11  | InsertOut-CH11 | SL-11   | Slot CH11 IN |
| ADAT4   | ADAT4 IN    | ADAT4     | ADAT4 IN    | INS CH12  | InsertOut-CH12 | SL-12   | Slot CH12 IN |
| ADAT5   | ADAT5 IN    | ADAT5     | ADAT5 IN    | INS CH13  | InsertOut-CH13 | SL-13   | Slot CH13 IN |
| ADAT6   | ADAT6 IN    | ADAT6     | ADAT6 IN    | INS CH14  | InsertOut-CH14 | SL-14   | Slot CH14 IN |
| ADAT7   | ADAT7 IN    | ADAT7     | ADAT7 IN    | INS CH15  | InsertOut-CH15 | SL-15   | Slot CH15 IN |
| ADAT8   | ADAT8 IN    | ADAT8     | ADAT8 IN    | INS CH16  | InsertOut-CH16 | SL-16   | Slot CH16 IN |
| SL-01   | Slot CH1 IN | SL-01     | Slot CH1 IN | INS CH17  | InsertOut-CH17 | AD1     | AD IN 1      |
| SL-02   | Slot CH2 IN | SL-02     | Slot CH2 IN | INS CH18  | InsertOut-CH18 | AD2     | AD IN 2      |
| SL-03   | Slot CH3 IN | SL-03     | Slot CH3 IN | INS CH19  | InsertOut-CH19 | AD3     | AD IN 3      |
| SL-04   | Slot CH4 IN | SL-04     | Slot CH4 IN | INS CH20  | InsertOut-CH20 | AD4     | AD IN 4      |

| INPUT   |               | INSERT IN |               | EFFECT IN |                | CASCADE |               |
|---------|---------------|-----------|---------------|-----------|----------------|---------|---------------|
| Port ID | Description   | Port ID   | Description   | Port ID   | Description    | Port ID | Description   |
| SL-05   | Slot CH5 IN   | SL-05     | Slot CH5 IN   | INS CH21  | InsertOut-CH21 | AD5     | AD IN 5       |
| SL-06   | Slot CH6 IN   | SL-06     | Slot CH6 IN   | INS CH22  | InsertOut-CH22 | AD6     | AD IN 6       |
| SL-07   | Slot CH7 IN   | SL-07     | Slot CH7 IN   | INS CH23  | InsertOut-CH23 | AD7     | AD IN 7       |
| SL-08   | Slot CH8 IN   | SL-08     | Slot CH8 IN   | INS CH24  | InsertOut-CH24 | AD8     | AD IN 8       |
| SL-09   | Slot CH9 IN   | SL-09     | Slot CH9 IN   | INS CH25  | InsertOut-CH25 | AD9     | AD IN 9       |
| SL-10   | Slot CH10 IN  | SL-10     | Slot CH10 IN  | INS CH26  | InsertOut-CH26 | AD10    | AD IN 10      |
| SL-11   | Slot CH11 IN  | SL-11     | Slot CH11 IN  | INS CH27  | InsertOut-CH27 | AD11    | AD IN 11      |
| SL-12   | Slot CH12 IN  | SL-12     | Slot CH12 IN  | INS CH28  | InsertOut-CH28 | AD12    | AD IN 12      |
| SL-13   | Slot CH13 IN  | SL-13     | Slot CH13 IN  | INS CH29  | InsertOut-CH29 | AD13    | AD IN 13      |
| SL-14   | Slot CH14 IN  | SL-14     | Slot CH14 IN  | INS CH30  | InsertOut-CH30 | AD14    | AD IN 14      |
| SL-15   | Slot CH15 IN  | SL-15     | Slot CH15 IN  | INS CH31  | InsertOut-CH31 | AD15    | AD IN 15      |
| SL-16   | Slot CH16 IN  | SL-16     | Slot CH16 IN  | INS CH32  | InsertOut-CH32 | AD16    | AD IN 16      |
| USB1    | USB CH1 IN    | USB1      | USB CH1 IN    | INS BUS1  | InsertOut-BUS1 | 2TD-L   | 2TR IN Dig. L |
| USB2    | USB CH2 IN    | USB2      | USB CH2 IN    | INS BUS2  | InsertOut-BUS2 | 2TD-R   | 2TR IN Dig. R |
| USB3    | USB CH3 IN    | USB3      | USB CH3 IN    | INS BUS3  | InsertOut-BUS3 |         |               |
| USB4    | USB CH4 IN    | USB4      | USB CH4 IN    | INS BUS4  | InsertOut-BUS4 |         |               |
| USB5    | USB CH5 IN    | USB5      | USB CH5 IN    | INS BUS5  | InsertOut-BUS5 |         |               |
| USB6    | USB CH6 IN    | USB6      | USB CH6 IN    | INS BUS6  | InsertOut-BUS6 |         |               |
| USB7    | USB CH7 IN    | USB7      | USB CH7 IN    | INS BUS7  | InsertOut-BUS7 |         |               |
| USB8    | USB CH8 IN    | USB8      | USB CH8 IN    | INS BUS8  | InsertOut-BUS8 |         |               |
| USB9    | USB CH9 IN    | USB9      | USB CH9 IN    | INS AUX1  | InsertOut-AUX1 |         |               |
| USB10   | USB CH10 IN   | USB10     | USB CH10 IN   | INS AUX2  | InsertOut-AUX2 |         |               |
| USB11   | USB CH11 IN   | USB11     | USB CH11 IN   | INS AUX3  | InsertOut-AUX3 |         |               |
| USB12   | USB CH12 IN   | USB12     | USB CH12 IN   | INS AUX4  | InsertOut-AUX4 |         |               |
| USB13   | USB CH13 IN   | USB13     | USB CH13 IN   | INS AUX5  | InsertOut-AUX5 |         |               |
| USB14   | USB CH14 IN   | USB14     | USB CH14 IN   | INS AUX6  | InsertOut-AUX6 |         |               |
| USB15   | USB CH15 IN   | USB15     | USB CH15 IN   | INS AUX7  | InsertOut-AUX7 |         |               |
| USB16   | USB CH16 IN   | USB16     | USB CH16 IN   | INS AUX8  | InsertOut-AUX8 |         |               |
| FX1-1   | Effect1 OUT 1 | FX1-1     | Effect1 OUT 1 | INS ST-L  | InsertOut-ST-L |         |               |
| FX1-2   | Effect1 OUT 2 | FX1-2     | Effect1 OUT 2 | INS ST-R  | InsertOut-ST-R |         |               |
| FX2-1   | Effect2 OUT 1 | FX2-1     | Effect2 OUT 1 |           |                |         |               |
| FX2-2   | Effect2 OUT 2 | FX2-2     | Effect2 OUT 2 |           |                |         |               |
| FX3-1   | Effect3 OUT 1 | FX3-1     | Effect3 OUT 1 |           |                |         |               |
| FX3-2   | Effect3 OUT 2 | FX3-2     | Effect3 OUT 2 |           |                |         |               |
| FX4-1   | Effect4 OUT 1 | FX4-1     | Effect4 OUT 1 |           |                |         |               |
| FX4-2   | Effect4 OUT 2 | FX4-2     | Effect4 OUT 2 |           |                |         |               |
| 2TD-L   | 2TR IN Dig. L | 2TD-L     | 2TR IN Dig. L |           |                |         |               |
| 2TD-R   | 2TR IN Dig. R | 2TD-R     | 2TR IN Dig. R |           |                |         |               |

## Initial Input Patch Settings

### CHANNEL

|    |       |
|----|-------|
| 1  | AD1   |
| 2  | AD2   |
| 3  | AD3   |
| 4  | AD4   |
| 5  | AD5   |
| 6  | AD6   |
| 7  | AD7   |
| 8  | AD8   |
| 9  | AD9   |
| 10 | AD10  |
| 11 | AD11  |
| 12 | AD12  |
| 13 | AD13  |
| 14 | AD14  |
| 15 | AD15  |
| 16 | AD16  |
| 17 | ADAT1 |
| 18 | ADAT2 |
| 19 | ADAT3 |
| 20 | ADAT4 |
| 21 | ADAT5 |
| 22 | ADAT6 |
| 23 | ADAT7 |
| 24 | ADAT8 |
| 25 | S-1   |
| 26 | S-2   |
| 27 | S-3   |
| 28 | S-4   |
| 29 | S-5   |
| 30 | S-6   |
| 31 | S-7   |
| 32 | S-8   |

|       |       |
|-------|-------|
| STI1L | FX1-1 |
| STI1R | FX1-2 |
| STI2L | FX2-1 |
| STI2R | FX2-2 |
| STI3L | FX3-1 |
| STI3R | FX3-2 |
| STI4L | FX4-1 |
| STI4R | FX4-2 |

### EFFECT IN PATCH

|     |      |
|-----|------|
| 1-1 | AUX1 |
| 1-2 | NONE |
| 2-1 | AUX2 |
| 2-2 | NONE |
| 3-1 | AUX3 |
| 3-2 | NONE |
| 4-1 | AUX4 |
| 4-2 | NONE |

### CASCADE IN PATCH

|        |      |
|--------|------|
| BUS1   | NONE |
| BUS2   | NONE |
| BUS3   | NONE |
| BUS4   | NONE |
| BUS5   | NONE |
| BUS6   | NONE |
| BUS7   | NONE |
| BUS8   | NONE |
| AUX1   | NONE |
| AUX2   | NONE |
| AUX3   | NONE |
| AUX4   | NONE |
| AUX5   | NONE |
| AUX6   | NONE |
| AUX7   | NONE |
| AUX8   | NONE |
| ST L   | NONE |
| ST R   | NONE |
| SOLO L | NONE |
| SOLO R | NONE |

### EFFECT TYPE

|         |              |
|---------|--------------|
| EFFECT1 | REVERB HALL  |
| EFFECT2 | REVERB ROOM  |
| EFFECT3 | REVERB STAGE |
| EFFECT4 | REVERB PLATE |

(mono input)

## CHANNEL NAME

|      | CHANNEL ID | SHORT | LONG |
|------|------------|-------|------|
| CH1  | CH1        | CH1   | CH1  |
| CH2  | CH2        | CH2   | CH2  |
| CH3  | CH3        | CH3   | CH3  |
| CH4  | CH4        | CH4   | CH4  |
| CH5  | CH5        | CH5   | CH5  |
| CH6  | CH6        | CH6   | CH6  |
| CH7  | CH7        | CH7   | CH7  |
| CH8  | CH8        | CH8   | CH8  |
| CH9  | CH9        | CH9   | CH9  |
| CH10 | CH10       | CH10  | CH10 |
| CH11 | CH11       | CH11  | CH11 |
| CH12 | CH12       | CH12  | CH12 |
| CH13 | CH13       | CH13  | CH13 |
| CH14 | CH14       | CH14  | CH14 |
| CH15 | CH15       | CH15  | CH15 |
| CH16 | CH16       | CH16  | CH16 |
| CH17 | CH17       | CH17  | CH17 |
| CH18 | CH18       | CH18  | CH18 |
| CH19 | CH19       | CH19  | CH19 |
| CH20 | CH20       | CH20  | CH20 |
| CH21 | CH21       | CH21  | CH21 |
| CH22 | CH22       | CH22  | CH22 |
| CH23 | CH23       | CH23  | CH23 |
| CH24 | CH24       | CH24  | CH24 |
| CH25 | CH25       | CH25  | CH25 |
| CH26 | CH26       | CH26  | CH26 |
| CH27 | CH27       | CH27  | CH27 |
| CH28 | CH28       | CH28  | CH28 |
| CH29 | CH29       | CH29  | CH29 |
| CH30 | CH30       | CH30  | CH30 |
| CH31 | CH31       | CH31  | CH31 |
| CH32 | CH32       | CH32  | CH32 |

|        |      |      |            |
|--------|------|------|------------|
| ST IN1 | STI1 | STI1 | STEREO IN1 |
| ST IN2 | STI2 | STI2 | STEREO IN2 |
| ST IN3 | STI3 | STI3 | STEREO IN3 |
| ST IN4 | STI4 | STI4 | STEREO IN4 |

## Output Patch Parameters

| SLOT, ADAT, OMNI,<br>2TR OUT Digital |                | INSERT IN |              | DIRECT OUT |                | USB OUT  |                |
|--------------------------------------|----------------|-----------|--------------|------------|----------------|----------|----------------|
| Source                               | Description    | Source    | Description  | Source     | Description    | Source   | Description    |
| –                                    | NONE           | –         | NONE         | –          | NONE           | –        | NONE           |
| BUS1                                 | BUS1           | AD1       | AD IN 1      | ADAT1      | ADAT1 OUT      | BUS1     | BUS1           |
| BUS2                                 | BUS2           | AD2       | AD IN 2      | ADAT2      | ADAT2 OUT      | BUS2     | BUS2           |
| BUS3                                 | BUS3           | AD3       | AD IN 3      | ADAT3      | ADAT3 OUT      | BUS3     | BUS3           |
| BUS4                                 | BUS4           | AD4       | AD IN 4      | ADAT4      | ADAT4 OUT      | BUS4     | BUS4           |
| BUS5                                 | BUS5           | AD5       | AD IN 5      | ADAT5      | ADAT5 OUT      | BUS5     | BUS5           |
| BUS6                                 | BUS6           | AD6       | AD IN 6      | ADAT6      | ADAT6 OUT      | BUS6     | BUS6           |
| BUS7                                 | BUS7           | AD7       | AD IN 7      | ADAT7      | ADAT7 OUT      | BUS7     | BUS7           |
| BUS8                                 | BUS8           | AD8       | AD IN 8      | ADAT8      | ADAT8 OUT      | BUS8     | BUS8           |
| AUX1                                 | AUX1           | AD9       | AD IN 9      | SL-01      | Slot CH1 OUT   | AUX1     | AUX1           |
| AUX2                                 | AUX2           | AD10      | AD IN 10     | SL-02      | Slot CH2 OUT   | AUX2     | AUX2           |
| AUX3                                 | AUX3           | AD11      | AD IN 11     | SL-03      | Slot CH3 OUT   | AUX3     | AUX3           |
| AUX4                                 | AUX4           | AD12      | AD IN 12     | SL-04      | Slot CH4 OUT   | AUX4     | AUX4           |
| AUX5                                 | AUX5           | AD13      | AD IN 13     | SL-05      | Slot CH5 OUT   | AUX5     | AUX5           |
| AUX6                                 | AUX6           | AD14      | AD IN 14     | SL-06      | Slot CH6 OUT   | AUX6     | AUX6           |
| AUX7                                 | AUX7           | AD15      | AD IN 15     | SL-07      | Slot CH7 OUT   | AUX7     | AUX7           |
| AUX8                                 | AUX8           | AD16      | AD IN 16     | SL-08      | Slot CH8 OUT   | AUX8     | AUX8           |
| ST L                                 | STEREO L       | ADAT1     | ADAT1 IN     | SL-09      | Slot CH9 OUT   | ST L     | STEREO L       |
| ST R                                 | STEREO R       | ADAT2     | ADAT2 IN     | SL-10      | Slot CH10 OUT  | ST R     | STEREO R       |
| INS CH1                              | InsertOut-CH1  | ADAT3     | ADAT3 IN     | SL-11      | Slot CH11 OUT  | INS CH1  | InsertOut-CH1  |
| INS CH2                              | InsertOut-CH2  | ADAT4     | ADAT4 IN     | SL-12      | Slot CH12 OUT  | INS CH2  | InsertOut-CH2  |
| INS CH3                              | InsertOut-CH3  | ADAT5     | ADAT5 IN     | SL-13      | Slot CH13 OUT  | INS CH3  | InsertOut-CH3  |
| INS CH4                              | InsertOut-CH4  | ADAT6     | ADAT6 IN     | SL-14      | Slot CH14 OUT  | INS CH4  | InsertOut-CH4  |
| INS CH5                              | InsertOut-CH5  | ADAT7     | ADAT7 IN     | SL-15      | Slot CH15 OUT  | INS CH5  | InsertOut-CH5  |
| INS CH6                              | InsertOut-CH6  | ADAT8     | ADAT8 IN     | SL-16      | Slot CH16 OUT  | INS CH6  | InsertOut-CH6  |
| INS CH7                              | InsertOut-CH7  | SL-01     | Slot CH1 IN  | USB1       | USB CH1 OUT    | INS CH7  | InsertOut-CH7  |
| INS CH8                              | InsertOut-CH8  | SL-02     | Slot CH2 IN  | USB2       | USB CH2 OUT    | INS CH8  | InsertOut-CH8  |
| INS CH9                              | InsertOut-CH9  | SL-03     | Slot CH3 IN  | USB3       | USB CH3 OUT    | INS CH9  | InsertOut-CH9  |
| INS CH10                             | InsertOut-CH10 | SL-04     | Slot CH4 IN  | USB4       | USB CH4 OUT    | INS CH10 | InsertOut-CH10 |
| INS CH11                             | InsertOut-CH11 | SL-05     | Slot CH5 IN  | USB5       | USB CH5 OUT    | INS CH11 | InsertOut-CH11 |
| INS CH12                             | InsertOut-CH12 | SL-06     | Slot CH6 IN  | USB6       | USB CH6 OUT    | INS CH12 | InsertOut-CH12 |
| INS CH13                             | InsertOut-CH13 | SL-07     | Slot CH7 IN  | USB7       | USB CH7 OUT    | INS CH13 | InsertOut-CH13 |
| INS CH14                             | InsertOut-CH14 | SL-08     | Slot CH8 IN  | USB8       | USB CH8 OUT    | INS CH14 | InsertOut-CH14 |
| INS CH15                             | InsertOut-CH15 | SL-09     | Slot CH9 IN  | USB9       | USB CH9 OUT    | INS CH15 | InsertOut-CH15 |
| INS CH16                             | InsertOut-CH16 | SL-10     | Slot CH10 IN | USB10      | USB CH10 OUT   | INS CH16 | InsertOut-CH16 |
| INS CH17                             | InsertOut-CH17 | SL-11     | Slot CH11 IN | USB11      | USB CH11 OUT   | INS CH17 | InsertOut-CH17 |
| INS CH18                             | InsertOut-CH18 | SL-12     | Slot CH12 IN | USB12      | USB CH12 OUT   | INS CH18 | InsertOut-CH18 |
| INS CH19                             | InsertOut-CH19 | SL-13     | Slot CH13 IN | USB13      | USB CH13 OUT   | INS CH19 | InsertOut-CH19 |
| INS CH20                             | InsertOut-CH20 | SL-14     | Slot CH14 IN | USB14      | USB CH14 OUT   | INS CH20 | InsertOut-CH20 |
| INS CH21                             | InsertOut-CH21 | SL-15     | Slot CH15 IN | USB15      | USB CH15 OUT   | INS CH21 | InsertOut-CH21 |
| INS CH22                             | InsertOut-CH22 | SL-16     | Slot CH16 IN | USB16      | USB CH16 OUT   | INS CH22 | InsertOut-CH22 |
| INS CH23                             | InsertOut-CH23 | USB1      | USB CH1 IN   | OMNI1      | OMNI OUT 1     | INS CH23 | InsertOut-CH23 |
| INS CH24                             | InsertOut-CH24 | USB2      | USB CH2 IN   | OMNI2      | OMNI OUT 2     | INS CH24 | InsertOut-CH24 |
| INS CH25                             | InsertOut-CH25 | USB3      | USB CH3 IN   | OMNI3      | OMNI OUT 3     | INS CH25 | InsertOut-CH25 |
| INS CH26                             | InsertOut-CH26 | USB4      | USB CH4 IN   | OMNI4      | OMNI OUT 4     | INS CH26 | InsertOut-CH26 |
| INS CH27                             | InsertOut-CH27 | USB5      | USB CH5 IN   | 2TD-L      | 2TR OUT Dig. L | INS CH27 | InsertOut-CH27 |
| INS CH28                             | InsertOut-CH28 | USB6      | USB CH6 IN   | 2TD-R      | 2TR OUT Dig. R | INS CH28 | InsertOut-CH28 |
| INS CH29                             | InsertOut-CH29 | USB7      | USB CH7 IN   | —          | —              | INS CH29 | InsertOut-CH29 |
| INS CH30                             | InsertOut-CH30 | USB8      | USB CH8 IN   | —          | —              | INS CH30 | InsertOut-CH30 |
| INS CH31                             | InsertOut-CH31 | USB9      | USB CH9 IN   | —          | —              | INS CH31 | InsertOut-CH31 |
| INS CH32                             | InsertOut-CH32 | USB10     | USB CH10 IN  | —          | —              | INS CH32 | InsertOut-CH32 |

| SLOT, ADAT, OMNI,<br>2TR OUT Digital |                  | INSERT IN |               | DIRECT OUT |             | USB OUT  |                |
|--------------------------------------|------------------|-----------|---------------|------------|-------------|----------|----------------|
| Source                               | Description      | Source    | Description   | Source     | Description | Source   | Description    |
| INS BUS1                             | InsertOut-BUS1   | USB11     | USB CH11 IN   | —          | —           | INS BUS1 | InsertOut-BUS1 |
| INS BUS2                             | InsertOut-BUS2   | USB12     | USB CH12 IN   | —          | —           | INS BUS2 | InsertOut-BUS2 |
| INS BUS3                             | InsertOut-BUS3   | USB13     | USB CH13 IN   | —          | —           | INS BUS3 | InsertOut-BUS3 |
| INS BUS4                             | InsertOut-BUS4   | USB14     | USB CH14 IN   | —          | —           | INS BUS4 | InsertOut-BUS4 |
| INS BUS5                             | InsertOut-BUS5   | USB15     | USB CH15 IN   | —          | —           | INS BUS5 | InsertOut-BUS5 |
| INS BUS6                             | InsertOut-BUS6   | USB16     | USB CH16 IN   | —          | —           | INS BUS6 | InsertOut-BUS6 |
| INS BUS7                             | InsertOut-BUS7   | FX1-1     | Effect1 OUT 1 | —          | —           | INS BUS7 | InsertOut-BUS7 |
| INS BUS8                             | InsertOut-BUS8   | FX1-2     | Effect1 OUT 2 | —          | —           | INS BUS8 | InsertOut-BUS8 |
| INS AUX1                             | InsertOut-AUX1   | FX2-1     | Effect2 OUT 1 | —          | —           | INS AUX1 | InsertOut-AUX1 |
| INS AUX2                             | InsertOut-AUX2   | FX2-2     | Effect2 OUT 2 | —          | —           | INS AUX2 | InsertOut-AUX2 |
| INS AUX3                             | InsertOut-AUX3   | FX3-1     | Effect3 OUT 1 | —          | —           | INS AUX3 | InsertOut-AUX3 |
| INS AUX4                             | InsertOut-AUX4   | FX3-2     | Effect3 OUT 2 | —          | —           | INS AUX4 | InsertOut-AUX4 |
| INS AUX5                             | InsertOut-AUX5   | FX4-1     | Effect4 OUT 1 | —          | —           | INS AUX5 | InsertOut-AUX5 |
| INS AUX6                             | InsertOut-AUX6   | FX4-2     | Effect4 OUT 2 | —          | —           | INS AUX6 | InsertOut-AUX6 |
| INS AUX7                             | InsertOut-AUX7   | 2TD-L     | 2TR IN Dig. L | —          | —           | INS AUX7 | InsertOut-AUX7 |
| INS AUX8                             | InsertOut-AUX8   | 2TD-R     | 2TR IN Dig. R | —          | —           | INS AUX8 | InsertOut-AUX8 |
| INS ST-L                             | InsertOut-STL    | —         | —             | —          | —           | INS ST-L | InsertOut-ST-L |
| INS ST-R                             | InsertOut-STR    | —         | —             | —          | —           | INS ST-R | InsertOut-ST-R |
| CAS BUS1                             | Cascade Out Bus1 | —         | —             | —          | —           | —        | —              |
| CAS BUS2                             | Cascade Out Bus2 | —         | —             | —          | —           | —        | —              |
| CAS BUS3                             | Cascade Out Bus3 | —         | —             | —          | —           | —        | —              |
| CAS BUS4                             | Cascade Out Bus4 | —         | —             | —          | —           | —        | —              |
| CAS BUS5                             | Cascade Out Bus5 | —         | —             | —          | —           | —        | —              |
| CAS BUS6                             | Cascade Out Bus6 | —         | —             | —          | —           | —        | —              |
| CAS BUS7                             | Cascade Out Bus7 | —         | —             | —          | —           | —        | —              |
| CAS BUS8                             | Cascade Out Bus8 | —         | —             | —          | —           | —        | —              |
| CAS AUX1                             | Cascade Out Aux1 | —         | —             | —          | —           | —        | —              |
| CAS AUX2                             | Cascade Out Aux2 | —         | —             | —          | —           | —        | —              |
| CAS AUX3                             | Cascade Out Aux3 | —         | —             | —          | —           | —        | —              |
| CAS AUX4                             | Cascade Out Aux4 | —         | —             | —          | —           | —        | —              |
| CAS AUX5                             | Cascade Out Aux5 | —         | —             | —          | —           | —        | —              |
| CAS AUX6                             | Cascade Out Aux6 | —         | —             | —          | —           | —        | —              |
| CAS AUX7                             | Cascade Out Aux7 | —         | —             | —          | —           | —        | —              |
| CAS AUX8                             | Cascade Out Aux8 | —         | —             | —          | —           | —        | —              |
| CAS ST-L                             | Cascade STEREO-L | —         | —             | —          | —           | —        | —              |
| CAS ST-R                             | Cascade STEREO-R | —         | —             | —          | —           | —        | —              |
| CASSOLOL                             | Cascade SOLO L   | —         | —             | —          | —           | —        | —              |
| CASSOLOR                             | Cascade SOLO R   | —         | —             | —          | —           | —        | —              |

## Initial Output Patch Settings

### SLOT

|          |      |
|----------|------|
| SLOT1-1  | BUS1 |
| SLOT1-2  | BUS2 |
| SLOT1-3  | BUS3 |
| SLOT1-4  | BUS4 |
| SLOT1-5  | BUS5 |
| SLOT1-6  | BUS6 |
| SLOT1-7  | BUS7 |
| SLOT1-8  | BUS8 |
| SLOT1-9  | BUS1 |
| SLOT1-10 | BUS2 |
| SLOT1-11 | BUS3 |
| SLOT1-12 | BUS4 |
| SLOT1-13 | BUS5 |
| SLOT1-14 | BUS6 |
| SLOT1-15 | BUS7 |
| SLOT1-16 | BUS8 |

### ADAT OUT

|   |      |
|---|------|
| 1 | BUS1 |
| 2 | BUS2 |
| 3 | BUS3 |
| 4 | BUS4 |
| 5 | BUS5 |
| 6 | BUS6 |
| 7 | BUS7 |
| 8 | BUS8 |

### OMNI OUT

|   |      |
|---|------|
| 1 | AUX1 |
| 2 | AUX2 |
| 3 | AUX3 |
| 4 | AUX4 |

### DIRECT OUT

|    |        |
|----|--------|
| 1  | ADAT1  |
| 2  | ADAT2  |
| 3  | ADAT3  |
| 4  | ADAT4  |
| 5  | ADAT5  |
| 6  | ADAT6  |
| 7  | ADAT7  |
| 8  | ADAT8  |
| 9  | SLOT-1 |
| 10 | SLOT-2 |
| 11 | SLOT-3 |
| 12 | SLOT-4 |
| 13 | SLOT-5 |
| 14 | SLOT-6 |
| 15 | SLOT-7 |
| 16 | SLOT-8 |
| 17 | NONE   |
| 18 | NONE   |
| 19 | NONE   |
| 20 | NONE   |

|    |      |
|----|------|
| 21 | NONE |
| 22 | NONE |
| 23 | NONE |
| 24 | NONE |
| 25 | NONE |
| 26 | NONE |
| 27 | NONE |
| 28 | NONE |
| 29 | NONE |
| 30 | NONE |
| 31 | NONE |
| 32 | NONE |

### 2TR OUT Digital

|    |      |
|----|------|
| 1L | ST L |
| 1R | ST R |

### CHANNEL NAME

|        | CHANNEL ID | SHORT | LONG   |
|--------|------------|-------|--------|
| AUX1   | AUX1       | AUX1  | AUX1   |
| AUX2   | AUX2       | AUX2  | AUX2   |
| AUX3   | AUX3       | AUX3  | AUX3   |
| AUX4   | AUX4       | AUX4  | AUX4   |
| AUX5   | AUX5       | AUX5  | AUX5   |
| AUX6   | AUX6       | AUX6  | AUX6   |
| AUX7   | AUX7       | AUX7  | AUX7   |
| AUX8   | AUX8       | AUX8  | AUX8   |
| BUS1   | BUS1       | BUS1  | BUS1   |
| BUS2   | BUS2       | BUS2  | BUS2   |
| BUS3   | BUS3       | BUS3  | BUS3   |
| BUS4   | BUS4       | BUS4  | BUS4   |
| BUS5   | BUS5       | BUS5  | BUS5   |
| BUS6   | BUS6       | BUS6  | BUS6   |
| BUS7   | BUS7       | BUS7  | BUS7   |
| BUS8   | BUS8       | BUS8  | BUS8   |
| STEREO | ST         | ST    | STEREO |

### USB

|    |      |
|----|------|
| 1  | BUS1 |
| 2  | BUS2 |
| 3  | BUS3 |
| 4  | BUS4 |
| 5  | BUS5 |
| 6  | BUS6 |
| 7  | BUS7 |
| 8  | BUS8 |
| 9  | BUS1 |
| 10 | BUS2 |
| 11 | BUS3 |
| 12 | BUS4 |
| 13 | BUS5 |
| 14 | BUS6 |
| 15 | BUS7 |
| 16 | BUS8 |

## User Defined Remote Layer Initial Bank Settings

### Bank 1 (GM Vol & Pan)

| ID   | Name  |                 | Controller | Data Format |    |     |     |   |   |   |   |   |    |    |    |    |    |    |    |
|------|-------|-----------------|------------|-------------|----|-----|-----|---|---|---|---|---|----|----|----|----|----|----|----|
|      | Short | Long            |            | 1           | 2  | 3   | 4   | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| RM01 | GM01  | GM-CH01 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B0          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM02 | GM02  | GM-CH02 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B1          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM03 | GM03  | GM-CH03 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B2          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM04 | GM04  | GM-CH04 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B3          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM05 | GM05  | GM-CH05 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B4          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM06 | GM06  | GM-CH06 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B5          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM07 | GM07  | GM-CH07 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B6          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM08 | GM08  | GM-CH08 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B7          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM09 | GM09  | GM-CH09 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B8          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM10 | GM10  | GM-CH10 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | B9          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM11 | GM11  | GM-CH11 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BA          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM12 | GM12  | GM-CH12 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BB          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM13 | GM13  | GM-CH13 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BC          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM14 | GM14  | GM-CH14 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BD          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM15 | GM15  | GM-CH15 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BE          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM16 | GM16  | GM-CH16 VOL&PAN | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | BF          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |

## Bank 2 (GM Vol &amp; Effect 1)

| ID   | Name  |                  | Controller | Data Format |    |     |     |   |   |   |   |   |    |    |    |    |    |    |    |
|------|-------|------------------|------------|-------------|----|-----|-----|---|---|---|---|---|----|----|----|----|----|----|----|
|      | Short | Long             |            | 1           | 2  | 3   | 4   | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| RM01 | GM01  | GM-CH01 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B0          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM02 | GM02  | GM-CH02 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B1          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM03 | GM03  | GM-CH03 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B2          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM04 | GM04  | GM-CH04 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B3          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM05 | GM05  | GM-CH05 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B4          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM06 | GM06  | GM-CH06 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B5          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM07 | GM07  | GM-CH07 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B6          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM08 | GM08  | GM-CH08 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B7          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM09 | GM09  | GM-CH09 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B8          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM10 | GM10  | GM-CH10 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | B9          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM11 | GM11  | GM-CH11 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BA          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM12 | GM12  | GM-CH12 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BB          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM13 | GM13  | GM-CH13 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BC          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM14 | GM14  | GM-CH14 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BD          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM15 | GM15  | GM-CH15 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BE          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM16 | GM16  | GM-CH16 VOL&EFF1 | ON         | END         | –  | –   | –   | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                  | FADER      | BF          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |

**Bank 3 (XG Vol & Pan)**

| ID   | Name  |                 | Controller | Data Format |    |    |    |    |    |    |     |    |     |    |    |    |    |    |    |
|------|-------|-----------------|------------|-------------|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|----|
|      | Short | Long            |            | 1           | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9  | 10  | 11 | 12 | 13 | 14 | 15 | 16 |
| RM01 | XG01  | XG-CH01 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 00 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM02 | XG02  | XG-CH02 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 01 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM03 | XG03  | XG-CH03 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 02 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM04 | XG04  | XG-CH04 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 03 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM05 | XG05  | XG-CH05 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 04 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM06 | XG06  | XG-CH06 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 05 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM07 | XG07  | XG-CH07 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 06 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM08 | XG08  | XG-CH08 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 07 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM09 | XG09  | XG-CH09 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 08 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM10 | XG10  | XG-CH10 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 09 | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM11 | XG11  | XG-CH11 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0A | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM12 | XG12  | XG-CH12 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0B | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM13 | XG13  | XG-CH13 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0C | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM14 | XG14  | XG-CH14 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0D | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM15 | XG15  | XG-CH15 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0E | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |
| RM16 | XG16  | XG-CH16 VOL&PAN | ON         | END         | –  | –  | –  | –  | –  | –  | –   | –  | –   | –  | –  | –  | –  | –  | –  |
|      |       |                 | FADER      | F0          | 43 | 10 | 4C | 08 | 0F | 0B | FAD | F7 | END | –  | –  | –  | –  | –  | –  |

## Bank 4 (Nuendo VST Mixer)

| ID   | Name  |                | Controller | Data Format |    |     |     |   |   |   |   |   |    |    |    |    |    |    |    |
|------|-------|----------------|------------|-------------|----|-----|-----|---|---|---|---|---|----|----|----|----|----|----|----|
|      | Short | Long           |            | 1           | 2  | 3   | 4   | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| RM01 | CH1   | VST MIXER CH1  | ON         | B0          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B0          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM02 | CH2   | VST MIXER CH2  | ON         | B1          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B1          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM03 | CH3   | VST MIXER CH3  | ON         | B2          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B2          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM04 | CH4   | VST MIXER CH4  | ON         | B3          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B3          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM05 | CH5   | VST MIXER CH5  | ON         | B4          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B4          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM06 | CH6   | VST MIXER CH6  | ON         | B5          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B5          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM07 | CH7   | VST MIXER CH7  | ON         | B6          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B6          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM08 | CH8   | VST MIXER CH8  | ON         | B7          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B7          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM09 | CH9   | VST MIXER CH9  | ON         | B8          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B8          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM10 | CH10  | VST MIXER CH10 | ON         | B9          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | B9          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM11 | CH11  | VST MIXER CH11 | ON         | BA          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BA          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM12 | CH12  | VST MIXER CH12 | ON         | BB          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BB          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM13 | CH13  | VST MIXER CH13 | ON         | BC          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BC          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM14 | CH14  | VST MIXER CH14 | ON         | BD          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BD          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM15 | CH15  | VST MIXER CH15 | ON         | BE          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BE          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
| RM16 | CH16  | VST MIXER CH16 | ON         | BF          | 40 | SW  | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |
|      |       |                | FADER      | BF          | 07 | FAD | END | – | – | – | – | – | –  | –  | –  | –  | –  | –  | –  |

## Effects Parameters

### REVERB HALL, REVERB ROOM, REVERB STAGE, REVERB PLATE

One input, two output hall, room, stage, and plate reverb simulations, all with gates.

| Parameter | Range                  | Description                                                                             |
|-----------|------------------------|-----------------------------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s             | Reverb time                                                                             |
| INI. DLY  | 0.0–500.0 ms           | Initial delay before reverb begins                                                      |
| HI. RATIO | 0.1–1.0                | High-frequency reverb time ratio                                                        |
| LO. RATIO | 0.1–2.4                | Low-frequency reverb time ratio                                                         |
| DIFF.     | 0–10                   | Reverb diffusion (left–right reverb spread)                                             |
| DENSITY   | 0–100%                 | Reverb density                                                                          |
| E/R DLY   | 0.0–100.0 ms           | Delay between early reflections and reverb                                              |
| E/R BAL.  | 0–100%                 | Balance of early reflections and reverb (0% = all reverb, 100% = all early reflections) |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                       |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                        |
| GATE LVL  | OFF, –60 to 0 dB       | Level at which gate kicks in                                                            |
| ATTACK    | 0–120 ms               | Gate opening speed                                                                      |
| HOLD      | 1                      | Gate open time                                                                          |
| DECAY     | 2                      | Gate closing speed                                                                      |

- 0.02 ms–2.13 s (fs=44.1 kHz), 0.02 ms–1.96 s (fs=48 kHz), 0.01 ms–1.06 s (fs=88.2 kHz), 0.01 ms–981 ms (fs=96 kHz)
- 6 ms–46.0 s (fs=44.1 kHz), 5 ms–42.3 s (fs=48 kHz), 3 ms–23.0 s (fs=88.2 kHz), 3 ms–21.1 s (fs=96 kHz)

### EARLY REF.

One input, two output early reflections.

| Parameter | Range                                         | Description                                                   |
|-----------|-----------------------------------------------|---------------------------------------------------------------|
| TYPE      | S-Hall, L-Hall, Random, Revers, Plate, Spring | Type of early reflection simulation                           |
| ROOMSIZE  | 0.1–20.0                                      | Reflection spacing                                            |
| LIVENESS  | 0–10                                          | Early reflections decay characteristics (0 = dead, 10 = live) |
| INI. DLY  | 0.0–500.0 ms                                  | Initial delay before reverb begins                            |
| DIFF.     | 0–10                                          | Reflection diffusion (left–right reflection spread)           |
| DENSITY   | 0–100%                                        | Reflection density                                            |
| ER NUM.   | 1–19                                          | Number of early reflections                                   |
| FB.GAIN   | –99 to +99%                                   | Feedback gain                                                 |
| HI. RATIO | 0.1–1.0                                       | High-frequency feedback ratio                                 |
| HPF       | THRU, 21.2 Hz–8.00 kHz                        | High-pass filter cutoff frequency                             |
| LPF       | 50.0 Hz–16.0 kHz, THRU                        | Low-pass filter cutoff frequency                              |

### GATE REVERB, REVERSE GATE

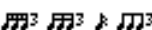
One input, two output early reflections with gate, and early reflections with reverse gate.

| Parameter | Range                  | Description                                                   |
|-----------|------------------------|---------------------------------------------------------------|
| TYPE      | Type-A, Type-B         | Type of early reflection simulation                           |
| ROOMSIZE  | 0.1–20.0               | Reflection spacing                                            |
| LIVENESS  | 0–10                   | Early reflections decay characteristics (0 = dead, 10 = live) |
| INI. DLY  | 0.0–500.0 ms           | Initial delay before reverb begins                            |
| DIFF.     | 0–10                   | Reflection diffusion (left–right reflection spread)           |
| DENSITY   | 0–100%                 | Reflection density                                            |
| HI. RATIO | 0.1–1.0                | High-frequency feedback ratio                                 |
| ER NUM.   | 1–19                   | Number of early reflections                                   |
| FB.GAIN   | –99 to +99%            | Feedback gain                                                 |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                             |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                              |

### MONO DELAY

One input, two output basic repeat delay.

| Parameter | Range                  | Description                                                                                    |
|-----------|------------------------|------------------------------------------------------------------------------------------------|
| DELAY     | 0.0–2730.0 ms          | Delay time                                                                                     |
| FB. GAIN  | –99 to +99%            | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                | High-frequency feedback ratio                                                                  |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                               |
| SYNC      | OFF, ON                | Tempo parameter sync on/off                                                                    |
| NOTE      | 1                      | Used in conjunction with TEMPO to determine DELAY                                              |

-  (Max. value depends on tempo setting)

**STEREO DELAY**

Two input, two output basic stereo delay.

| Parameter | Range                     | Description                                                                                             |
|-----------|---------------------------|---------------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1350.0 ms             | Left channel delay time                                                                                 |
| DELAY R   | 0.0–1350.0 ms             | Right channel delay time                                                                                |
| FB. G L   | –99 to +99%               | Left channel feedback (plus values for normal-phase feedback, minus values for reverse-phase feedback)  |
| FB. G R   | –99 to +99%               | Right channel feedback (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                   | High-frequency feedback ratio                                                                           |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                                       |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                                                        |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                                             |
| NOTE L    | 1                         | Used in conjunction with TEMPO to determine left channel DELAY                                          |
| NOTE R    | 1                         | Used in conjunction with TEMPO to determine right channel DELAY                                         |

1.  (Maximum value depends on the tempo setting)

**MOD. DELAY**

One input, two output basic repeat delay with modulation.

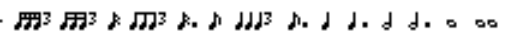
| Parameter | Range                     | Description                                                                                    |
|-----------|---------------------------|------------------------------------------------------------------------------------------------|
| DELAY     | 0.0–2725.0 ms             | Delay time                                                                                     |
| FB. GAIN  | –99 to +99%               | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                   | High-frequency feedback ratio                                                                  |
| FREQ.     | 0.05–40.00 Hz             | Modulation speed                                                                               |
| DEPTH     | 0–100%                    | Modulation depth                                                                               |
| WAVE      | Sine, Tri                 | Modulation waveform                                                                            |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                                               |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                                    |
| DLY.NOTE  | 1                         | Used in conjunction with TEMPO to determine DELAY                                              |
| MOD.NOTE  | 2                         | Used in conjunction with TEMPO to determine FREQ.                                              |

1.  (Maximum value depends on the tempo setting)
2. 

**DELAY LCR**

One input, two output 3-tap delay (left, center, right).

| Parameter | Range                     | Description                                                                                    |
|-----------|---------------------------|------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–2730.0 ms             | Left channel delay time                                                                        |
| DELAY C   | 0.0–2730.0 ms             | Center channel delay time                                                                      |
| DELAY R   | 0.0–2730.0 ms             | Right channel delay time                                                                       |
| FB. DLY   | 0.0–2730.0 ms             | Feedback delay time                                                                            |
| LEVEL L   | –100 to +100%             | Left channel delay level                                                                       |
| LEVEL C   | –100 to +100%             | Center channel delay level                                                                     |
| LEVEL R   | –100 to +100%             | Right channel delay level                                                                      |
| FB. GAIN  | –99 to +99%               | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                   | High-frequency feedback ratio                                                                  |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                                               |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                                    |
| NOTE L    | 1                         | Used in conjunction with TEMPO to determine DELAY L                                            |
| NOTE C    | 1                         | Used in conjunction with TEMPO to determine DELAY C                                            |
| NOTE R    | 1                         | Used in conjunction with TEMPO to determine DELAY R                                            |
| NOTE FB   | 1                         | Used in conjunction with TEMPO to determine FB. DLY                                            |

1.  (Maximum value depends on the tempo setting)

## ECHO

Two input, two output stereo delay with crossed feedback loop.

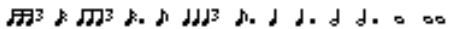
| Parameter | Range                  | Description                                                                                                          |
|-----------|------------------------|----------------------------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1350.0 ms          | Left channel delay time                                                                                              |
| DELAY R   | 0.0–1350.0 ms          | Right channel delay time                                                                                             |
| FB.DLY L  | 0.0–1350.0 ms          | Left channel feedback delay time                                                                                     |
| FB.DLY R  | 0.0–1350.0 ms          | Right channel feedback delay time                                                                                    |
| FB. G L   | –99 to +99%            | Left channel feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback)          |
| FB. G R   | –99 to +99%            | Right channel feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback)         |
| L->R FBG  | –99 to +99%            | Left to right channel feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| R->L FBG  | –99 to +99%            | Right to left channel feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                | High-frequency feedback ratio                                                                                        |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                                                    |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                                                     |
| SYNC      | OFF, ON                | Tempo parameter sync on/off                                                                                          |
| NOTE L    | 1                      | Used in conjunction with TEMPO to determine DELAY L                                                                  |
| NOTE R    | 1                      | Used in conjunction with TEMPO to determine DELAY R                                                                  |
| NOTE FBL  | 1                      | Used in conjunction with TEMPO to determine FB.DLY L                                                                 |
| NOTE FBR  | 1                      | Used in conjunction with TEMPO to determine FB.DLY R                                                                 |

1.  (Maximum value depends on the tempo setting)

## CHORUS

Two input, two output chorus effect.

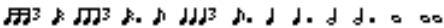
| Parameter | Range             | Description                                       |
|-----------|-------------------|---------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz     | Modulation speed                                  |
| AM DEPTH  | 0–100%            | Amplitude modulation depth                        |
| PM DEPTH  | 0–100%            | Pitch modulation depth                            |
| MOD. DLY  | 0.0–500.0 ms      | Modulation delay time                             |
| WAVE      | Sine, Tri         | Modulation waveform                               |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                     |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                          |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                       |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                            |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                       |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                    |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                         |
| SYNC      | OFF, ON           | Tempo parameter sync on/off                       |
| NOTE      | 1                 | Used in conjunction with TEMPO to determine FREQ. |

1. 

## FLANGE

Two input, two output flange effect.

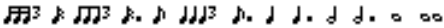
| Parameter | Range             | Description                                                                                    |
|-----------|-------------------|------------------------------------------------------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz     | Modulation speed                                                                               |
| DEPTH     | 0–100%            | Modulation depth                                                                               |
| MOD. DLY  | 0.0–500.0 ms      | Modulation delay time                                                                          |
| FB. GAIN  | –99 to +99%       | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| WAVE      | Sine, Tri         | Modulation waveform                                                                            |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                                                                  |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                                                                       |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                                                                    |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                                                                         |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                                                                    |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                                                                 |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                                                                      |
| SYNC      | OFF, ON           | Tempo parameter sync on/off                                                                    |
| NOTE      | 1                 | Used in conjunction with TEMPO to determine FREQ.                                              |

1. 

## SYMPHONIC

Two input, two output symphonic effect.

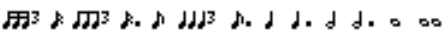
| Parameter | Range             | Description                                       |
|-----------|-------------------|---------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz     | Modulation speed                                  |
| DEPTH     | 0–100%            | Modulation depth                                  |
| MOD. DLY  | 0.0–500.0 ms      | Modulation delay time                             |
| WAVE      | Sine, Tri         | Modulation waveform                               |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                     |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                          |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                       |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                            |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                       |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                    |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                         |
| SYNC      | OFF, ON           | Tempo parameter sync on/off                       |
| NOTE      | 1                 | Used in conjunction with TEMPO to determine FREQ. |

1. 

## PHASER

Two input, two output 16-stage phaser.

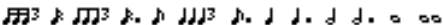
| Parameter | Range                      | Description                                                                                    |
|-----------|----------------------------|------------------------------------------------------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz              | Modulation speed                                                                               |
| DEPTH     | 0–100%                     | Modulation depth                                                                               |
| FB. GAIN  | –99 to +99%                | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| OFFSET    | 0–100                      | Lowest phase-shifted frequency offset                                                          |
| PHASE     | 0.00–354.38 degrees        | Left and right modulation phase balance                                                        |
| STAGE     | 2, 4, 6, 8, 10, 12, 14, 16 | Number of phase shift stages                                                                   |
| LSH F     | 21.2 Hz–8.00 kHz           | Low shelving filter frequency                                                                  |
| LSH G     | –12.0 to +12.0 dB          | Low shelving filter gain                                                                       |
| HSF F     | 50.0 Hz–16.0 kHz           | High shelving filter frequency                                                                 |
| HSF G     | –12.0 to +12.0 dB          | High shelving filter gain                                                                      |
| SYNC      | OFF, ON                    | Tempo parameter sync on/off                                                                    |
| NOTE      | 1                          | Used in conjunction with TEMPO to determine FREQ.                                              |

1. 

## AUTO PAN

Two input, two output autopanner.

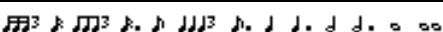
| Parameter | Range             | Description                                       |
|-----------|-------------------|---------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz     | Modulation speed                                  |
| DEPTH     | 0–100%            | Modulation depth                                  |
| DIR.      | 1                 | Panning direction                                 |
| WAVE      | Sine, Tri, Square | Modulation waveform                               |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                     |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                          |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                       |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                            |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                       |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                    |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                         |
| SYNC      | OFF, ON           | Tempo parameter sync on/off                       |
| NOTE      | 2                 | Used in conjunction with TEMPO to determine FREQ. |

1. L<>R, L→R, L←R, Turn L, Turn R  
 2. 

## TREMOLO

Two input, two output tremolo effect.

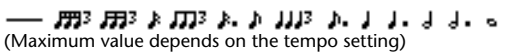
| Parameter | Range             | Description                                       |
|-----------|-------------------|---------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz     | Modulation speed                                  |
| DEPTH     | 0–100%            | Modulation depth                                  |
| WAVE      | Sine, Tri, Square | Modulation waveform                               |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                     |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                          |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                       |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                            |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                       |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                    |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                         |
| SYNC      | OFF, ON           | Tempo parameter sync on/off                       |
| NOTE      | 1                 | Used in conjunction with TEMPO to determine FREQ. |

1. 

## HQ. PITCH

One input, two output high-quality pitch shifter (Available for internal effects 1 and 2.).

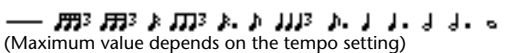
| Parameter | Range                 | Description                                                                                    |
|-----------|-----------------------|------------------------------------------------------------------------------------------------|
| PITCH     | –12 to +12 semi-tones | Pitch shift                                                                                    |
| FINE      | –50 to +50 cents      | Pitch shift fine                                                                               |
| DELAY     | 0.0–1000.0 ms         | Delay time                                                                                     |
| FB. GAIN  | –99 to +99%           | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| MODE      | 1–10                  | Pitch shift precision                                                                          |
| SYNC      | OFF, ON               | Tempo parameter sync on/off                                                                    |
| NOTE      | 1                     | Used in conjunction with TEMPO to determine DELAY                                              |

1.   
 (Maximum value depends on the tempo setting)

## DUAL PITCH

Two input, two output pitch shifter.

| Parameter | Range                 | Description                                                                                               |
|-----------|-----------------------|-----------------------------------------------------------------------------------------------------------|
| PITCH 1   | –24 to +24 semi-tones | Channel #1 pitch shift                                                                                    |
| FINE 1    | –50 to +50 cents      | Channel #1 pitch shift fine                                                                               |
| LEVEL 1   | –100 to +100%         | Channel #1 level (plus values for normal phase, minus values for reverse phase)                           |
| PAN 1     | L63 to R63            | Channel #1 pan                                                                                            |
| DELAY 1   | 0.0–1000.0 ms         | Channel #1 delay time                                                                                     |
| FB. G 1   | –99 to +99%           | Channel #1 feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| PITCH 2   | –24 to +24 semi-tones | Channel #2 pitch shift                                                                                    |
| FINE 2    | –50 to +50 cents      | Channel #2 pitch shift fine                                                                               |
| LEVEL 2   | –100 to +100%         | Channel #2 level (plus values for normal phase, minus values for reverse phase)                           |
| PAN 2     | L63 to R63            | Channel #2 pan                                                                                            |
| DELAY 2   | 0.0–1000.0 ms         | Channel #2 delay time                                                                                     |
| FB. G 2   | –99 to +99%           | Channel #2 feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| MODE      | 1–10                  | Pitch shift precision                                                                                     |
| SYNC      | OFF, ON               | Tempo parameter sync on/off                                                                               |
| NOTE 1    | 1                     | Used in conjunction with TEMPO to determine Channel #1 delay                                              |
| NOTE 2    | 1                     | Used in conjunction with TEMPO to determine Channel #2 delay                                              |

1.   
 (Maximum value depends on the tempo setting)

**ROTARY**

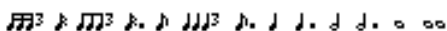
One input, two output rotary speaker simulator.

| Parameter | Range         | Description                                   |
|-----------|---------------|-----------------------------------------------|
| ROTATE    | STOP, START   | Rotation stop, start                          |
| SPEED     | SLOW, FAST    | Rotation speed (see SLOW and FAST parameters) |
| SLOW      | 0.05–10.00 Hz | SLOW rotation speed                           |
| FAST      | 0.05–10.00 Hz | FAST rotation speed                           |
| DRIVE     | 0–100         | Overdrive level                               |
| ACCEL     | 0–10          | Acceleration at speed changes                 |
| LOW       | 0–100         | Low-frequency filter                          |
| HIGH      | 0–100         | High-frequency filter                         |

**RING MOD.**

Two input, two output ring modulator.

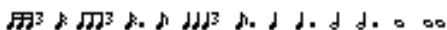
| Parameter | Range         | Description                                          |
|-----------|---------------|------------------------------------------------------|
| SOURCE    | OSC, SELF     | Modulation source: oscillator or input signal        |
| OSC FREQ  | 0.0–5000.0 Hz | Oscillator frequency                                 |
| FM FREQ.  | 0.05–40.00 Hz | Oscillator frequency modulation speed                |
| FM DEPTH  | 0–100%        | Oscillator frequency modulation depth                |
| SYNC      | OFF, ON       | Tempo parameter sync on/off                          |
| NOTE FM   | 1             | Used in conjunction with TEMPO to determine FM FREQ. |

1. 

**MOD. FILTER**

Two input, two output modulation filter.

| Parameter | Range               | Description                                                           |
|-----------|---------------------|-----------------------------------------------------------------------|
| FREQ.     | 0.05–40.00 Hz       | Modulation speed                                                      |
| DEPTH     | 0–100%              | Modulation depth                                                      |
| PHASE     | 0.00–354.38 degrees | Left-channel modulation and right-channel modulation phase difference |
| TYPE      | LPF, HPF, BPF       | Filter type: low pass, high pass, band pass                           |
| OFFSET    | 0–100               | Filter frequency offset                                               |
| RESO.     | 0–20                | Filter resonance                                                      |
| LEVEL     | 0–100               | Output level                                                          |
| SYNC      | OFF, ON             | Tempo parameter sync on/off                                           |
| NOTE      | 1                   | Used in conjunction with TEMPO to determine FREQ.                     |

1. 

**DISTORTION**

One input, two output distortion effect.

| Parameter | Range                          | Description                                         |
|-----------|--------------------------------|-----------------------------------------------------|
| DST TYPE  | DST1, DST2, OVD1, OVD2, CRUNCH | Distortion type (DST = distortion, OVD = overdrive) |
| DRIVE     | 0–100                          | Distortion drive                                    |
| MASTER    | 0–100                          | Master volume                                       |
| TONE      | –10 to +10                     | Tone                                                |
| N. GATE   | 0–20                           | Noise reduction                                     |

**AMP SIMULATE**

One input, two output guitar amp simulator.

| Parameter | Range                          | Description                                         |
|-----------|--------------------------------|-----------------------------------------------------|
| AMP TYPE  | 1                              | Guitar amp simulation type                          |
| DST TYPE  | DST1, DST2, OVD1, OVD2, CRUNCH | Distortion type (DST = distortion, OVD = overdrive) |
| DRIVE     | 0–100                          | Distortion drive                                    |
| MASTER    | 0–100                          | Master volume                                       |
| BASS      | 0–100                          | Bass tone control                                   |
| MIDDLE    | 0–100                          | Middle tone control                                 |
| TREBLE    | 0–100                          | High tone control                                   |
| CAB DEP   | 0–100%                         | Speaker cabinet simulation depth                    |
| EQ F      | 100–8.00 kHz                   | Parametric equalizer frequency                      |
| EQ G      | –12.0 to +12.0 dB              | Parametric equalizer gain                           |
| EQ Q      | 10.0–0.10                      | Parametric equalizer bandwidth                      |
| N. GATE   | 0–20                           | Noise reduction                                     |

1. STK-M1, STK-M2, THRASH, MIDBST, CMB-PG, CMB-VR, CMB-DX, CMB-TW, MINI, FLAT

**DYNA. FILTER**

Two input, two output dynamically controlled filter.

| Parameter | Range         | Description                                           |
|-----------|---------------|-------------------------------------------------------|
| SOURCE    | INPUT, MIDI   | Control source: input signal or MIDI Note On velocity |
| SENSE     | 0–100         | Sensitivity                                           |
| DIR.      | UP, DOWN      | Upward or downward frequency change                   |
| DECAY     | 1             | Filter frequency change decay speed                   |
| TYPE      | LPF, HPF, BPF | Filter type                                           |
| OFFSET    | 0–100         | Filter frequency offset                               |
| RESO.     | 0–20          | Filter resonance                                      |
| LEVEL     | 0–100         | Output Level                                          |

1. 6 ms–46.0 s (fs=44.1 kHz), 5 ms–42.3 s (fs=48 kHz), 3 ms–23.0 s (fs=88.2 kHz), 3 ms–21.1 s (fs=96 kHz)

**DYNA. FLANGE**

Two input, two output dynamically controlled flanger.

| Parameter | Range             | Description                                                                                    |
|-----------|-------------------|------------------------------------------------------------------------------------------------|
| SOURCE    | INPUT, MIDI       | Control source: input signal or MIDI Note On velocity                                          |
| SENSE     | 0–100             | Sensitivity                                                                                    |
| DIR.      | UP, DOWN          | Upward or downward frequency change                                                            |
| DECAY     | 1                 | Decay speed                                                                                    |
| OFFSET    | 0–100             | Delay time offset                                                                              |
| FB.GAIN   | –99 to +99%       | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| LSH F     | 21.2 Hz–8.00 kHz  | Low shelving filter frequency                                                                  |
| LSH G     | –12.0 to +12.0 dB | Low shelving filter gain                                                                       |
| EQ F      | 100 Hz–8.00 kHz   | EQ (peaking type) frequency                                                                    |
| EQ G      | –12.0 to +12.0 dB | EQ (peaking type) gain                                                                         |
| EQ Q      | 10.0–0.10         | EQ (peaking type) bandwidth                                                                    |
| HSF F     | 50.0 Hz–16.0 kHz  | High shelving filter frequency                                                                 |
| HSF G     | –12.0 to +12.0 dB | High shelving filter gain                                                                      |

1. 6 ms–46.0 s (fs=44.1 kHz), 5 ms–42.3 s (fs=48 kHz), 3 ms–23.0 s (fs=88.2 kHz), 3 ms–21.1 s (fs=96 kHz)

**DYNA. PHASER**

Two input, two output dynamically controlled phaser.

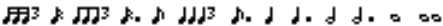
| Parameter      | Range                      | Description                                                                                    |
|----------------|----------------------------|------------------------------------------------------------------------------------------------|
| <b>SOURCE</b>  | INPUT, MIDI                | Control source: input signal or MIDI Note On velocity                                          |
| <b>SENSE</b>   | 0–100                      | Sensitivity                                                                                    |
| <b>DIR.</b>    | UP, DOWN                   | Upward or downward frequency change                                                            |
| <b>DECAY</b>   | <sup>1</sup>               | Decay speed                                                                                    |
| <b>OFFSET</b>  | 0–100                      | Lowest phase-shifted frequency offset                                                          |
| <b>FB.GAIN</b> | –99 to +99%                | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| <b>STAGE</b>   | 2, 4, 6, 8, 10, 12, 14, 16 | Number of phase shift stages                                                                   |
| <b>LSH F</b>   | 21.2 Hz–8.00 kHz           | Low shelving filter frequency                                                                  |
| <b>LSH G</b>   | –12.0 to +12.0 dB          | Low shelving filter gain                                                                       |
| <b>HSF F</b>   | 50.0 Hz–16.0 kHz           | High shelving filter frequency                                                                 |
| <b>HSF G</b>   | –12.0 to +12.0 dB          | High shelving filter gain                                                                      |

1. 6 ms–46.0 s (fs=44.1 kHz), 5 ms–42.3 s (fs=48 kHz), 3 ms–23.0 s (fs=88.2 kHz), 3 ms–21.1 s (fs=96 kHz)

**REV+CHORUS**

One input, two output reverb and chorus effects in parallel.

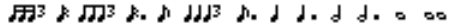
| Parameter        | Range                  | Description                                                    |
|------------------|------------------------|----------------------------------------------------------------|
| <b>REV TIME</b>  | 0.3–99.0 s             | Reverb time                                                    |
| <b>INI. DLY</b>  | 0.0–500.0 ms           | Initial delay before reverb begins                             |
| <b>HI. RATIO</b> | 0.1–1.0                | High-frequency reverb time ratio                               |
| <b>DIFF.</b>     | 0–10                   | Spread                                                         |
| <b>DENSITY</b>   | 0–100%                 | Reverb density                                                 |
| <b>HPF</b>       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                              |
| <b>LPF</b>       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                               |
| <b>REV/CHO</b>   | 0–100%                 | Reverb and chorus balance (0% = all reverb, 100% = all chorus) |
| <b>FREQ.</b>     | 0.05–40.00 Hz          | Modulation speed                                               |
| <b>AM DEPTH</b>  | 0–100%                 | Amplitude modulation depth                                     |
| <b>PM DEPTH</b>  | 0–100%                 | Pitch modulation depth                                         |
| <b>MOD. DLY</b>  | 0.0–500.0 ms           | Modulation delay time                                          |
| <b>WAVE</b>      | Sine, Tri              | Modulation waveform                                            |
| <b>SYNC</b>      | OFF, ON                | Tempo parameter sync on/off                                    |
| <b>NOTE</b>      | <sup>1</sup>           | Used in conjunction with TEMPO to determine FREQ.              |

1. 

**REV->CHORUS**

One input, two output reverb and chorus effects in series.

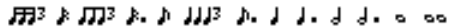
| Parameter        | Range                  | Description                                                                      |
|------------------|------------------------|----------------------------------------------------------------------------------|
| <b>REV TIME</b>  | 0.3–99.0 s             | Reverb time                                                                      |
| <b>INI. DLY</b>  | 0.0–500.0 ms           | Initial delay before reverb begins                                               |
| <b>HI. RATIO</b> | 0.1–1.0                | High-frequency reverb time ratio                                                 |
| <b>DIFF.</b>     | 0–10                   | Spread                                                                           |
| <b>DENSITY</b>   | 0–100%                 | Reverb density                                                                   |
| <b>HPF</b>       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                |
| <b>LPF</b>       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                 |
| <b>REV.BAL</b>   | 0–100%                 | Reverb and chorused reverb balance (0% = all chorused reverb, 100% = all reverb) |
| <b>FREQ.</b>     | 0.05–40.00 Hz          | Modulation speed                                                                 |
| <b>AM DEPTH</b>  | 0–100%                 | Amplitude modulation depth                                                       |
| <b>PM DEPTH</b>  | 0–100%                 | Pitch modulation depth                                                           |
| <b>MOD. DLY</b>  | 0.0–500.0 ms           | Modulation delay time                                                            |
| <b>WAVE</b>      | Sine, Tri              | Modulation waveform                                                              |
| <b>SYNC</b>      | OFF, ON                | Tempo parameter sync on/off                                                      |
| <b>NOTE</b>      | <sup>1</sup>           | Used in conjunction with TEMPO to determine FREQ.                                |

1. 

**REV+FLANGE**

One input, two output reverb and flanger effects in parallel.

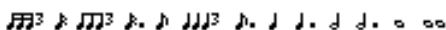
| Parameter        | Range                  | Description                                                                                    |
|------------------|------------------------|------------------------------------------------------------------------------------------------|
| <b>REV TIME</b>  | 0.3–99.0 s             | Reverb time                                                                                    |
| <b>INI. DLY</b>  | 0.0–500.0 ms           | Initial delay before reverb begins                                                             |
| <b>HI. RATIO</b> | 0.1–1.0                | High-frequency reverb time ratio                                                               |
| <b>DIFF.</b>     | 0–10                   | Spread                                                                                         |
| <b>DENSITY</b>   | 0–100%                 | Reverb density                                                                                 |
| <b>HPF</b>       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| <b>LPF</b>       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                               |
| <b>REV/FLG</b>   | 0–100%                 | Reverb and flange balance (0% = all reverb, 100% = all flange)                                 |
| <b>FREQ.</b>     | 0.05–40.00 Hz          | Modulation speed                                                                               |
| <b>DEPTH</b>     | 0–100%                 | Modulation depth                                                                               |
| <b>MOD. DLY</b>  | 0.0–500.0 ms           | Modulation delay time                                                                          |
| <b>FB. GAIN</b>  | –99 to +99%            | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| <b>WAVE</b>      | Sine, Tri              | Modulation waveform                                                                            |
| <b>SYNC</b>      | OFF, ON                | Tempo parameter sync on/off                                                                    |
| <b>NOTE</b>      | <sup>1</sup>           | Used in conjunction with TEMPO to determine FREQ.                                              |

1. 

**REV->FLANGE**

One input, two output reverb and flanger effects in series.

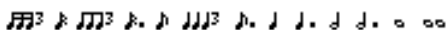
| Parameter | Range                     | Description                                                                                    |
|-----------|---------------------------|------------------------------------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s                | Reverb time                                                                                    |
| INI. DLY  | 0.0–500.0 ms              | Initial delay before reverb begins                                                             |
| HI. RATIO | 0.1–1.0                   | High-frequency reverb time ratio                                                               |
| DIFF.     | 0–10                      | Spread                                                                                         |
| DENSITY   | 0–100%                    | Reverb density                                                                                 |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                                               |
| REV.BAL   | 0–100%                    | Reverb and flanged reverb balance (0% = all flanged reverb, 100% = all reverb)                 |
| FREQ.     | 0.05–40.00 Hz             | Modulation speed                                                                               |
| DEPTH     | 0–100%                    | Modulation depth                                                                               |
| MOD. DLY  | 0.0–500.0 ms              | Modulation delay time                                                                          |
| FB. GAIN  | –99 to +99%               | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| WAVE      | Sine, Tri                 | Modulation waveform                                                                            |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                                    |
| NOTE      | 1                         | Used in conjunction with TEMPO to determine FREQ.                                              |

1. 

**REV+SYMPHO.**

One input, two output reverb and symphonic effects in parallel.

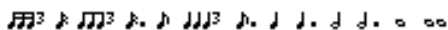
| Parameter | Range                     | Description                                                          |
|-----------|---------------------------|----------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s                | Reverb time                                                          |
| INI. DLY  | 0.0–500.0 ms              | Initial delay before reverb begins                                   |
| HI. RATIO | 0.1–1.0                   | High-frequency reverb time ratio                                     |
| DIFF.     | 0–10                      | Spread                                                               |
| DENSITY   | 0–100%                    | Reverb density                                                       |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                    |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                     |
| REV/SYM   | 0–100%                    | Reverb and symphonic balance (0% = all reverb, 100% = all symphonic) |
| FREQ.     | 0.05–40.00 Hz             | Modulation speed                                                     |
| DEPTH     | 0–100%                    | Modulation depth                                                     |
| MOD. DLY  | 0.0–500.0 ms              | Modulation delay time                                                |
| WAVE      | Sine, Tri                 | Modulation waveform                                                  |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                          |
| NOTE      | 1                         | Used in conjunction with TEMPO to determine FREQ.                    |

1. 

**REV->SYMPHO.**

One input, two output reverb and symphonic effects in series.

| Parameter | Range                     | Description                                                                        |
|-----------|---------------------------|------------------------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s                | Reverb time                                                                        |
| INI. DLY  | 0.0–500.0 ms              | Initial delay before reverb begins                                                 |
| HI. RATIO | 0.1–1.0                   | High-frequency reverb time ratio                                                   |
| DIFF.     | 0–10                      | Spread                                                                             |
| DENSITY   | 0–100%                    | Reverb density                                                                     |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                  |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                                   |
| REV.BAL   | 0–100%                    | Reverb and symphonic reverb balance (0% = all symphonic reverb, 100% = all reverb) |
| FREQ.     | 0.05–40.00 Hz             | Modulation speed                                                                   |
| DEPTH     | 0–100%                    | Modulation depth                                                                   |
| MOD. DLY  | 0.0–500.0 ms              | Modulation delay time                                                              |
| WAVE      | Sine, Tri                 | Modulation waveform                                                                |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                        |
| NOTE      | 1                         | Used in conjunction with TEMPO to determine FREQ.                                  |

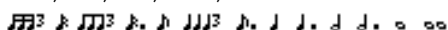
1. 

**REV->PAN**

One input, two output reverb and autopan effects in parallel.

| Parameter | Range                     | Description                                                                  |
|-----------|---------------------------|------------------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s                | Reverb time                                                                  |
| INI. DLY  | 0.0–500.0 ms              | Initial delay before reverb begins                                           |
| HI. RATIO | 0.1–1.0                   | High-frequency reverb time ratio                                             |
| DIFF.     | 0–10                      | Spread                                                                       |
| DENSITY   | 0–100%                    | Reverb density                                                               |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                            |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU | Low-pass filter cutoff frequency                                             |
| REV.BAL   | 0–100%                    | Reverb and panned reverb balance (0% = all panned reverb, 100% = all reverb) |
| FREQ.     | 0.05–40.00 Hz             | Modulation speed                                                             |
| DEPTH     | 0–100%                    | Modulation depth                                                             |
| DIR.      | 1                         | Panning direction                                                            |
| WAVE      | Sine, Tri, Square         | Modulation waveform                                                          |
| SYNC      | OFF, ON                   | Tempo parameter sync on/off                                                  |
| NOTE      | 2                         | Used in conjunction with TEMPO to determine FREQ.                            |

1. L<->R, L->R, L<-R, Turn L, Turn R

2. 

**DELAY+ER.**

One input, two output delay and early reflections effects in parallel.

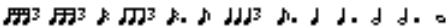
| Parameter | Range                                         | Description                                                                                    |
|-----------|-----------------------------------------------|------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1000.0 ms                                 | Left channel delay time                                                                        |
| DELAY R   | 0.0–1000.0 ms                                 | Right channel delay time                                                                       |
| FB. DLY   | 0.0–1000.0 ms                                 | Feedback delay time                                                                            |
| FB. GAIN  | –99 to +99%                                   | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                                       | High-frequency feedback ratio                                                                  |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz                     | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU                     | Low-pass filter cutoff frequency                                                               |
| DLY/ER    | 0–100%                                        | Delay and early reflections balance (0% = all delay, 100% = all early reflections)             |
| TYPE      | S-Hall, L-Hall, Random, Revers, Plate, Spring | Type of early reflection simulation                                                            |
| ROOMSIZE  | 0.1–20.0                                      | Reflection spacing                                                                             |
| LIVENESS  | 0–10                                          | Early reflections decay characteristics (0 = dead, 10 = live)                                  |
| INI. DLY  | 0.0–500.0 ms                                  | Initial delay before reverb begins                                                             |
| DIFF.     | 0–10                                          | Spread                                                                                         |
| DENSITY   | 0–100%                                        | Reverb density                                                                                 |
| ER NUM.   | 1–19                                          | Number of early reflections                                                                    |
| SYNC      | OFF, ON                                       | Tempo parameter sync on/off                                                                    |
| NOTE L    | 1                                             | Used in conjunction with TEMPO to determine left channel DELAY L                               |
| NOTE R    | 1                                             | Used in conjunction with TEMPO to determine right channel DELAY R                              |
| NOTE FB   | 1                                             | Used in conjunction with TEMPO to determine FB. DLY                                            |

1.  (Maximum value depends on the tempo setting)

**DELAY->ER.**

One input, two output delay and early reflections effects in series.

| Parameter | Range                                         | Description                                                                                    |
|-----------|-----------------------------------------------|------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1000.0 ms                                 | Left channel delay time                                                                        |
| DELAY R   | 0.0–1000.0 ms                                 | Right channel delay time                                                                       |
| FB. DLY   | 0.0–1000.0 ms                                 | Feedback delay time                                                                            |
| FB. GAIN  | –99 to +99%                                   | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                                       | High-frequency feedback ratio                                                                  |
| HPF       | THRU,<br>21.2 Hz–8.00 kHz                     | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz,<br>THRU                     | Low-pass filter cutoff frequency                                                               |
| DLY.BAL   | 0–100%                                        | Delay and early reflected delay balance (0% = all early reflected delay, 100% = all delay)     |
| TYPE      | S-Hall, L-Hall, Random, Revers, Plate, Spring | Type of early reflection simulation                                                            |
| ROOMSIZE  | 0.1–20.0                                      | Reflection spacing                                                                             |
| LIVENESS  | 0–10                                          | Early reflections decay characteristics (0 = dead, 10 = live)                                  |
| INI. DLY  | 0.0–500.0 ms                                  | Initial delay before reverb begins                                                             |
| DIFF.     | 0–10                                          | Spread                                                                                         |
| DENSITY   | 0–100%                                        | Reverb density                                                                                 |
| ER NUM.   | 1–19                                          | Number of early reflections                                                                    |
| SYNC      | OFF, ON                                       | Tempo parameter sync on/off                                                                    |
| NOTE L    | 1                                             | Used in conjunction with TEMPO to determine left channel DELAY L                               |
| NOTE R    | 1                                             | Used in conjunction with TEMPO to determine right channel DELAY R                              |
| NOTE FB   | 1                                             | Used in conjunction with TEMPO to determine FB. DLY                                            |

1.  (Maximum value depends on the tempo setting)

**DELAY+REV**

One input, two output delay and reverb effects in parallel.

| Parameter | Range                  | Description                                                                                    |
|-----------|------------------------|------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1000.0 ms          | Left channel delay time                                                                        |
| DELAY R   | 0.0–1000.0 ms          | Right channel delay time                                                                       |
| FB. DLY   | 0.0–1000.0 ms          | Feedback delay time                                                                            |
| FB. GAIN  | –99 to +99%            | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| DELAY HI  | 0.1–1.0                | Delay high-frequency feedback ratio                                                            |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                               |
| DLY.BAL   | 0–100%                 | Delay and reverb balance (0% = all delay, 100% = all reverb)                                   |
| REV TIME  | 0.3–99.0 s             | Reverb time                                                                                    |
| INI. DLY  | 0.0–500.0 ms           | Initial delay before reverb begins                                                             |
| REV HI    | 0.1–1.0                | High-frequency reverb time ratio                                                               |
| DIFF.     | 0–10                   | Spread                                                                                         |
| DENSITY   | 0–100%                 | Reverb density                                                                                 |
| SYNC      | OFF, ON                | Tempo parameter sync on/off                                                                    |
| NOTE L    | 1                      | Used in conjunction with TEMPO to determine left channel DELAY L                               |
| NOTE R    | 1                      | Used in conjunction with TEMPO to determine right channel DELAY R                              |
| NOTE FB   | 1                      | Used in conjunction with TEMPO to determine FB. DLY                                            |

1.  (Maximum value depends on the tempo setting)

**DELAY->REV**

One input, two output delay and reverb effects in series.

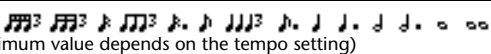
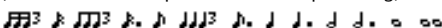
| Parameter | Range                  | Description                                                                                    |
|-----------|------------------------|------------------------------------------------------------------------------------------------|
| DELAY L   | 0.0–1000.0 ms          | Left channel delay time                                                                        |
| DELAY R   | 0.0–1000.0 ms          | Right channel delay time                                                                       |
| FB. DLY   | 0.0–1000.0 ms          | Feedback delay time                                                                            |
| FB. GAIN  | –99 to +99%            | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| DELAY HI  | 0.1–1.0                | Delay high-frequency feedback ratio                                                            |
| HPF       | THRU, 21.2 Hz–8.00 kHz | High-pass filter cutoff frequency                                                              |
| LPF       | 50.0 Hz–16.0 kHz, THRU | Low-pass filter cutoff frequency                                                               |
| DLY.BAL   | 0–100%                 | Delay and delayed reverb balance (0% = all delayed reverb, 100% = all delay)                   |
| REV TIME  | 0.3–99.0 s             | Reverb time                                                                                    |
| INI. DLY  | 0.0–500.0 ms           | Initial delay before reverb begins                                                             |
| REV HI    | 0.1–1.0                | High-frequency reverb time ratio                                                               |
| DIFF.     | 0–10                   | Spread                                                                                         |
| DENSITY   | 0–100%                 | Reverb density                                                                                 |
| SYNC      | OFF, ON                | Tempo parameter sync on/off                                                                    |
| NOTE L    | 1                      | Used in conjunction with TEMPO to determine left channel DELAY L                               |
| NOTE R    | *1                     | Used in conjunction with TEMPO to determine right channel DELAY R                              |
| NOTE FB   | *1                     | Used in conjunction with TEMPO to determine FB. DLY                                            |

1.  (Maximum value depends on the tempo setting)

**DIST->DELAY**

One input, two output distortion and delay effects in series.

| Parameter | Range                          | Description                                                                                    |
|-----------|--------------------------------|------------------------------------------------------------------------------------------------|
| DST TYPE  | DST1, DST2, OVD1, OVD2, CRUNCH | Distortion type (DST = distortion, OVD = overdrive)                                            |
| DRIVE     | 0–100                          | Distortion drive                                                                               |
| MASTER    | 0–100                          | Master volume                                                                                  |
| tone      | –10 to +10                     | Tone control                                                                                   |
| N. GATE   | 0–20                           | Noise reduction                                                                                |
| DELAY     | 0.0–2725.0 ms                  | Delay time                                                                                     |
| FB. GAIN  | –99 to +99%                    | Feedback gain (plus values for normal-phase feedback, minus values for reverse-phase feedback) |
| HI. RATIO | 0.1–1.0                        | High-frequency feedback ratio                                                                  |
| FREQ.     | 0.05–40.00 Hz                  | Modulation speed                                                                               |
| DEPTH     | 0–100%                         | Modulation depth                                                                               |
| DLY.BAL   | 0–100%                         | Distortion and delay balance (0% = all distortion, 100% = all delayed distortion)              |
| SYNC      | OFF, ON                        | Tempo parameter sync on/off                                                                    |
| DLY.NOTE  | 1                              | Used in conjunction with TEMPO to determine DELAY                                              |
| MOD.NOTE  | 2                              | Used in conjunction with TEMPO to determine FREQ.                                              |

1.  (Maximum value depends on the tempo setting)  
 2. 

## MULTI FILTER

Two input, two output 3-band multi-filter (24 dB/octave).

| Parameter | Range            | Description                                   |
|-----------|------------------|-----------------------------------------------|
| TYPE 1    | HPF, LPF, BPF    | Filter 1 type: high pass, low pass, band pass |
| TYPE 2    | HPF, LPF, BPF    | Filter 2 type: high pass, low pass, band pass |
| TYPE 3    | HPF, LPF, BPF    | Filter 3 type: high pass, low pass, band pass |
| FREQ. 1   | 28.0 Hz–16.0 kHz | Filter 1 frequency                            |
| FREQ. 2   | 28.0 Hz–16.0 kHz | Filter 2 frequency                            |
| FREQ. 3   | 28.0 Hz–16.0 kHz | Filter 3 frequency                            |
| LEVEL 1   | 0–100            | Filter 1 level                                |
| LEVEL 2   | 0–100            | Filter 2 level                                |
| LEVEL 3   | 0–100            | Filter 3 level                                |
| RESO. 1   | 0–20             | Filter 1 resonance                            |
| RESO. 2   | 0–20             | Filter 2 resonance                            |
| RESO. 3   | 0–20             | Filter 3 resonance                            |

## FREEZE

One input, one output basic sampler (Available for internal effects 1 and 2.).

| Parameter      | Range                 | Description                                                                                                                                                                                                                                                                                 |
|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REC MODE       | MANUAL, INPUT         | In MANUAL mode, recording is started by pressing the REC and PLAY buttons. In INPUT mode, Record-Ready mode is engaged by pressing the REC button, and actual recording is triggered by the input signal                                                                                    |
| REC DLY        | –1000 to +1000 ms     | Recording delay. For plus values, recording starts after the trigger is received. For minus values, recording starts before the trigger is received                                                                                                                                         |
| TRG LVL        | –60 to 0 dB           | Input trigger level (i.e., the signal level required to trigger recording or playback)                                                                                                                                                                                                      |
| TRG MASK       | 0–1000 ms             | Once playback has been triggered, subsequent triggers are ignored for the duration of the TRG MASK time                                                                                                                                                                                     |
| PLY MODE       | MOMENT, CONTI., INPUT | In MOMENT mode, the sample plays only while the that the PLAY button is pressed. In CONT mode, playback continues once the PLAY button has been pressed. The number of times the sample plays is set using the LOOP NUM parameter. In INPUT mode, playback is triggered by the input signal |
| START          | 1                     | Playback start point in milliseconds                                                                                                                                                                                                                                                        |
| END            | 1                     | Playback end point in milliseconds                                                                                                                                                                                                                                                          |
| LOOP           | 1                     | Loop start point in milliseconds                                                                                                                                                                                                                                                            |
| LOOP NUM       | 0–100                 | Number of times the sample plays                                                                                                                                                                                                                                                            |
| START [SAMPLE] | 2                     | Playback start point in samples                                                                                                                                                                                                                                                             |
| END [SAMPLE]   | 2                     | Playback end point in samples                                                                                                                                                                                                                                                               |
| LOOP [SAMPLE]  | 2                     | Loop start point in samples                                                                                                                                                                                                                                                                 |
| PITCH          | –12 to +12 semitones  | Playback pitch shift                                                                                                                                                                                                                                                                        |
| FINE           | –50 to +50 cents      | Playback pitch shift fine                                                                                                                                                                                                                                                                   |
| MIDI TRG       | OFF, C1–C6, ALL       | PLAY button can be triggered by using MIDI Note on/off messages                                                                                                                                                                                                                             |

- 0.0–2970.5 ms (fs=44.1 kHz), 0.0–2729.2 ms (fs=48 kHz), 0.0–2970.5 ms (fs=88.2 kHz), 0.0–2729.2 ms (fs=96 kHz)
- 0–131000 (fs=44.1 kHz, 48 kHz), 0–262000 (fs=88.2 kHz, 96 kHz)

**ST REVERB**

Two input, two output stereo reverb.

| Parameter | Range                    | Description                                                                             |
|-----------|--------------------------|-----------------------------------------------------------------------------------------|
| REV TIME  | 0.3–99.0 s               | Reverb time                                                                             |
| REV TYPE  | Hall, Room, Stage, Plate | Reverb type                                                                             |
| INI. DLY  | 0.0–100.0 ms             | Initial delay before reverb begins                                                      |
| HI. RATIO | 0.1–1.0                  | High-frequency reverb time ratio                                                        |
| LO. RATIO | 0.1–2.4                  | Low-frequency reverb time ratio                                                         |
| DIFF.     | 0–10                     | Reverb diffusion (left–right reverb spread)                                             |
| DENSITY   | 0–100%                   | Reverb density                                                                          |
| E/R BAL.  | 0–100%                   | Balance of early reflections and reverb (0% = all reverb, 100% = all early reflections) |
| HPF       | THRU, 21.2 Hz–8.00 kHz   | High-pass filter cutoff frequency                                                       |
| LPF       | 50.0 Hz–16.0 kHz, THRU   | Low-pass filter cutoff frequency                                                        |

**M.BAND DYNA.**

Two input, two output 3-band dynamics processor, with individual solo and gain reduction metering for each band.

| Parameter | Range               | Description                                                                                                                                                                                                       |
|-----------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOW GAIN  | –96.0 to +12.0 dB   | Low band level                                                                                                                                                                                                    |
| MID GAIN  | –96.0 to +12.0 dB   | Mid band level                                                                                                                                                                                                    |
| HI. GAIN  | –96.0 to +12.0 dB   | High band level                                                                                                                                                                                                   |
| PRESENCE  | –10 to +10          | For positive values, the threshold of the high band is lowered and the threshold of the low band is increased. For negative values, the opposite will occur. When set to 0, all three bands are affected the same |
| CMP. THRE | 24.0 to 0.0 dB      | Compressor threshold                                                                                                                                                                                              |
| CMP. RAT  | 1:1 to 20:1         | Compressor ratio                                                                                                                                                                                                  |
| CMP. ATK  | 0–120 ms            | Compressor attack                                                                                                                                                                                                 |
| CMP. REL  | 1                   | Compressor release time                                                                                                                                                                                           |
| CMP. KNEE | 0–5                 | Compressor knee                                                                                                                                                                                                   |
| LOOKUP    | 0.0–100.0 ms        | Lookup delay                                                                                                                                                                                                      |
| CMP. BYP  | OFF, ON             | Compressor bypass                                                                                                                                                                                                 |
| L–M XOVR  | 21.2 Hz–8.00 kHz    | Low/mid crossover frequency                                                                                                                                                                                       |
| M–H XOVR  | 21.2 Hz–8.00 kHz    | Mid/high crossover frequency                                                                                                                                                                                      |
| SLOPE     | –6 to –12 dB        | Filter slope                                                                                                                                                                                                      |
| CEILING   | –6.0 to 0.0 dB, OFF | Specifies the maximum output level                                                                                                                                                                                |
| EXP. THRE | –54.0 to –24.0 dB   | Expander threshold                                                                                                                                                                                                |
| EXP. RAT  | 1:1 to ∞:1          | Expander ratio                                                                                                                                                                                                    |
| EXP. REL  | 1                   | Expander release time                                                                                                                                                                                             |
| EXP. BYP  | OFF, ON             | Expander bypass                                                                                                                                                                                                   |
| LIM. THRE | –12.0 to 0.0 dB     | Limiter threshold                                                                                                                                                                                                 |
| LIM. ATK  | 0–120 ms            | Limiter attack                                                                                                                                                                                                    |
| LIM. REL  | 1                   | Limiter release time                                                                                                                                                                                              |
| LIM. BYP  | OFF, ON             | Limiter bypass                                                                                                                                                                                                    |
| LIM. KNEE | 0–5                 | Limiter knee                                                                                                                                                                                                      |
| SOLO LOW  | OFF, ON             | If this is on, only the low-frequency band will be output                                                                                                                                                         |
| SOLO MID  | OFF, ON             | If this is on, only the mid-frequency band will be output                                                                                                                                                         |
| SOLO HIGH | OFF, ON             | If this is on, only the high-frequency band will be output                                                                                                                                                        |

1. 6 ms–46.0 s (fs=44.1 kHz), 5 ms–42.3 s (fs=48 kHz), 3 ms–23.0 s (fs=88.2 kHz), 3 ms–21.1 s (fs=96 kHz)

**Comp276/Comp276S**

This emulates the characteristics of an analog compressor that has become a standard item in recording studios. It thickens the sound, and is particularly suitable for drum and bass sounds. Comp276 lets you control two monaural channels independently. Comp276S links the L/R channel parameters for control.

| Parameter | Range                     | Description                                                                                                              |
|-----------|---------------------------|--------------------------------------------------------------------------------------------------------------------------|
| INPUT     | –180 to 0 dB              | Adjusts the input level                                                                                                  |
| OUTPUT    | –180 to 0 dB              | Adjusts the output gain                                                                                                  |
| ATTACK    | 0.022 to 50.40ms          | Adjusts the attack time                                                                                                  |
| RELEASE   | 10.88 to 544.22ms         | Adjusts the release time                                                                                                 |
| RATIO     | 2:1, 4:1, 8:1, 12:1, 20:1 | Adjusts the ratio                                                                                                        |
| MAKE UP   | ON, OFF                   | If this is on, the output gain will automatically be compensated to make up for gain reduction applied by the compressor |
| SIDE HPF  | ON, OFF                   | If this is on, the compressor effect in the low-frequency range will be reduced, thus boosting the low-frequency output  |
| GR meter  | ON, OFF                   | This shows the amount of gain reduction when the compressor is operating                                                 |

**Comp260/Comp260S**

This emulates the characteristics of a compressor/limiter of the mid-1970s that has now become a standard item for live sound reinforcement. Comp260 lets you control two monaural channels independently. Comp260S links the L/R channel parameters for control.

| Parameter   | Range              | Description                                                                                                           |
|-------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|
| THRE.       | –60.0 to 0.0 dB    | Adjusts the threshold                                                                                                 |
| ATTACK      | 0.010 to 80.00 ms  | Adjusts the attack time                                                                                               |
| RELEASE     | 6.2 to 999.0 ms    | Adjusts the release time                                                                                              |
| RATIO       | 1.0 to ∞           | Adjusts the ratio                                                                                                     |
| KNEE        | SOFT, MEDIUM, HARD | Adjusts the knee                                                                                                      |
| ST LINK     | ON, OFF            | If this is on, CH1 and CH2 will be stereo-linked                                                                      |
| OUTPUT      | –20.0 to 40.0 dB   | Adjusts the output gain                                                                                               |
| GR meter    |                    | This shows the amount of gain reduction when the compressor is operating                                              |
| Level meter |                    | This shows the effect's input level or output level. Use the METER: [IN][OUT] switches to choose which level is shown |

## Equalizer601

This emulates the characteristics of an analog equalizer of the 1970s. By reproducing the distortion that is typical of analog circuits, it adds drive to the sound.

| Parameter                | Range                                                                                                               | Description                                                                                                                                                                                                                                        |
|--------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE                     | DRIVE, CLEAN                                                                                                        | Switches the equalizer type                                                                                                                                                                                                                        |
| INPUT                    | −18.0 to +18.0 dB                                                                                                   | Adjusts the input gain                                                                                                                                                                                                                             |
| OUTPUT                   | −18.0 to +18.0 dB                                                                                                   | Adjusts the output gain                                                                                                                                                                                                                            |
| Level meter              |                                                                                                                     | This shows the effect's input level or output level. Use the METER: [IN][OUT] switches to choose which level is shown                                                                                                                              |
| Q/TYPE                   | LO: LSH-1, LSH-2, HPF-1, HPF-2<br>MID1-4: 0.50–16.00<br>HI: LPF-1, LPF-2, HSH-1, HSH-2                              | These parameters control the shape of the frequency response curve for each filter band. For the MID 1–4 bands you can specify the sharpness (Q) of the frequency response curve. For the LO and HI bands, you can select one of four filter types |
| F                        | fs=44.1/48 kHz: 16.0–20.0 kHz,<br>fs=88.2/96 kHz: 16.0 Hz–40.0 kHz<br>(HI TYPE=HSH-1 or HSH-2: HI Band= 1.0–40 kHz) | These specify the center frequency of the filter                                                                                                                                                                                                   |
| G                        | −18.0 to +18.0 dB                                                                                                   | These specify the gain of the filter                                                                                                                                                                                                               |
| SW                       | ON, OFF                                                                                                             | These switch each filter band on/off                                                                                                                                                                                                               |
| Frequency response curve |                                                                                                                     | This displays the total frequency response curve for all bands                                                                                                                                                                                     |
| FLAT                     |                                                                                                                     | This resets the gain of all bands to 0 dB                                                                                                                                                                                                          |

## OpenDeck

This emulates the tape compression produced by two open-reel tape recorders (a recording deck and a reproduction deck). You can change the tonal character by adjusting various elements, such as the deck type, tape quality, and playback speed.

| Parameter | Range                          | Description                                                                                                                                                                                                                                                                                    |
|-----------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REC DEC   | Swss70, Swss78, Swss85, Amer70 | Selects the type of recording deck                                                                                                                                                                                                                                                             |
| REC LVL   | −96.0 to +18.0dB               | Adjusts the input level of the recording deck. As you raise the level, tape compression is generated, narrowing the dynamic range and distorting the sound                                                                                                                                     |
| REC HI    | −6.0 to +6.0dB                 | Adjusts the high range gain of the recording deck                                                                                                                                                                                                                                              |
| REC BIAS  | −1.00 to +1.00                 | Adjusts the bias of the recording deck                                                                                                                                                                                                                                                         |
| MAKEUP    | ON, OFF                        | If this is on, operating the recording deck's level ([RECORD]/[REC LVL] knob) will cause the reproduction deck's level ([REPRODUCE]/[REPR LVL] knob) to move in tandem, maintaining a fixed output level. This allows you to change the amount of distortion without changing the output level |
| REPR DECK | Swss70, Swss78, Swss85, Amer70 | Selects the type of reproduction deck                                                                                                                                                                                                                                                          |
| REPR LVL  | −96.0 to +18.0 dB              | Adjusts the output level of the reproduction deck                                                                                                                                                                                                                                              |
| REPR HI   | −6.0 to +6.0 dB                | Adjusts the high range gain of the reproduction deck                                                                                                                                                                                                                                           |
| REPR LO   | −6.0 to +6.0 dB                | Adjusts the low range gain of the reproduction deck                                                                                                                                                                                                                                            |
| TP SPEED  | 15 ips, 30 ips                 | Selects the tape speed                                                                                                                                                                                                                                                                         |
| TP KIND   | New, Old                       | Selects the type of tape                                                                                                                                                                                                                                                                       |

**REV-X Hall, REV-X Room, REV-X Plate**

This is a 2-in/2-out reverb algorithm. It provides rich, high-density reverberation with a smooth decay, and depth and spaciousness that will enhance the original sound. You can choose one of three programs to suit the venue and your needs: REV-X Hall, REV-X Room, and REV-X Plate.

| Parameter   | Range            | Description                                                                                                                                                                                     |
|-------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REV TIME    | 0.32–32.14s      | Specifies the duration of time until the reverberation decays to silence. Higher values produce longer reverberation                                                                            |
| INI.DLY     | 0.0–125.0ms      | Specifies the time delay from when the original sound is input until reverberation begins. Higher values produce a longer delay before reverberation begins                                     |
| DECAY       | 0–53             | Specifies the shape of the reverberation's envelope. This value will affect the characteristics of the reverberation                                                                            |
| ROOMSIZE    | 0–28             | Specifies the size of the space. Higher values simulate a broader space. This value is linked with the Reverb Time. Changing this value will also change the Reverb Time                        |
| DIFF.       | 0–10             | Specifies the density and diffusion of the reverberation. Higher values will increase the density and strengthen the sense of spaciousness                                                      |
| HPF         | Thru–8.00 kHz    | This is a filter that cuts the low-frequency range of the reverberation. The region below the frequency specified here will be cut. This filter does not affect the original sound              |
| LPF         | 1.00 kHz–Thru    | This is a filter that cuts the high-frequency range of the reverberation. The region above the frequency specified here will be cut. This filter does not affect the original sound             |
| HI.RATIO    | 0.1–1.0          | Adjusts the decay time of the high-frequency reverberation. This specifies the high-frequency decay time as a proportion of the Reverb Time                                                     |
| LO.RATIO    | 0.1–1.4          | Adjusts the decay time of the low-frequency reverberation. This specifies the low-frequency decay time as a proportion of the Reverb Time                                                       |
| LO.FREQ.    | 22.0 Hz–18.0 kHz | Specifies the frequency on which Lo Ratio is based. The region below this frequency will be affected by the Lo Ratio                                                                            |
| Level meter |                  | Use the METER: [IN] [OUT] switches to choose whether the input level or output level will be shown                                                                                              |
| MIX         | 0–100%           | Adjusts the balance between the original sound and the effect sound. Only the original sound will be output if this value is 0%, and only the effect sound will be output if this value is 100% |

**Max 100**

This is a 1-in/1-out phaser that emulates a vintage effect that was manufactured only during the late 1970s.

| Parameter | Range                 | Description                                                                                                                                    |
|-----------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| MODE      | 1, 2, 3, 4            | Switches the sound quality (tone). There are four types available, each with differences in modulation amplitude and in the amount of feedback |
| SPEED     | SYNC, 0.100–10.000 Hz | Adjusts the rate of modulation                                                                                                                 |

**Vintage Phaser**

This is a 1-in/1-out phaser that offers an extremely high level of freedom in creating phaser sounds, without limiting itself to emulating any particular model.

| Parameter | Range             | Description                                                                                                            |
|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------|
| SPEED     | SYNC, 0.1–10.0 Hz | Adjusts the rate of modulation                                                                                         |
| MANUAL    | 0.00–10.00        | Adjusts the center frequency of modulation                                                                             |
| DEPTH     | 0.00–10.00        | Adjusts the depth of modulation                                                                                        |
| FEEDBACK  | 0.00–10.00        | Adjusts the amount of feedback                                                                                         |
| COLOR     | 0.00–10.00        | This parameter is available for certain combinations of MODE and STAGE. It allows you to fine-tune the tonal character |
| MODE      | 1, 2              | Selects the type of circuit configuration being modeled. This will affect the tonal character                          |
| STAGE     | 4, 6, 8, 10       | Specifies the number of stages in the circuit being modeled. This will affect the tonal character                      |

## Dual Phaser

This is a 2-in/2-out phaser that emulates a vintage phaser manufactured during the mid-1970s.

| Parameter          | Range                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RATE 1</b>      | SYNC,<br>0.067–20.000 Hz | Adjusts the modulation rate of LFO1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SHAPE 1</b>     | Sine, Square             | Selects the waveform of LFO1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>RATE 2</b>      | SYNC,<br>0.111–20.000 Hz | Adjusts the modulation rate of LFO2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SHAPE 2</b>     | Sine, Square             | Selects the waveform of LFO2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>DEPTH (A/B)</b> | 1.00–10.00               | Adjusts the depth of modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>FB (A/B)</b>    | 0.00–10.00               | Adjusts the amount of feedback                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>SW (A/B)</b>    | ON, OFF                  | Switches the phaser circuit on/off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>SWEEP B</b>     | LFO1, LFO2               | Selects the LFO for Phaser B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>SYNC B</b>      | NORM, REV                | Selects the LFO phase for Phaser B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>IN MODE</b>     | 1, 2, 3, 4               | Specifies the way in which the two phasers are connected.<br>1: After mixing the stereo input, the sound processed by Phaser A is output from the left channel, and the sound processed by Phaser B is output from the right channel.<br>2: After mixing the stereo input, the sound processed by Phaser A is output from the left channel, and the sound processed by Phaser A and then additionally processed by Phaser B is output from the right channel.<br>3: After mixing the stereo input, the sound processed by Phaser A and then additionally processed by Phaser B is output from both the left and right channels.<br>4: The left input channel is processed by Phaser A and output from the left channel, and the right input channel is processed by Phaser B and output from the right channel. |

## Effects and tempo synchronization

Some of the 01V96i's effects allow you to synchronize the effect with the tempo. There are two such types of effect; delay-type effects and modulation-type effects. For delay-type effects, the delay time will change according to the tempo. For modulation-type effects, the frequency of the modulation signal will change according to the tempo.

### • Parameters related to tempo synchronization

The following five parameters are related to tempo synchronization.

1) SYNC 2) NOTE 3) TEMPO 4) DELAY 5) FREQ.  
 SYNC: ..... This is the on/off switch for tempo synchronization.

NOTE and TEMPO: .... These are the basic parameters for tempo synchronization.

DELAY and FREQ.: ..... DELAY is the delay time, and FREQ. is the frequency of the modulation signal. These directly affect the way in which the effect sound will change. DELAY is relevant only for delay-type effects, and FREQ. is relevant only for modulation-type effects.

### • How the parameters are related

Tempo synchronization uses TEMPO and NOTE to calculate a value that will be the basis for the tempo, and continues making adjustments so that this tempo basis stays essentially the same as the DELAY (or FREQ.). This means that when TEMPO, NOTE, and DELAY (or FREQ.) are synchronized, and you change any of these values, the other parameters will be re-set in order to maintain the correct relationship. The parameters that are re-set and the calculation method(\*a) used are as follows.

**If you turn SYNC on → NOTE will be set**

**If you edit DELAY (or FREQ.) → NOTE will be set**

In this case, the NOTE value is calculated as follows.

$$\text{NOTE} = \text{DELAY (or FREQ.)} / (4 \times (60/\text{TEMPO}))$$

**If you edit NOTE → DELAY (or FREQ.) will be set**

In this case, the DELAY (or FREQ.) value is calculated as follows.

$$\text{DELAY (or FREQ.)} = \text{NOTE} \times 4 \times (60/\text{TEMPO})$$

**If you edit TEMPO → DELAY (or FREQ.) will be set**

In this case, the DELAY (or FREQ.) value is calculated as follows.

$$\text{DELAY (or FREQ.)} = \text{original DELAY (or FREQ.)} \times (\text{previous TEMPO} / \text{new TEMPO})$$

**Example 1:** When SYNC=ON, DELAY=250 ms, TEMPO=120, you change NOTE from 8th note to quarter note

$$\begin{aligned} \text{DELAY} &= \text{new NOTE} \times 4 \times (60/\text{TEMPO}) \\ &= (1/4) \times 4 \times (60/120) \\ &= 0.5 \text{ (sec)} \\ &= 500 \text{ ms} \end{aligned}$$

Thus, the DELAY will change from 250 ms to 500 ms.

**Example 2:** When SYNC=ON, DELAY=250 ms, NOTE=8th note, you change TEMPO from 120 to 121

$$\begin{aligned} \text{DELAY} &= \text{original DELAY} \times (\text{previous TEMPO} / \text{new TEMPO}) \\ &= 250 \times (120/121) \\ &= 247.9 \text{ (ms)} \end{aligned}$$

Thus, the TEMPO will change from 250 ms to 247.9 ms.

\*a: Rounded values are used for the calculation results.

### • Ranges of the NOTE and TEMPO values

The ranges of the NOTE and TEMPO values are limited by the ranges of the DELAY or FREQ. values. You cannot set NOTE or TEMPO values that would cause DELAY or FREQ. to exceed their maximum possible values when synchronized to tempo. This limitation also applies even when SYNC is OFF.

### • Special characteristics of the TEMPO parameter

The TEMPO parameter has the following characteristics that are unlike other parameters.

- It is a common value shared by all effects
- You cannot store it to or recall it from the Effects Library. (You can store it to and recall it from a Scene.)

This means that the TEMPO value may not necessarily be the same when an effect is recalled as when that effect was stored. Here is an example.

Store the effect: TEMPO=120 → Change TEMPO to 60  
 → Recall the effect: TEMPO=60

Normally when you change the TEMPO, the DELAY (or FREQ.) will be re-set accordingly. However if the DELAY (or FREQ.) were changed, the effect would sound differently when recalled than when it was stored. To prevent the effect from changing in this way between store and recall, the 01V96i does not update the DELAY (or FREQ.) value when an effect is recalled, even if the TEMPO is no longer the same as when that effect was stored.

\* The NOTE parameter is calculated based on the following values.

|                                                                                            |                                                                                            |                                                                                            |                                                                                            |                                                                                            |                                                                                             |                                                                                             |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|  = 1/48 |  = 1/24 |  = 1/16 |  = 1/12 |  = 3/32 |  = 1/8 |  = 1/6 |
|  = 3/16 |  = 1/4  |  = 3/8  |  = 1/2  |  = 3/4  |  = 1/1 |  = 2/1 |

## Preset EQ Parameters

| #  | Title        | Parameter |          |          |          |
|----|--------------|-----------|----------|----------|----------|
|    |              | LOW       | L-MID    | H-MID    | HIGH     |
| 01 | Bass Drum 1  | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G +3.5 dB | -3.5 dB  | 0.0 dB   | +4.0 dB  |
|    |              | F 100 Hz  | 265 Hz   | 1.06 kHz | 5.30 kHz |
|    |              | Q 1.2     | 10       | 0.9      | —        |
| 02 | Bass Drum 2  | PEAKING   | PEAKING  | PEAKING  | LPF      |
|    |              | G +8.0 dB | -7.0 dB  | +6.0 dB  | ON       |
|    |              | F 80 Hz   | 400 Hz   | 2.50 kHz | 12.5 kHz |
|    |              | Q 1.4     | 4.5      | 2.2      | —        |
| 03 | Snare Drum 1 | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -0.5 dB | 0.0 dB   | +3.0 dB  | +4.5 dB  |
|    |              | F 132 Hz  | 1.00 kHz | 3.15 kHz | 5.00 kHz |
|    |              | Q 1.2     | 4.5      | 0.11     | —        |
| 04 | Snare Drum 2 | L.SHELF   | PEAKING  | PEAKING  | PEAKING  |
|    |              | G +1.5 dB | -8.5 dB  | +2.5 dB  | +4.0 dB  |
|    |              | F 180 Hz  | 335 Hz   | 2.36 kHz | 4.00 kHz |
|    |              | Q —       | 10       | 0.7      | 0.1      |
| 05 | Tom-tom 1    | PEAKING   | PEAKING  | PEAKING  | PEAKING  |
|    |              | G +2.0 dB | -7.5 dB  | +2.0 dB  | +1.0 dB  |
|    |              | F 212 Hz  | 670 Hz   | 4.50 kHz | 6.30 kHz |
|    |              | Q 1.4     | 10       | 1.2      | 0.28     |
| 06 | Cymbal       | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -2.0 dB | 0.0 dB   | 0.0 dB   | +3.0 dB  |
|    |              | F 106 Hz  | 425 Hz   | 1.06 kHz | 13.2 kHz |
|    |              | Q —       | 8        | 0.9      | —        |
| 07 | High Hat     | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -4.0 dB | -2.5 dB  | +1.0 dB  | +0.5 dB  |
|    |              | F 95 Hz   | 425 Hz   | 2.80 kHz | 7.50 kHz |
|    |              | Q —       | 0.5      | 1        | —        |
| 08 | Percussion   | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -4.5 dB | 0.0 dB   | +2.0 dB  | 0.0 dB   |
|    |              | F 100 Hz  | 400 Hz   | 2.80 kHz | 17.0 kHz |
|    |              | Q —       | 4.5      | 0.56     | —        |
| 09 | E. Bass 1    | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -7.5 dB | +4.5 dB  | +2.5 dB  | 0.0 dB   |
|    |              | F 35.5 Hz | 112 Hz   | 2.00 kHz | 4.00 kHz |
|    |              | Q —       | 5        | 4.5      | —        |
| 10 | E. Bass 2    | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G +3.0 dB | 0.0 dB   | +2.5 dB  | +0.5 dB  |
|    |              | F 112 Hz  | 112 Hz   | 2.24 kHz | 4.00 kHz |
|    |              | Q 0.1     | 5        | 6.3      | —        |
| 11 | Syn. Bass 1  | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G +3.5 dB | +8.5 dB  | 0.0 dB   | 0.0 dB   |
|    |              | F 85 Hz   | 950 Hz   | 4.00 kHz | 12.5 kHz |
|    |              | Q 0.1     | 8        | 4.5      | —        |
| 12 | Syn. Bass 2  | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G +2.5 dB | 0.0 dB   | +1.5 dB  | 0.0 dB   |
|    |              | F 125 Hz  | 180 Hz   | 1.12 kHz | 12.5 kHz |
|    |              | Q 1.6     | 8        | 2.2      | —        |
| 13 | Piano 1      | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |              | G -6.0 dB | 0.0 dB   | +2.0 dB  | +4.0 dB  |
|    |              | F 95 Hz   | 950 Hz   | 3.15 kHz | 7.50 kHz |
|    |              | Q —       | 8        | 0.9      | —        |

| #  | Title          | Parameter |          |          |          |
|----|----------------|-----------|----------|----------|----------|
|    |                | LOW       | L-MID    | H-MID    | HIGH     |
| 14 | Piano 2        | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +3.5 dB | -8.5 dB  | +1.5 dB  | +3.0 dB  |
|    |                | F 224 Hz  | 600 Hz   | 3.15 kHz | 5.30 kHz |
|    |                | Q 5.6     | 10       | 0.7      | —        |
| 15 | E. G. Clean    | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +2.0 dB | -5.5 dB  | +0.5 dB  | +2.5 dB  |
|    |                | F 265 Hz  | 400 Hz   | 1.32 kHz | 4.50 kHz |
|    |                | Q 0.18    | 10       | 6.3      | —        |
| 16 | E. G. Crunch 1 | PEAKING   | PEAKING  | PEAKING  | PEAKING  |
|    |                | G +4.5 dB | 0.0 dB   | +4.0 dB  | +2.0 dB  |
|    |                | F 140 Hz  | 1.00 kHz | 1.90 kHz | 5.60 kHz |
|    |                | Q 8       | 4.5      | 0.63     | 9        |
| 17 | E. G. Crunch 2 | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +2.5 dB | +1.5 dB  | +2.5 dB  | 0.0 dB   |
|    |                | F 125 Hz  | 450 Hz   | 3.35 kHz | 19.0 kHz |
|    |                | Q 8       | 0.4      | 0.16     | —        |
| 18 | E. G. Dist. 1  | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +5.0 dB | 0.0 dB   | +3.5 dB  | 0.0 dB   |
|    |                | F 355 Hz  | 950 Hz   | 3.35 kHz | 12.5 kHz |
|    |                | Q —       | 9        | 10       | —        |
| 19 | E. G. Dist. 2  | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +6.0 dB | -8.5 dB  | +4.5 dB  | +4.0 dB  |
|    |                | F 315 Hz  | 1.06 kHz | 4.25 kHz | 12.5 kHz |
|    |                | Q —       | 10       | 4        | —        |
| 20 | A. G. Stroke 1 | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G -2.0 dB | 0.0 dB   | +1.0 dB  | +4.0 dB  |
|    |                | F 106 Hz  | 1.00 kHz | 1.90 kHz | 5.30 kHz |
|    |                | Q 0.9     | 4.5      | 3.5      | —        |
| 21 | A. G. Stroke 2 | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G -3.5 dB | -2.0 dB  | 0.0 dB   | +2.0 dB  |
|    |                | F 300 Hz  | 750 Hz   | 2.00 kHz | 3.55 kHz |
|    |                | Q —       | 9        | 4.5      | —        |
| 22 | A. G. Arpeg. 1 | L.SHELF   | PEAKING  | PEAKING  | PEAKING  |
|    |                | G -0.5 dB | 0.0 dB   | 0.0 dB   | +2.0 dB  |
|    |                | F 224 Hz  | 1.00 kHz | 4.00 kHz | 6.70 kHz |
|    |                | Q —       | 4.5      | 4.5      | 0.12     |
| 23 | A. G. Arpeg. 2 | L.SHELF   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G 0.0 dB  | -5.5 dB  | 0.0 dB   | +4.0 dB  |
|    |                | F 180 Hz  | 355 Hz   | 4.00 kHz | 4.25 kHz |
|    |                | Q —       | 7        | 4.5      | —        |
| 24 | Brass Sec.     | PEAKING   | PEAKING  | PEAKING  | PEAKING  |
|    |                | G -2.0 dB | -1.0 dB  | +1.5 dB  | +3.0 dB  |
|    |                | F 90 Hz   | 850 Hz   | 2.12 kHz | 4.50 kHz |
|    |                | Q 2.8     | 2        | 0.7      | 7        |
| 25 | Male Vocal 1   | PEAKING   | PEAKING  | PEAKING  | PEAKING  |
|    |                | G -0.5 dB | 0.0 dB   | +2.0 dB  | +3.5 dB  |
|    |                | F 190 Hz  | 1.00 kHz | 2.00 kHz | 6.70 kHz |
|    |                | Q 0.11    | 4.5      | 0.56     | 0.11     |
| 26 | Male Vocal 2   | PEAKING   | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G +2.0 dB | -5.0 dB  | -2.5 dB  | +4.0 dB  |
|    |                | F 170 Hz  | 236 Hz   | 2.65 kHz | 6.70 kHz |
|    |                | Q 0.11    | 10       | 5.6      | —        |
| 27 | Female Vo. 1   | PEAKING   | PEAKING  | PEAKING  | PEAKING  |
|    |                | G -1.0 dB | +1.0 dB  | +1.5 dB  | +2.0 dB  |
|    |                | F 118 Hz  | 400 Hz   | 2.65 kHz | 6.00 kHz |
|    |                | Q 0.18    | 0.45     | 0.56     | 0.14     |

| #  | Title          | Parameter |         |          |          |          |
|----|----------------|-----------|---------|----------|----------|----------|
|    |                |           | LOW     | L-MID    | H-MID    | HIGH     |
| 28 | Female Vo. 2   |           | L.SHELF | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −7.0 dB | +1.5 dB  | +1.5 dB  | +2.5 dB  |
|    |                | F         | 112 Hz  | 335 Hz   | 2.00 kHz | 6.70 kHz |
|    |                | Q         | —       | 0.16     | 0.2      | —        |
| 29 | Chorus & Harmo |           | PEAKING | PEAKING  | PEAKING  | PEAKING  |
|    |                | G         | −2.0 dB | −1.0 dB  | +1.5 dB  | +3.0 dB  |
|    |                | F         | 90 Hz   | 850 Hz   | 2.12 kHz | 4.50 kHz |
|    |                | Q         | 2.8     | 2        | 0.7      | 7        |
| 30 | Total EQ 1     |           | PEAKING | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −0.5 dB | 0.0 dB   | +3.0 dB  | +6.5 dB  |
|    |                | F         | 95 Hz   | 950 Hz   | 2.12 kHz | 16.0 kHz |
|    |                | Q         | 7       | 2.2      | 5.6      | —        |
| 31 | Total EQ 2     |           | PEAKING | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | +4.0 dB | +1.5 dB  | +2.0 dB  | +6.0 dB  |
|    |                | F         | 95 Hz   | 750 Hz   | 1.80 kHz | 18.0 kHz |
|    |                | Q         | 7       | 2.8      | 5.6      | —        |
| 32 | Total EQ 3     |           | L.SHELF | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | +1.5 dB | +0.5 dB  | +2.0 dB  | +4.0 dB  |
|    |                | F         | 67 Hz   | 850 Hz   | 1.90 kHz | 15.0 kHz |
|    |                | Q         | —       | 0.28     | 0.7      | —        |
| 33 | Bass Drum 3    |           | PEAKING | PEAKING  | PEAKING  | PEAKING  |
|    |                | G         | +3.5 dB | −10.0 dB | +3.5 dB  | 0.0 dB   |
|    |                | F         | 118 Hz  | 315 Hz   | 4.25 kHz | 20.0 kHz |
|    |                | Q         | 2       | 10       | 0.4      | 0.4      |
| 34 | Snare Drum 3   |           | L.SHELF | PEAKING  | PEAKING  | PEAKING  |
|    |                | G         | 0.0 dB  | +2.0 dB  | +3.5 dB  | 0.0 dB   |
|    |                | F         | 224 Hz  | 560 Hz   | 4.25 kHz | 4.00 kHz |
|    |                | Q         | —       | 4.5      | 2.8      | 0.1      |
| 35 | Tom-tom 2      |           | L.SHELF | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −9.0 dB | +1.5 dB  | +2.0 dB  | 0.0 dB   |
|    |                | F         | 90 Hz   | 212 Hz   | 5.30 kHz | 17.0 kHz |
|    |                | Q         | —       | 4.5      | 1.2      | —        |
| 36 | Piano 3        |           | PEAKING | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | +4.5 dB | −13.0 dB | +4.5 dB  | +2.5 dB  |
|    |                | F         | 100 Hz  | 475 Hz   | 2.36 kHz | 10.0 kHz |
|    |                | Q         | 8       | 10       | 9        | —        |
| 37 | Piano Low      |           | PEAKING | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −5.5 dB | +1.5 dB  | +6.0 dB  | 0.0 dB   |
|    |                | F         | 190 Hz  | 400 Hz   | 6.70 kHz | 12.5 kHz |
|    |                | Q         | 10      | 6.3      | 2.2      | —        |
| 38 | Piano High     |           | PEAKING | PEAKING  | PEAKING  | PEAKING  |
|    |                | G         | −5.5 dB | +1.5 dB  | +5.0 dB  | +3.0 dB  |
|    |                | F         | 190 Hz  | 400 Hz   | 6.70 kHz | 5.60 kHz |
|    |                | Q         | 10      | 6.3      | 2.2      | 0.1      |
| 39 | Fine-EQ Cass   |           | L.SHELF | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −1.5 dB | 0.0 dB   | +1.0 dB  | +3.0 dB  |
|    |                | F         | 75 Hz   | 1.00 kHz | 4.00 kHz | 12.5 kHz |
|    |                | Q         | —       | 4.5      | 1.8      | —        |
| 40 | Narrator       |           | PEAKING | PEAKING  | PEAKING  | H.SHELF  |
|    |                | G         | −4.0 dB | −1.0 dB  | +2.0 dB  | 0.0 dB   |
|    |                | F         | 106 Hz  | 710 Hz   | 2.50 kHz | 10.0 kHz |
|    |                | Q         | 4       | 7        | 0.63     | —        |

## Preset Gate Parameters

(fs = 44.1 kHz)

| # | Title     | Type    | Parameter      | Value  |
|---|-----------|---------|----------------|--------|
| 1 | Gate      | GATE    | Threshold (dB) | −26    |
|   |           |         | Range (dB)     | −56    |
|   |           |         | Attack (ms)    | 0      |
|   |           |         | Hold (ms)      | 2.56   |
|   |           |         | Decay (ms)     | 331    |
| 2 | Ducking   | DUCKING | Threshold (dB) | −19    |
|   |           |         | Range (dB)     | −22    |
|   |           |         | Attack (ms)    | 93     |
|   |           |         | Hold (ms)      | 1.20 S |
|   |           |         | Decay (ms)     | 6.32 S |
| 3 | A. Dr. BD | GATE    | Threshold (dB) | −11    |
|   |           |         | Range (dB)     | −53    |
|   |           |         | Attack (ms)    | 0      |
|   |           |         | Hold (ms)      | 1.93   |
|   |           |         | Decay (ms)     | 400    |
| 4 | A. Dr. SN | GATE    | Threshold (dB) | −8     |
|   |           |         | Range (dB)     | −23    |
|   |           |         | Attack (ms)    | 1      |
|   |           |         | Hold (ms)      | 0.63   |
|   |           |         | Decay (ms)     | 238    |

## Preset Compressor Parameters (fs = 44.1 kHz)

| #  | Title         | Type      | Parameter      | Value |
|----|---------------|-----------|----------------|-------|
| 1  | Comp          | COMP      | Threshold (dB) | −8    |
|    |               |           | Ratio ( :1)    | 2.5   |
|    |               |           | Attack (ms)    | 60    |
|    |               |           | Out gain (dB)  | 0.0   |
|    |               |           | Knee           | 2     |
| 2  | Expand        | EXPAND    | Release (ms)   | 250   |
|    |               |           | Threshold (dB) | −23   |
|    |               |           | Ratio ( :1)    | 1.7   |
|    |               |           | Attack (ms)    | 1     |
|    |               |           | Out gain (dB)  | 3.5   |
| 3  | Compander (H) | COMPAND-H | Knee           | 2     |
|    |               |           | Release (ms)   | 70    |
|    |               |           | Threshold (dB) | −10   |
|    |               |           | Ratio ( :1)    | 3.5   |
|    |               |           | Attack (ms)    | 1     |
| 4  | Compander (S) | COMPAND-S | Out gain (dB)  | 0.0   |
|    |               |           | Width (dB)     | 6     |
|    |               |           | Release (ms)   | 250   |
|    |               |           | Threshold (dB) | −8    |
|    |               |           | Ratio ( :1)    | 4     |
| 5  | A. Dr. BD     | COMP      | Attack (ms)    | 25    |
|    |               |           | Out gain (dB)  | 0.0   |
|    |               |           | Width (dB)     | 24    |
|    |               |           | Release (ms)   | 180   |
|    |               |           | Threshold (dB) | −24   |
| 6  | A. Dr. BD     | COMPAND-H | Ratio ( :1)    | 3     |
|    |               |           | Attack (ms)    | 9     |
|    |               |           | Out gain (dB)  | 5.5   |
|    |               |           | Knee           | 2     |
|    |               |           | Release (ms)   | 58    |
| 7  | A. Dr. SN     | COMP      | Threshold (dB) | −11   |
|    |               |           | Ratio ( :1)    | 3.5   |
|    |               |           | Attack (ms)    | 1     |
|    |               |           | Out gain (dB)  | −1.5  |
|    |               |           | Width (dB)     | 7     |
| 8  | A. Dr. SN     | EXPAND    | Release (ms)   | 192   |
|    |               |           | Threshold (dB) | −17   |
|    |               |           | Ratio ( :1)    | 2.5   |
|    |               |           | Attack (ms)    | 8     |
|    |               |           | Out gain (dB)  | 3.5   |
| 9  | A. Dr. SN     | COMP      | Knee           | 2     |
|    |               |           | Release (ms)   | 12    |
|    |               |           | Threshold (dB) | −23   |
|    |               |           | Ratio ( :1)    | 2     |
|    |               |           | Attack (ms)    | 0     |
| 10 | A. Dr. SN     | EXPAND    | Out gain (dB)  | 0.5   |
|    |               |           | Knee           | 2     |
|    |               |           | Release (ms)   | 151   |
|    |               |           | Threshold (dB) | −8    |
|    |               |           | Ratio ( :1)    | 1.7   |
| 11 | A. Dr. SN     | COMPAND-S | Attack (ms)    | 11    |
|    |               |           | Out gain (dB)  | 0.0   |
|    |               |           | Width (dB)     | 10    |
|    |               |           | Release (ms)   | 128   |
|    |               |           | Threshold (dB) | −8    |

| #  | Title          | Type      | Parameter      | Value |
|----|----------------|-----------|----------------|-------|
| 10 | A. Dr. Tom     | EXPAND    | Threshold (dB) | −20   |
|    |                |           | Ratio ( :1)    | 2     |
|    |                |           | Attack (ms)    | 2     |
|    |                |           | Out gain (dB)  | 5.0   |
|    |                |           | Knee           | 2     |
| 11 | A. Dr. OverTop | COMPAND-S | Release (ms)   | 749   |
|    |                |           | Threshold (dB) | −24   |
|    |                |           | Ratio ( :1)    | 2     |
|    |                |           | Attack (ms)    | 38    |
|    |                |           | Out gain (dB)  | −3.5  |
| 12 | E. B. Finger   | COMP      | Width (dB)     | 54    |
|    |                |           | Release (ms)   | 842   |
|    |                |           | Threshold (dB) | −12   |
|    |                |           | Ratio ( :1)    | 2     |
|    |                |           | Attack (ms)    | 15    |
| 13 | E. B. Slap     | COMP      | Out gain (dB)  | 4.5   |
|    |                |           | Knee           | 2     |
|    |                |           | Release (ms)   | 470   |
|    |                |           | Threshold (dB) | −12   |
|    |                |           | Ratio ( :1)    | 1.7   |
| 14 | Syn. Bass      | COMP      | Attack (ms)    | 6     |
|    |                |           | Out gain (dB)  | 4.0   |
|    |                |           | Knee           | hard  |
|    |                |           | Release (ms)   | 133   |
|    |                |           | Threshold (dB) | −10   |
| 15 | Piano1         | COMP      | Ratio ( :1)    | 3.5   |
|    |                |           | Attack (ms)    | 9     |
|    |                |           | Out gain (dB)  | 3.0   |
|    |                |           | Knee           | hard  |
|    |                |           | Release (ms)   | 250   |
| 16 | Piano2         | COMP      | Threshold (dB) | −9    |
|    |                |           | Ratio ( :1)    | 2.5   |
|    |                |           | Attack (ms)    | 17    |
|    |                |           | Out gain (dB)  | 1.0   |
|    |                |           | Knee           | hard  |
| 17 | E. Guitar      | COMP      | Release (ms)   | 238   |
|    |                |           | Threshold (dB) | −18   |
|    |                |           | Ratio ( :1)    | 3.5   |
|    |                |           | Attack (ms)    | 7     |
|    |                |           | Out gain (dB)  | 2.5   |
| 18 | A. Guitar      | COMP      | Knee           | 4     |
|    |                |           | Release (ms)   | 261   |
|    |                |           | Threshold (dB) | −8    |
|    |                |           | Ratio ( :1)    | 3.5   |
|    |                |           | Attack (ms)    | 7     |
| 19 | Strings1       | COMP      | Out gain (dB)  | 1.5   |
|    |                |           | Knee           | 2     |
|    |                |           | Release (ms)   | 238   |
|    |                |           | Threshold (dB) | −10   |
|    |                |           | Ratio ( :1)    | 2.5   |
| 20 | A. Guitar      | COMP      | Attack (ms)    | 5     |
|    |                |           | Out gain (dB)  | 1.5   |
|    |                |           | Knee           | 2     |
|    |                |           | Release (ms)   | 238   |
|    |                |           | Threshold (dB) | −11   |
| 21 | Strings1       | COMP      | Ratio ( :1)    | 2     |
|    |                |           | Attack (ms)    | 33    |
|    |                |           | Out gain (dB)  | 1.5   |
|    |                |           | Knee           | 2     |
|    |                |           | Release (ms)   | 749   |

| #  | Title        | Type      | Parameter      | Value  |
|----|--------------|-----------|----------------|--------|
| 20 | Strings2     | COMP      | Threshold (dB) | -12    |
|    |              |           | Ratio ( :1)    | 1.5    |
|    |              |           | Attack (ms)    | 93     |
|    |              |           | Out gain (dB)  | 1.5    |
|    |              |           | Knee           | 4      |
|    |              |           | Release (ms)   | 1.35 S |
| 21 | Strings3     | COMP      | Threshold (dB) | -17    |
|    |              |           | Ratio ( :1)    | 1.5    |
|    |              |           | Attack (ms)    | 76     |
|    |              |           | Out gain (dB)  | 2.5    |
|    |              |           | Knee           | 2      |
|    |              |           | Release (ms)   | 186    |
| 22 | BrassSection | COMP      | Threshold (dB) | -18    |
|    |              |           | Ratio ( :1)    | 1.7    |
|    |              |           | Attack (ms)    | 18     |
|    |              |           | Out gain (dB)  | 4.0    |
|    |              |           | Knee           | 1      |
|    |              |           | Release (ms)   | 226    |
| 23 | Syn. Pad     | COMP      | Threshold (dB) | -13    |
|    |              |           | Ratio ( :1)    | 2      |
|    |              |           | Attack (ms)    | 58     |
|    |              |           | Out gain (dB)  | 2.0    |
|    |              |           | Knee           | 1      |
|    |              |           | Release (ms)   | 238    |
| 24 | SamplingPerc | COMPAND-S | Threshold (dB) | -18    |
|    |              |           | Ratio ( :1)    | 1.7    |
|    |              |           | Attack (ms)    | 8      |
|    |              |           | Out gain (dB)  | -2.5   |
|    |              |           | Width (dB)     | 18     |
|    |              |           | Release (ms)   | 238    |
| 25 | Sampling BD  | COMP      | Threshold (dB) | -14    |
|    |              |           | Ratio ( :1)    | 2      |
|    |              |           | Attack (ms)    | 2      |
|    |              |           | Out gain (dB)  | 3.5    |
|    |              |           | Knee           | 4      |
|    |              |           | Release (ms)   | 35     |
| 26 | Sampling SN  | COMP      | Threshold (dB) | -18    |
|    |              |           | Ratio ( :1)    | 4      |
|    |              |           | Attack (ms)    | 8      |
|    |              |           | Out gain (dB)  | 8.0    |
|    |              |           | Knee           | hard   |
|    |              |           | Release (ms)   | 354    |
| 27 | Hip Comp     | COMPAND-S | Threshold (dB) | -23    |
|    |              |           | Ratio ( :1)    | 20     |
|    |              |           | Attack (ms)    | 15     |
|    |              |           | Out gain (dB)  | 0.0    |
|    |              |           | Width (dB)     | 15     |
|    |              |           | Release (ms)   | 163    |
| 28 | Solo Vocal1  | COMP      | Threshold (dB) | -20    |
|    |              |           | Ratio ( :1)    | 2.5    |
|    |              |           | Attack (ms)    | 31     |
|    |              |           | Out gain (dB)  | 2.0    |
|    |              |           | Knee           | 1      |
|    |              |           | Release (ms)   | 342    |
| 29 | Solo Vocal2  | COMP      | Threshold (dB) | -8     |
|    |              |           | Ratio ( :1)    | 2.5    |
|    |              |           | Attack (ms)    | 26     |
|    |              |           | Out gain (dB)  | 1.5    |
|    |              |           | Knee           | 3      |
|    |              |           | Release (ms)   | 331    |

| #  | Title       | Type      | Parameter      | Value  |
|----|-------------|-----------|----------------|--------|
| 30 | Chorus      | COMP      | Threshold (dB) | -9     |
|    |             |           | Ratio ( :1)    | 1.7    |
|    |             |           | Attack (ms)    | 39     |
|    |             |           | Out gain (dB)  | 2.5    |
|    |             |           | Knee           | 2      |
|    |             |           | Release (ms)   | 226    |
| 31 | Click Erase | EXPAND    | Threshold (dB) | -33    |
|    |             |           | Ratio ( :1)    | 2      |
|    |             |           | Attack (ms)    | 1      |
|    |             |           | Out gain (dB)  | 2.0    |
|    |             |           | Knee           | 2      |
|    |             |           | Release (ms)   | 284    |
| 32 | Announcer   | COMPAND-H | Threshold (dB) | -14    |
|    |             |           | Ratio ( :1)    | 2.5    |
|    |             |           | Attack (ms)    | 1      |
|    |             |           | Out gain (dB)  | -2.5   |
|    |             |           | Width (dB)     | 18     |
|    |             |           | Release (ms)   | 180    |
| 33 | Limiter1    | COMPAND-S | Threshold (dB) | -9     |
|    |             |           | Ratio ( :1)    | 3      |
|    |             |           | Attack (ms)    | 20     |
|    |             |           | Out gain (dB)  | -3.0   |
|    |             |           | Width (dB)     | 90     |
|    |             |           | Release (ms)   | 3.90 s |
| 34 | Limiter2    | COMP      | Threshold (dB) | 0      |
|    |             |           | Ratio ( :1)    | ∞      |
|    |             |           | Attack (ms)    | 0      |
|    |             |           | Out gain (dB)  | 0.0    |
|    |             |           | Knee           | hard   |
|    |             |           | Release (ms)   | 319    |
| 35 | Total Comp1 | COMP      | Threshold (dB) | -18    |
|    |             |           | Ratio ( :1)    | 3.5    |
|    |             |           | Attack (ms)    | 94     |
|    |             |           | Out gain (dB)  | 2.5    |
|    |             |           | Knee           | hard   |
|    |             |           | Release (ms)   | 447    |
| 36 | Total Comp2 | COMP      | Threshold (dB) | -16    |
|    |             |           | Ratio ( :1)    | 6      |
|    |             |           | Attack (ms)    | 11     |
|    |             |           | Out gain (dB)  | 6.0    |
|    |             |           | Knee           | 1      |
|    |             |           | Release (ms)   | 180    |

## Dynamics Parameters

The dynamics effects for each channel strip include a Gate section (only for Input Channels) and a Comp section. The Gate section includes Gate and Ducking types. The Comp section includes Compressor, Expander, Compander Hard (COMP. (H)), and Compander Soft (COMP. (S)) types.

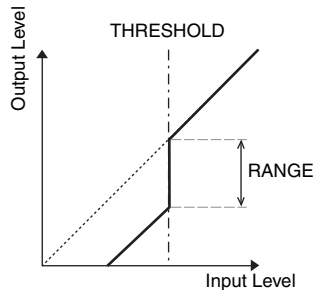
### GATE Section (Only for Input Channels)

#### GATE

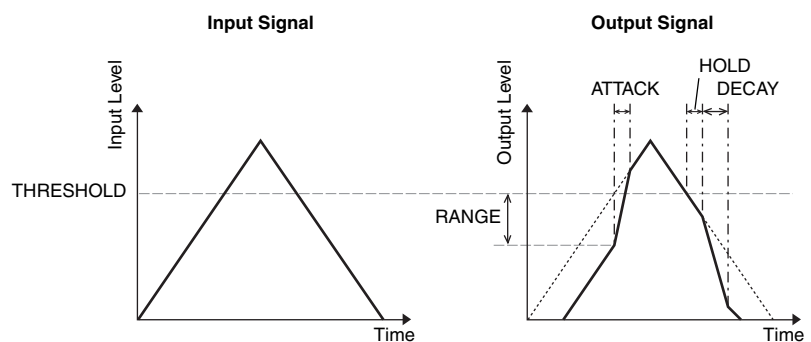
A gate attenuates signals below a set THRESHOLD level by a specified amount (RANGE).

| Parameter      | Range                                                                                                                              | Description                                                                                                                                               |
|----------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| THRESHOLD (dB) | –54.0 to 0.0 (541 points)                                                                                                          | This determines the level at which the gate effect is applied.                                                                                            |
| RANGE (dB)     | –70 to 0 (71 points)                                                                                                               | This determines the amount of attenuation when the gate closes.                                                                                           |
| ATTACK (ms)    | 0–120 (121 points)                                                                                                                 | This determines how fast the gate opens when the signal exceeds the threshold level.                                                                      |
| HOLD (ms)      | 44.1kHz: 0.02 ms – 2.13 sec<br>48kHz: 0.02 ms – 1.96 sec<br>88.2kHz: 0.01 ms – 1.06 sec<br>96kHz: 0.01 ms – 981 ms<br>(160 points) | This determines how long the gate stays open once the trigger signal has fallen below the threshold.                                                      |
| DECAY (ms)     | 44.1kHz: 6 ms – 46.0 sec<br>48kHz: 5 ms – 42.3 sec<br>88.2kHz: 3 ms – 23.0 sec<br>96kHz: 3 ms – 21.1 sec<br>(160 points)           | This determines how fast the gate closes once the hold time has expired. The value is expressed as the duration required for the level to change by 6 dB. |

#### I/O Characteristics



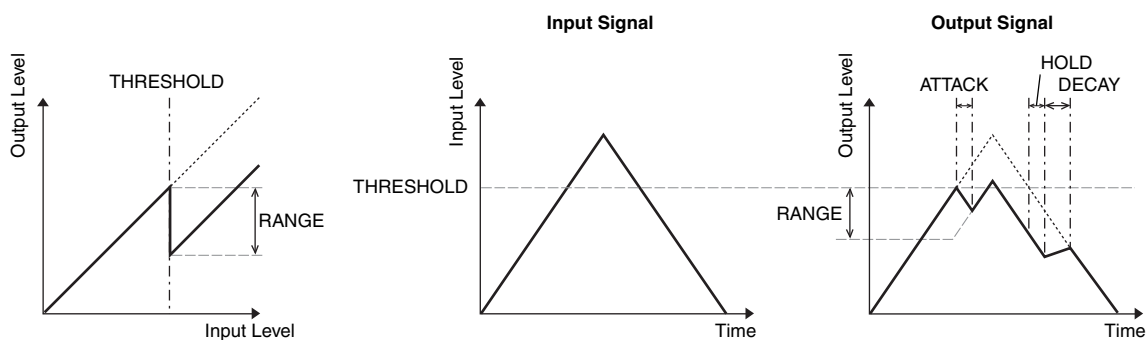
#### Time Series Analysis



**DUCKING**

Ducking is commonly used for voice-over applications in which the background music level is reduced automatically when an announcer speaks. When the KEY IN source signal level exceeds the specified THRESHOLD, the output level is attenuated by a specified amount (RANGE).

| Parameter             | Range                                                                                                                              | Description                                                                                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>THRESHOLD (dB)</b> | –54.0 to 0.0 (541 points)                                                                                                          | This determines the level of trigger signal (KEY IN) required to activate ducking.                                                                                                                       |
| <b>RANGE (dB)</b>     | –70 to 0 (71 points)                                                                                                               | This determines the amount of attenuation when ducking is activated.                                                                                                                                     |
| <b>ATTACK (ms)</b>    | 0–120 (121 points)                                                                                                                 | This determines how soon the signal is ducked once the ducker has been triggered.                                                                                                                        |
| <b>HOLD (ms)</b>      | 44.1kHz: 0.02 ms – 2.13 sec<br>48kHz: 0.02 ms – 1.96 sec<br>88.2kHz: 0.01 ms – 1.06 sec<br>96kHz: 0.01 ms – 981 ms<br>(160 points) | This determines how long ducking remains active once the trigger signal has fallen below the THRESHOLD level.                                                                                            |
| <b>DECAY (ms)</b>     | 44.1kHz: 6 ms – 46.0 sec<br>48kHz: 5 ms – 42.3 sec<br>88.2kHz: 3 ms – 23.0 sec<br>96kHz: 3 ms – 21.1 sec<br>(160 points)           | This determines how soon the ducker returns to its normal gain once the trigger signal level drops below the threshold. The value is expressed as the duration required for the level to change by 6 dB. |

**I/O Characteristics****Time Series Analysis**

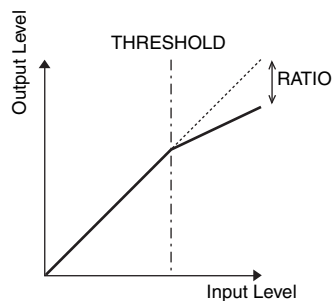
## COMP Section

### COMP

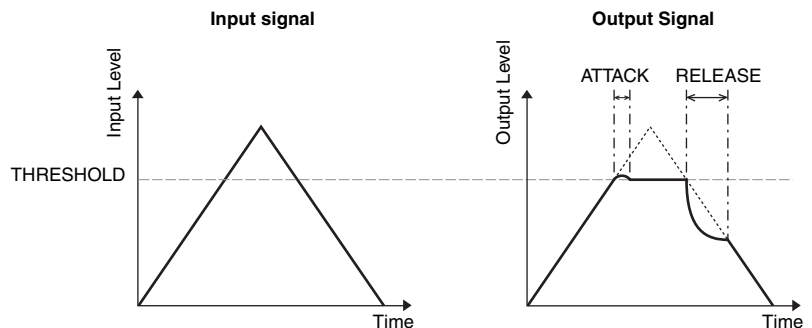
The COMP processor attenuates signals above a specified THRESHOLD by a specified RATIO. The COMP processor can also be used as a limiter, which, with a RATIO of  $\infty:1$ , reduces the level to the threshold. This means that the limiter's output level never actually exceeds the threshold.

| Parameter      | Range                                                                                                                         | Description                                                                                                                                                                                                  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THRESHOLD (dB) | -54.0 to 0.0 (541 points)                                                                                                     | This determines the level of input signal required to trigger the compressor.                                                                                                                                |
| RATIO          | 1.0:1, 1.1:1, 1.3:1, 1.5:1, 1.7:1, 2.0:1, 2.5:1, 3.0:1, 3.5:1, 4.0:1, 5.0:1, 6.0:1, 8.0:1, 10:1, 20:1, $\infty:1$ (16 points) | This determines the amount of compression, that is, the change in output signal level relative to change in input signal level.                                                                              |
| ATTACK (ms)    | 0–120 (121 points)                                                                                                            | This determines how soon the signal will be compressed once the compressor has been triggered.                                                                                                               |
| RELEASE (ms)   | 44.1kHz: 6 ms – 46.0 sec<br>48kHz: 5 ms – 42.3 sec<br>88.2kHz: 3 ms – 23.0 sec<br>96kHz: 3 ms – 21.1 sec (160 points)         | This determines how soon the compressor returns to its normal gain once the trigger signal level drops below the threshold. The value is expressed as the duration required for the level to change by 6 dB. |
| OUT GAIN (dB)  | 0.0 to +18.0 (180 points)                                                                                                     | This sets the compressor's output signal level.                                                                                                                                                              |
| KNEE           | Hard, 1–5 (6 points)                                                                                                          | This determines how compression is applied at the threshold. For higher knee settings, compression is applied gradually as the signal exceeds the specified threshold, creating a more natural sound.        |

I/O Characteristics  
(KNEE=hard, OUT GAIN=0.0dB)



Time Series Analysis (RATIO= $\infty:1$ )

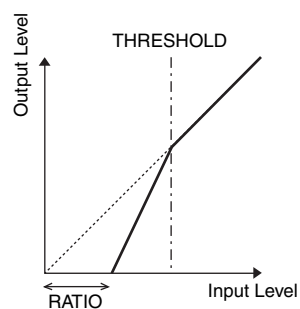


**EXPAND**

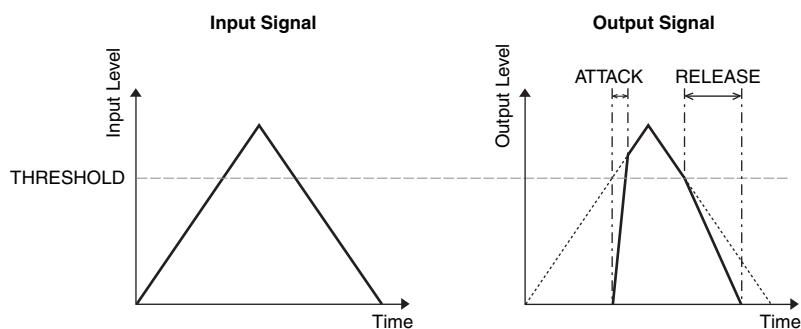
An expander attenuates signals below a specified THRESHOLD by a specified RATIO.

| Parameter             | Range                                                                                                                          | Description                                                                                                                                                                                           |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>THRESHOLD (dB)</b> | –54.0 to 0.0 (541 points)                                                                                                      | This determines the level of input signal required to trigger the expander.                                                                                                                           |
| <b>RATIO</b>          | 1.0:1, 1.1:1, 1.3:1, 1.5:1, 1.7:1, 2.0:1, 2.5:1, 3.0:1, 3.5:1, 4.0:1, 5.0:1, 6.0:1, 8.0:1, 10:1, 20:1, $\infty$ :1 (16 points) | This determines the amount of expansion.                                                                                                                                                              |
| <b>ATTACK (ms)</b>    | 0–120 (121 points)                                                                                                             | This determines how soon the expander returns to its normal gain once the trigger signal level exceeds the threshold.                                                                                 |
| <b>RELEASE (ms)</b>   | 44.1kHz: 6 ms – 46.0 sec<br>48kHz: 5 ms – 42.3 sec<br>88.2kHz: 3 ms – 23.0 sec<br>96kHz: 3 ms – 21.1 sec (160 points)          | This determines how soon the signal is expanded once the signal level drops below the threshold. The value is expressed as the duration required for the level to change by 6 dB.                     |
| <b>OUT GAIN (dB)</b>  | 0.0 to +18.0 (180 points)                                                                                                      | This sets the expander's output signal level.                                                                                                                                                         |
| <b>KNEE</b>           | Hard, 1–5 (6 points)                                                                                                           | This determines how expansion is applied at the threshold. For higher knee settings, expansion is applied gradually as the signal falls below the specified threshold, creating a more natural sound. |

**I/O Characteristics**  
(KNEE=hard, OUT GAIN=0.0dB)

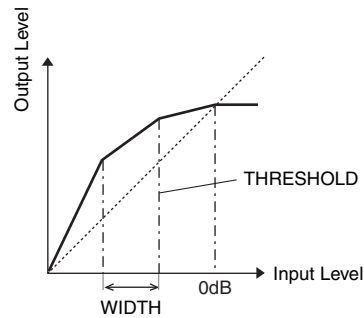


**Time Series Analysis (RATIO= $\infty$ :1)**



## COMPANDER HARD (H) COMPANDER SOFT (S)

The hard and soft companders combine the effects of the compressor, expander and limiter.



The companders function differently at the following levels:

- ① 0 dB and higher ..... Functions as a limiter.
- ② Exceeding the threshold..... Functions as a compressor.
- ③ Below the threshold and width ..... Functions as an expander.

The hard compander has an expansion ratio of 5:1, while the soft compander has an expansion ratio of 1.5:1. The expander is essentially turned off when the width is set to maximum. The compressor has a fixed knee setting of 2.

- \* The gain is automatically adjusted according to the ratio and threshold values, and can be increased by up to 18 dB.
- \* The OUT GAIN parameter enables you to compensate for the overall level change caused by the compression and expansion processes.

| Parameter             | Range                                                                                                                    | Description                                                                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>THRESHOLD (dB)</b> | –54.0 to 0.0 (541 points)                                                                                                | This determines the level at which compression is applied.                                                                                                                                                                                       |
| <b>RATIO</b>          | 1.0:1, 1.1:1, 1.3:1, 1.5:1, 1.7:1, 2.0:1, 2.5:1, 3.0:1, 3.5:1, 4.0:1, 5.0:1, 6.0:1, 8.0:1, 10:1, 20:1, (15 points)       | This determines the amount of compression.                                                                                                                                                                                                       |
| <b>ATTACK (ms)</b>    | 0–120 (121 points)                                                                                                       | This determines how soon the signal is compressed or expanded once the compander has been triggered.                                                                                                                                             |
| <b>RELEASE (ms)</b>   | 44.1kHz: 6 ms – 46.0 sec<br>48kHz: 5 ms – 42.3 sec<br>88.2kHz: 3 ms – 23.0 sec<br>96kHz: 3 ms – 21.1 sec<br>(160 points) | This determines how soon the compressor or expander returns to the normal gain once the trigger signal level drops below or exceeds the threshold respectively. The value is expressed as the duration required for the level to change by 6 dB. |
| <b>OUT GAIN (dB)</b>  | –18.0 to 0.0 (180 points)                                                                                                | This sets the compander's output signal level.                                                                                                                                                                                                   |
| <b>WIDTH (dB)</b>     | 0–90 (91 points)                                                                                                         | This determines how far below the threshold expansion will be applied. The expander is activated when the level drops below the threshold and width.                                                                                             |

# Appendix: MIDI

## Scene Memory to Program Change Table

| Program Change # | Initial Scene # | User Scene # |
|------------------|-----------------|--------------|
| 1                | 01              |              |
| 2                | 02              |              |
| 3                | 03              |              |
| 4                | 04              |              |
| 5                | 05              |              |
| 6                | 06              |              |
| 7                | 07              |              |
| 8                | 08              |              |
| 9                | 09              |              |
| 10               | 10              |              |
| 11               | 11              |              |
| 12               | 12              |              |
| 13               | 13              |              |
| 14               | 14              |              |
| 15               | 15              |              |
| 16               | 16              |              |
| 17               | 17              |              |
| 18               | 18              |              |
| 19               | 19              |              |
| 20               | 20              |              |
| 21               | 21              |              |
| 22               | 22              |              |
| 23               | 23              |              |
| 24               | 24              |              |
| 25               | 25              |              |
| 26               | 26              |              |
| 27               | 27              |              |
| 28               | 28              |              |
| 29               | 29              |              |
| 30               | 30              |              |
| 31               | 31              |              |
| 32               | 32              |              |
| 33               | 33              |              |
| 34               | 34              |              |
| 35               | 35              |              |
| 36               | 36              |              |
| 37               | 37              |              |
| 38               | 38              |              |
| 39               | 39              |              |
| 40               | 40              |              |
| 41               | 41              |              |
| 42               | 42              |              |
| 43               | 43              |              |

| Program Change # | Initial Scene # | User Scene # |
|------------------|-----------------|--------------|
| 44               | 44              |              |
| 45               | 45              |              |
| 46               | 46              |              |
| 47               | 47              |              |
| 48               | 48              |              |
| 49               | 49              |              |
| 50               | 50              |              |
| 51               | 51              |              |
| 52               | 52              |              |
| 53               | 53              |              |
| 54               | 54              |              |
| 55               | 55              |              |
| 56               | 56              |              |
| 57               | 57              |              |
| 58               | 58              |              |
| 59               | 59              |              |
| 60               | 60              |              |
| 61               | 61              |              |
| 62               | 62              |              |
| 63               | 63              |              |
| 64               | 64              |              |
| 65               | 65              |              |
| 66               | 66              |              |
| 67               | 67              |              |
| 68               | 68              |              |
| 69               | 69              |              |
| 70               | 70              |              |
| 71               | 71              |              |
| 72               | 72              |              |
| 73               | 73              |              |
| 74               | 74              |              |
| 75               | 75              |              |
| 76               | 76              |              |
| 77               | 77              |              |
| 78               | 78              |              |
| 79               | 79              |              |
| 80               | 80              |              |
| 81               | 81              |              |
| 82               | 82              |              |
| 83               | 83              |              |
| 84               | 84              |              |
| 85               | 85              |              |
| 86               | 86              |              |

| Program Change# | Initial Scene # | User Scene # |
|-----------------|-----------------|--------------|
| 87              | 87              |              |
| 88              | 88              |              |
| 89              | 89              |              |
| 90              | 90              |              |
| 91              | 91              |              |
| 92              | 92              |              |
| 93              | 93              |              |
| 94              | 94              |              |
| 95              | 95              |              |
| 96              | 96              |              |
| 97              | 97              |              |
| 98              | 98              |              |
| 99              | 99              |              |
| 100             | 00              |              |
| 101             | —               |              |
| 102             | —               |              |
| 103             | —               |              |
| 104             | —               |              |
| 105             | —               |              |
| 106             | —               |              |
| 107             | —               |              |
| 108             | —               |              |
| 109             | —               |              |
| 110             | —               |              |
| 111             | —               |              |
| 112             | —               |              |
| 113             | —               |              |
| 114             | —               |              |
| 115             | —               |              |
| 116             | —               |              |
| 117             | —               |              |
| 118             | —               |              |
| 119             | —               |              |
| 120             | —               |              |
| 121             | —               |              |
| 122             | —               |              |
| 123             | —               |              |
| 124             | —               |              |
| 125             | —               |              |
| 126             | —               |              |
| 127             | —               |              |
| 128             | —               |              |

# Initial Parameter to Control Change Table

## CHANNEL1

| #  | High      | Mid     | Low     |
|----|-----------|---------|---------|
| 0  | NO ASSIGN |         |         |
| 1  | FADER H   | CHANNEL | INPUT1  |
| 2  | FADER H   | CHANNEL | INPUT2  |
| 3  | FADER H   | CHANNEL | INPUT3  |
| 4  | FADER H   | CHANNEL | INPUT4  |
| 5  | FADER H   | CHANNEL | INPUT5  |
| 6  | FADER H   | CHANNEL | INPUT6  |
| 7  | FADER H   | CHANNEL | INPUT7  |
| 8  | FADER H   | CHANNEL | INPUT8  |
| 9  | FADER H   | CHANNEL | INPUT9  |
| 10 | FADER H   | CHANNEL | INPUT10 |
| 11 | FADER H   | CHANNEL | INPUT11 |
| 12 | FADER H   | CHANNEL | INPUT12 |
| 13 | FADER H   | CHANNEL | INPUT13 |
| 14 | FADER H   | CHANNEL | INPUT14 |
| 15 | FADER H   | CHANNEL | INPUT15 |
| 16 | FADER H   | CHANNEL | INPUT16 |
| 17 | FADER H   | CHANNEL | INPUT17 |
| 18 | FADER H   | CHANNEL | INPUT18 |
| 19 | FADER H   | CHANNEL | INPUT19 |
| 20 | FADER H   | CHANNEL | INPUT20 |
| 21 | FADER H   | CHANNEL | INPUT21 |
| 22 | FADER H   | CHANNEL | INPUT22 |
| 23 | FADER H   | CHANNEL | INPUT23 |
| 24 | FADER H   | CHANNEL | INPUT24 |
| 25 | NO ASSIGN |         |         |
| 26 | NO ASSIGN |         |         |
| 27 | NO ASSIGN |         |         |
| 28 | NO ASSIGN |         |         |
| 29 | NO ASSIGN |         |         |
| 30 | FADER H   | MASTER  | STEREO  |
| 31 | NO ASSIGN |         |         |
| 32 | NO ASSIGN |         |         |
| 33 | FADER L   | CHANNEL | INPUT1  |
| 34 | FADER L   | CHANNEL | INPUT2  |
| 35 | FADER L   | CHANNEL | INPUT3  |
| 36 | FADER L   | CHANNEL | INPUT4  |
| 37 | FADER L   | CHANNEL | INPUT5  |
| 38 | FADER L   | CHANNEL | INPUT6  |
| 39 | FADER L   | CHANNEL | INPUT7  |
| 40 | FADER L   | CHANNEL | INPUT8  |
| 41 | FADER L   | CHANNEL | INPUT9  |
| 42 | FADER L   | CHANNEL | INPUT10 |
| 43 | FADER L   | CHANNEL | INPUT11 |
| 44 | FADER L   | CHANNEL | INPUT12 |
| 45 | FADER L   | CHANNEL | INPUT13 |
| 46 | FADER L   | CHANNEL | INPUT14 |
| 47 | FADER L   | CHANNEL | INPUT15 |
| 48 | FADER L   | CHANNEL | INPUT16 |
| 49 | FADER L   | CHANNEL | INPUT17 |
| 50 | FADER L   | CHANNEL | INPUT18 |
| 51 | FADER L   | CHANNEL | INPUT19 |
| 52 | FADER L   | CHANNEL | INPUT20 |
| 53 | FADER L   | CHANNEL | INPUT21 |
| 54 | FADER L   | CHANNEL | INPUT22 |
| 55 | FADER L   | CHANNEL | INPUT23 |
| 56 | FADER L   | CHANNEL | INPUT24 |

| #   | High      | Mid     | Low     |
|-----|-----------|---------|---------|
| 57  | NO ASSIGN |         |         |
| 58  | NO ASSIGN |         |         |
| 59  | NO ASSIGN |         |         |
| 60  | NO ASSIGN |         |         |
| 61  | NO ASSIGN |         |         |
| 62  | FADER L   | MASTER  | STEREO  |
| 63  | NO ASSIGN |         |         |
| 64  | ON        | CHANNEL | INPUT1  |
| 65  | ON        | CHANNEL | INPUT2  |
| 66  | ON        | CHANNEL | INPUT3  |
| 67  | ON        | CHANNEL | INPUT4  |
| 68  | ON        | CHANNEL | INPUT5  |
| 69  | ON        | CHANNEL | INPUT6  |
| 70  | ON        | CHANNEL | INPUT7  |
| 71  | ON        | CHANNEL | INPUT8  |
| 72  | ON        | CHANNEL | INPUT9  |
| 73  | ON        | CHANNEL | INPUT10 |
| 74  | ON        | CHANNEL | INPUT11 |
| 75  | ON        | CHANNEL | INPUT12 |
| 76  | ON        | CHANNEL | INPUT13 |
| 77  | ON        | CHANNEL | INPUT14 |
| 78  | ON        | CHANNEL | INPUT15 |
| 79  | ON        | CHANNEL | INPUT16 |
| 80  | ON        | CHANNEL | INPUT17 |
| 81  | ON        | CHANNEL | INPUT18 |
| 82  | ON        | CHANNEL | INPUT19 |
| 83  | ON        | CHANNEL | INPUT20 |
| 84  | ON        | CHANNEL | INPUT21 |
| 85  | ON        | CHANNEL | INPUT22 |
| 86  | ON        | CHANNEL | INPUT23 |
| 87  | ON        | CHANNEL | INPUT24 |
| 88  | NO ASSIGN |         |         |
| 89  | PAN       | CHANNEL | INPUT1  |
| 90  | PAN       | CHANNEL | INPUT2  |
| 91  | PAN       | CHANNEL | INPUT3  |
| 92  | PAN       | CHANNEL | INPUT4  |
| 93  | PAN       | CHANNEL | INPUT5  |
| 94  | PAN       | CHANNEL | INPUT6  |
| 95  | PAN       | CHANNEL | INPUT7  |
| 102 | PAN       | CHANNEL | INPUT8  |
| 103 | PAN       | CHANNEL | INPUT9  |
| 104 | PAN       | CHANNEL | INPUT10 |
| 105 | PAN       | CHANNEL | INPUT11 |
| 106 | PAN       | CHANNEL | INPUT12 |
| 107 | PAN       | CHANNEL | INPUT13 |
| 108 | PAN       | CHANNEL | INPUT14 |
| 109 | PAN       | CHANNEL | INPUT15 |
| 110 | PAN       | CHANNEL | INPUT16 |
| 111 | PAN       | CHANNEL | INPUT17 |
| 112 | PAN       | CHANNEL | INPUT18 |
| 113 | PAN       | CHANNEL | INPUT19 |
| 114 | PAN       | CHANNEL | INPUT20 |
| 115 | PAN       | CHANNEL | INPUT21 |
| 116 | PAN       | CHANNEL | INPUT22 |
| 117 | PAN       | CHANNEL | INPUT23 |
| 118 | PAN       | CHANNEL | INPUT24 |
| 119 | NO ASSIGN |         |         |

## CHANNEL2

| #  | High      | Mid     | Low     |
|----|-----------|---------|---------|
| 0  | NO ASSIGN |         |         |
| 1  | FADER H   | CHANNEL | INPUT25 |
| 2  | FADER H   | CHANNEL | INPUT26 |
| 3  | FADER H   | CHANNEL | INPUT27 |
| 4  | FADER H   | CHANNEL | INPUT28 |
| 5  | FADER H   | CHANNEL | INPUT29 |
| 6  | FADER H   | CHANNEL | INPUT30 |
| 7  | FADER H   | CHANNEL | INPUT31 |
| 8  | FADER H   | CHANNEL | INPUT32 |
| 9  | FADER H   | CHANNEL | ST-IN1  |
| 10 | FADER H   | CHANNEL | ST-IN2  |
| 11 | FADER H   | CHANNEL | ST-IN3  |
| 12 | FADER H   | CHANNEL | ST-IN4  |
| 13 | FADER H   | MASTER  | BUS1    |
| 14 | FADER H   | MASTER  | BUS2    |
| 15 | FADER H   | MASTER  | BUS3    |
| 16 | FADER H   | MASTER  | BUS4    |
| 17 | FADER H   | MASTER  | BUS5    |
| 18 | FADER H   | MASTER  | BUS6    |
| 19 | FADER H   | MASTER  | BUS7    |
| 20 | FADER H   | MASTER  | BUS8    |
| 21 | FADER H   | MASTER  | AUX1    |
| 22 | FADER H   | MASTER  | AUX2    |
| 23 | FADER H   | MASTER  | AUX3    |
| 24 | FADER H   | MASTER  | AUX4    |
| 25 | FADER H   | MASTER  | AUX5    |
| 26 | FADER H   | MASTER  | AUX6    |
| 27 | FADER H   | MASTER  | AUX7    |
| 28 | FADER H   | MASTER  | AUX8    |
| 29 | NO ASSIGN |         |         |
| 30 | ON        | MASTER  | STEREO  |
| 31 | NO ASSIGN |         |         |
| 32 | NO ASSIGN |         |         |
| 33 | FADER L   | CHANNEL | INPUT25 |
| 34 | FADER L   | CHANNEL | INPUT26 |
| 35 | FADER L   | CHANNEL | INPUT27 |
| 36 | FADER L   | CHANNEL | INPUT28 |
| 37 | FADER L   | CHANNEL | INPUT29 |
| 38 | FADER L   | CHANNEL | INPUT30 |
| 39 | FADER L   | CHANNEL | INPUT31 |
| 40 | FADER L   | CHANNEL | INPUT32 |
| 41 | FADER L   | CHANNEL | ST-IN1  |
| 42 | FADER L   | CHANNEL | ST-IN2  |
| 43 | FADER L   | CHANNEL | ST-IN3  |
| 44 | FADER L   | CHANNEL | ST-IN4  |
| 45 | FADER L   | MASTER  | BUS1    |
| 46 | FADER L   | MASTER  | BUS2    |
| 47 | FADER L   | MASTER  | BUS3    |
| 48 | FADER L   | MASTER  | BUS4    |
| 49 | FADER L   | MASTER  | BUS5    |
| 50 | FADER L   | MASTER  | BUS6    |
| 51 | FADER L   | MASTER  | BUS7    |
| 52 | FADER L   | MASTER  | BUS8    |
| 53 | FADER L   | MASTER  | AUX1    |
| 54 | FADER L   | MASTER  | AUX2    |
| 55 | FADER L   | MASTER  | AUX3    |
| 56 | FADER L   | MASTER  | AUX4    |
| 57 | FADER L   | MASTER  | AUX5    |
| 58 | FADER L   | MASTER  | AUX6    |

| #   | High      | Mid     | Low     |
|-----|-----------|---------|---------|
| 59  | FADER L   | MASTER  | AUX7    |
| 60  | FADER L   | MASTER  | AUX8    |
| 61  | NO ASSIGN |         |         |
| 62  | BALANCE   | MASTER  | STEREO  |
| 63  | NO ASSIGN |         |         |
| 64  | ON        | CHANNEL | INPUT25 |
| 65  | ON        | CHANNEL | INPUT26 |
| 66  | ON        | CHANNEL | INPUT27 |
| 67  | ON        | CHANNEL | INPUT28 |
| 68  | ON        | CHANNEL | INPUT29 |
| 69  | ON        | CHANNEL | INPUT30 |
| 70  | ON        | CHANNEL | INPUT31 |
| 71  | ON        | CHANNEL | INPUT32 |
| 72  | ON        | CHANNEL | ST-IN1  |
| 73  | ON        | CHANNEL | ST-IN2  |
| 74  | ON        | CHANNEL | ST-IN3  |
| 75  | ON        | CHANNEL | ST-IN4  |
| 76  | ON        | MASTER  | BUS1    |
| 77  | ON        | MASTER  | BUS2    |
| 78  | ON        | MASTER  | BUS3    |
| 79  | ON        | MASTER  | BUS4    |
| 80  | ON        | MASTER  | BUS5    |
| 81  | ON        | MASTER  | BUS6    |
| 82  | ON        | MASTER  | BUS7    |
| 83  | ON        | MASTER  | BUS8    |
| 84  | NO ASSIGN |         |         |
| 85  | NO ASSIGN |         |         |
| 86  | NO ASSIGN |         |         |
| 87  | NO ASSIGN |         |         |
| 88  | NO ASSIGN |         |         |
| 89  | PAN       | CHANNEL | INPUT25 |
| 90  | PAN       | CHANNEL | INPUT26 |
| 91  | PAN       | CHANNEL | INPUT27 |
| 92  | PAN       | CHANNEL | INPUT28 |
| 93  | PAN       | CHANNEL | INPUT29 |
| 94  | PAN       | CHANNEL | INPUT30 |
| 95  | PAN       | CHANNEL | INPUT31 |
| 102 | PAN       | CHANNEL | INPUT32 |
| 103 | PAN       | CHANNEL | ST-IN1L |
| 104 | PAN       | CHANNEL | ST-IN1R |
| 105 | PAN       | CHANNEL | ST-IN2L |
| 106 | PAN       | CHANNEL | ST-IN2R |
| 107 | PAN       | CHANNEL | ST-IN3L |
| 108 | PAN       | CHANNEL | ST-IN3R |
| 109 | PAN       | CHANNEL | ST-IN4L |
| 110 | PAN       | CHANNEL | ST-IN4R |
| 111 | ON        | MASTER  | AUX1    |
| 112 | ON        | MASTER  | AUX2    |
| 113 | ON        | MASTER  | AUX3    |
| 114 | ON        | MASTER  | AUX4    |
| 115 | ON        | MASTER  | AUX5    |
| 116 | ON        | MASTER  | AUX6    |
| 117 | ON        | MASTER  | AUX7    |
| 118 | ON        | MASTER  | AUX8    |
| 119 | NO ASSIGN |         |         |

## CHANNEL3

| #  | High      | Mid     | Low     |
|----|-----------|---------|---------|
| 0  | NO ASSIGN |         |         |
| 1  | EQ        | G LOW H | INPUT1  |
| 2  | EQ        | G LOW H | INPUT2  |
| 3  | EQ        | G LOW H | INPUT3  |
| 4  | EQ        | G LOW H | INPUT4  |
| 5  | EQ        | G LOW H | INPUT5  |
| 6  | EQ        | G LOW H | INPUT6  |
| 7  | EQ        | G LOW H | INPUT7  |
| 8  | EQ        | G LOW H | INPUT8  |
| 9  | EQ        | G LOW H | INPUT9  |
| 10 | EQ        | G LOW H | INPUT10 |
| 11 | EQ        | G LOW H | INPUT11 |
| 12 | EQ        | G LOW H | INPUT12 |
| 13 | EQ        | G LOW H | INPUT13 |
| 14 | EQ        | G LOW H | INPUT14 |
| 15 | EQ        | G LOW H | INPUT15 |
| 16 | EQ        | G LOW H | INPUT16 |
| 17 | EQ        | G LOW H | INPUT17 |
| 18 | EQ        | G LOW H | INPUT18 |
| 19 | EQ        | G LOW H | INPUT19 |
| 20 | EQ        | G LOW H | INPUT20 |
| 21 | EQ        | G LOW H | INPUT21 |
| 22 | EQ        | G LOW H | INPUT22 |
| 23 | EQ        | G LOW H | INPUT23 |
| 24 | EQ        | G LOW H | INPUT24 |
| 25 | NO ASSIGN |         |         |
| 26 | NO ASSIGN |         |         |
| 27 | NO ASSIGN |         |         |
| 28 | NO ASSIGN |         |         |
| 29 | NO ASSIGN |         |         |
| 30 | NO ASSIGN |         |         |
| 31 | NO ASSIGN |         |         |
| 32 | NO ASSIGN |         |         |
| 33 | EQ        | G LOW L | INPUT1  |
| 34 | EQ        | G LOW L | INPUT2  |
| 35 | EQ        | G LOW L | INPUT3  |
| 36 | EQ        | G LOW L | INPUT4  |
| 37 | EQ        | G LOW L | INPUT5  |
| 38 | EQ        | G LOW L | INPUT6  |
| 39 | EQ        | G LOW L | INPUT7  |
| 40 | EQ        | G LOW L | INPUT8  |
| 41 | EQ        | G LOW L | INPUT9  |
| 42 | EQ        | G LOW L | INPUT10 |
| 43 | EQ        | G LOW L | INPUT11 |
| 44 | EQ        | G LOW L | INPUT12 |
| 45 | EQ        | G LOW L | INPUT13 |
| 46 | EQ        | G LOW L | INPUT14 |
| 47 | EQ        | G LOW L | INPUT15 |
| 48 | EQ        | G LOW L | INPUT16 |
| 49 | EQ        | G LOW L | INPUT17 |
| 50 | EQ        | G LOW L | INPUT18 |
| 51 | EQ        | G LOW L | INPUT19 |
| 52 | EQ        | G LOW L | INPUT20 |
| 53 | EQ        | G LOW L | INPUT21 |
| 54 | EQ        | G LOW L | INPUT22 |
| 55 | EQ        | G LOW L | INPUT23 |
| 56 | EQ        | G LOW L | INPUT24 |
| 57 | NO ASSIGN |         |         |
| 58 | NO ASSIGN |         |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | EQ        | F LOW | INPUT1  |
| 65  | EQ        | F LOW | INPUT2  |
| 66  | EQ        | F LOW | INPUT3  |
| 67  | EQ        | F LOW | INPUT4  |
| 68  | EQ        | F LOW | INPUT5  |
| 69  | EQ        | F LOW | INPUT6  |
| 70  | EQ        | F LOW | INPUT7  |
| 71  | EQ        | F LOW | INPUT8  |
| 72  | EQ        | F LOW | INPUT9  |
| 73  | EQ        | F LOW | INPUT10 |
| 74  | EQ        | F LOW | INPUT11 |
| 75  | EQ        | F LOW | INPUT12 |
| 76  | EQ        | F LOW | INPUT13 |
| 77  | EQ        | F LOW | INPUT14 |
| 78  | EQ        | F LOW | INPUT15 |
| 79  | EQ        | F LOW | INPUT16 |
| 80  | EQ        | F LOW | INPUT17 |
| 81  | EQ        | F LOW | INPUT18 |
| 82  | EQ        | F LOW | INPUT19 |
| 83  | EQ        | F LOW | INPUT20 |
| 84  | EQ        | F LOW | INPUT21 |
| 85  | EQ        | F LOW | INPUT22 |
| 86  | EQ        | F LOW | INPUT23 |
| 87  | EQ        | F LOW | INPUT24 |
| 88  | NO ASSIGN |       |         |
| 89  | EQ        | Q LOW | INPUT1  |
| 90  | EQ        | Q LOW | INPUT2  |
| 91  | EQ        | Q LOW | INPUT3  |
| 92  | EQ        | Q LOW | INPUT4  |
| 93  | EQ        | Q LOW | INPUT5  |
| 94  | EQ        | Q LOW | INPUT6  |
| 95  | EQ        | Q LOW | INPUT7  |
| 102 | EQ        | Q LOW | INPUT8  |
| 103 | EQ        | Q LOW | INPUT9  |
| 104 | EQ        | Q LOW | INPUT10 |
| 105 | EQ        | Q LOW | INPUT11 |
| 106 | EQ        | Q LOW | INPUT12 |
| 107 | EQ        | Q LOW | INPUT13 |
| 108 | EQ        | Q LOW | INPUT14 |
| 109 | EQ        | Q LOW | INPUT15 |
| 110 | EQ        | Q LOW | INPUT16 |
| 111 | EQ        | Q LOW | INPUT17 |
| 112 | EQ        | Q LOW | INPUT18 |
| 113 | EQ        | Q LOW | INPUT19 |
| 114 | EQ        | Q LOW | INPUT20 |
| 115 | EQ        | Q LOW | INPUT21 |
| 116 | EQ        | Q LOW | INPUT22 |
| 117 | EQ        | Q LOW | INPUT23 |
| 118 | EQ        | Q LOW | INPUT24 |
| 119 | NO ASSIGN |       |         |

## CHANNEL4

| #  | High      | Mid     | Low     |
|----|-----------|---------|---------|
| 0  | NO ASSIGN |         |         |
| 1  | EQ        | G LOW H | INPUT25 |
| 2  | EQ        | G LOW H | INPUT26 |
| 3  | EQ        | G LOW H | INPUT27 |
| 4  | EQ        | G LOW H | INPUT28 |
| 5  | EQ        | G LOW H | INPUT29 |
| 6  | EQ        | G LOW H | INPUT30 |
| 7  | EQ        | G LOW H | INPUT31 |
| 8  | EQ        | G LOW H | INPUT32 |
| 9  | EQ        | G LOW H | ST-IN1  |
| 10 | EQ        | G LOW H | ST-IN2  |
| 11 | EQ        | G LOW H | ST-IN3  |
| 12 | EQ        | G LOW H | ST-IN4  |
| 13 | NO ASSIGN |         |         |
| 14 | NO ASSIGN |         |         |
| 15 | NO ASSIGN |         |         |
| 16 | NO ASSIGN |         |         |
| 17 | NO ASSIGN |         |         |
| 18 | NO ASSIGN |         |         |
| 19 | NO ASSIGN |         |         |
| 20 | NO ASSIGN |         |         |
| 21 | NO ASSIGN |         |         |
| 22 | NO ASSIGN |         |         |
| 23 | NO ASSIGN |         |         |
| 24 | NO ASSIGN |         |         |
| 25 | NO ASSIGN |         |         |
| 26 | NO ASSIGN |         |         |
| 27 | NO ASSIGN |         |         |
| 28 | NO ASSIGN |         |         |
| 29 | NO ASSIGN |         |         |
| 30 | NO ASSIGN |         |         |
| 31 | NO ASSIGN |         |         |
| 32 | NO ASSIGN |         |         |
| 33 | EQ        | G LOW L | INPUT25 |
| 34 | EQ        | G LOW L | INPUT26 |
| 35 | EQ        | G LOW L | INPUT27 |
| 36 | EQ        | G LOW L | INPUT28 |
| 37 | EQ        | G LOW L | INPUT29 |
| 38 | EQ        | G LOW L | INPUT30 |
| 39 | EQ        | G LOW L | INPUT31 |
| 40 | EQ        | G LOW L | INPUT32 |
| 41 | EQ        | G LOW L | ST-IN1  |
| 42 | EQ        | G LOW L | ST-IN2  |
| 43 | EQ        | G LOW L | ST-IN3  |
| 44 | EQ        | G LOW L | ST-IN4  |
| 45 | NO ASSIGN |         |         |
| 46 | NO ASSIGN |         |         |
| 47 | NO ASSIGN |         |         |
| 48 | NO ASSIGN |         |         |
| 49 | NO ASSIGN |         |         |
| 50 | NO ASSIGN |         |         |
| 51 | NO ASSIGN |         |         |
| 52 | NO ASSIGN |         |         |
| 53 | NO ASSIGN |         |         |
| 54 | NO ASSIGN |         |         |
| 55 | NO ASSIGN |         |         |
| 56 | NO ASSIGN |         |         |
| 57 | NO ASSIGN |         |         |
| 58 | NO ASSIGN |         |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | EQ        | F LOW | INPUT25 |
| 65  | EQ        | F LOW | INPUT26 |
| 66  | EQ        | F LOW | INPUT27 |
| 67  | EQ        | F LOW | INPUT28 |
| 68  | EQ        | F LOW | INPUT29 |
| 69  | EQ        | F LOW | INPUT30 |
| 70  | EQ        | F LOW | INPUT31 |
| 71  | EQ        | F LOW | INPUT32 |
| 72  | EQ        | F LOW | ST-IN1  |
| 73  | EQ        | F LOW | ST-IN2  |
| 74  | EQ        | F LOW | ST-IN3  |
| 75  | EQ        | F LOW | ST-IN4  |
| 76  | NO ASSIGN |       |         |
| 77  | NO ASSIGN |       |         |
| 78  | NO ASSIGN |       |         |
| 79  | NO ASSIGN |       |         |
| 80  | NO ASSIGN |       |         |
| 81  | NO ASSIGN |       |         |
| 82  | NO ASSIGN |       |         |
| 83  | NO ASSIGN |       |         |
| 84  | NO ASSIGN |       |         |
| 85  | NO ASSIGN |       |         |
| 86  | NO ASSIGN |       |         |
| 87  | NO ASSIGN |       |         |
| 88  | NO ASSIGN |       |         |
| 89  | EQ        | Q LOW | INPUT25 |
| 90  | EQ        | Q LOW | INPUT26 |
| 91  | EQ        | Q LOW | INPUT27 |
| 92  | EQ        | Q LOW | INPUT28 |
| 93  | EQ        | Q LOW | INPUT29 |
| 94  | EQ        | Q LOW | INPUT30 |
| 95  | EQ        | Q LOW | INPUT31 |
| 102 | EQ        | Q LOW | INPUT32 |
| 103 | EQ        | Q LOW | ST-IN1  |
| 104 | EQ        | Q LOW | ST-IN2  |
| 105 | EQ        | Q LOW | ST-IN3  |
| 106 | EQ        | Q LOW | ST-IN4  |
| 107 | NO ASSIGN |       |         |
| 108 | NO ASSIGN |       |         |
| 109 | NO ASSIGN |       |         |
| 110 | NO ASSIGN |       |         |
| 111 | NO ASSIGN |       |         |
| 112 | NO ASSIGN |       |         |
| 113 | NO ASSIGN |       |         |
| 114 | NO ASSIGN |       |         |
| 115 | NO ASSIGN |       |         |
| 116 | NO ASSIGN |       |         |
| 117 | NO ASSIGN |       |         |
| 118 | NO ASSIGN |       |         |
| 119 | NO ASSIGN |       |         |

## CHANNEL5

| #  | High      | Mid        | Low     |
|----|-----------|------------|---------|
| 0  | NO ASSIGN |            |         |
| 1  | EQ        | G LO-MID H | INPUT1  |
| 2  | EQ        | G LO-MID H | INPUT2  |
| 3  | EQ        | G LO-MID H | INPUT3  |
| 4  | EQ        | G LO-MID H | INPUT4  |
| 5  | EQ        | G LO-MID H | INPUT5  |
| 6  | EQ        | G LO-MID H | INPUT6  |
| 7  | EQ        | G LO-MID H | INPUT7  |
| 8  | EQ        | G LO-MID H | INPUT8  |
| 9  | EQ        | G LO-MID H | INPUT9  |
| 10 | EQ        | G LO-MID H | INPUT10 |
| 11 | EQ        | G LO-MID H | INPUT11 |
| 12 | EQ        | G LO-MID H | INPUT12 |
| 13 | EQ        | G LO-MID H | INPUT13 |
| 14 | EQ        | G LO-MID H | INPUT14 |
| 15 | EQ        | G LO-MID H | INPUT15 |
| 16 | EQ        | G LO-MID H | INPUT16 |
| 17 | EQ        | G LO-MID H | INPUT17 |
| 18 | EQ        | G LO-MID H | INPUT18 |
| 19 | EQ        | G LO-MID H | INPUT19 |
| 20 | EQ        | G LO-MID H | INPUT20 |
| 21 | EQ        | G LO-MID H | INPUT21 |
| 22 | EQ        | G LO-MID H | INPUT22 |
| 23 | EQ        | G LO-MID H | INPUT23 |
| 24 | EQ        | G LO-MID H | INPUT24 |
| 25 | NO ASSIGN |            |         |
| 26 | NO ASSIGN |            |         |
| 27 | NO ASSIGN |            |         |
| 28 | NO ASSIGN |            |         |
| 29 | NO ASSIGN |            |         |
| 30 | NO ASSIGN |            |         |
| 31 | NO ASSIGN |            |         |
| 32 | NO ASSIGN |            |         |
| 33 | EQ        | G LO-MID L | INPUT1  |
| 34 | EQ        | G LO-MID L | INPUT2  |
| 35 | EQ        | G LO-MID L | INPUT3  |
| 36 | EQ        | G LO-MID L | INPUT4  |
| 37 | EQ        | G LO-MID L | INPUT5  |
| 38 | EQ        | G LO-MID L | INPUT6  |
| 39 | EQ        | G LO-MID L | INPUT7  |
| 40 | EQ        | G LO-MID L | INPUT8  |
| 41 | EQ        | G LO-MID L | INPUT9  |
| 42 | EQ        | G LO-MID L | INPUT10 |
| 43 | EQ        | G LO-MID L | INPUT11 |
| 44 | EQ        | G LO-MID L | INPUT12 |
| 45 | EQ        | G LO-MID L | INPUT13 |
| 46 | EQ        | G LO-MID L | INPUT14 |
| 47 | EQ        | G LO-MID L | INPUT15 |
| 48 | EQ        | G LO-MID L | INPUT16 |
| 49 | EQ        | G LO-MID L | INPUT17 |
| 50 | EQ        | G LO-MID L | INPUT18 |
| 51 | EQ        | G LO-MID L | INPUT19 |
| 52 | EQ        | G LO-MID L | INPUT20 |
| 53 | EQ        | G LO-MID L | INPUT21 |
| 54 | EQ        | G LO-MID L | INPUT22 |
| 55 | EQ        | G LO-MID L | INPUT23 |
| 56 | EQ        | G LO-MID L | INPUT24 |
| 57 | NO ASSIGN |            |         |
| 58 | NO ASSIGN |            |         |

| #   | High      | Mid      | Low     |
|-----|-----------|----------|---------|
| 59  | NO ASSIGN |          |         |
| 60  | NO ASSIGN |          |         |
| 61  | NO ASSIGN |          |         |
| 62  | NO ASSIGN |          |         |
| 63  | NO ASSIGN |          |         |
| 64  | EQ        | F LO-MID | INPUT1  |
| 65  | EQ        | F LO-MID | INPUT2  |
| 66  | EQ        | F LO-MID | INPUT3  |
| 67  | EQ        | F LO-MID | INPUT4  |
| 68  | EQ        | F LO-MID | INPUT5  |
| 69  | EQ        | F LO-MID | INPUT6  |
| 70  | EQ        | F LO-MID | INPUT7  |
| 71  | EQ        | F LO-MID | INPUT8  |
| 72  | EQ        | F LO-MID | INPUT9  |
| 73  | EQ        | F LO-MID | INPUT10 |
| 74  | EQ        | F LO-MID | INPUT11 |
| 75  | EQ        | F LO-MID | INPUT12 |
| 76  | EQ        | F LO-MID | INPUT13 |
| 77  | EQ        | F LO-MID | INPUT14 |
| 78  | EQ        | F LO-MID | INPUT15 |
| 79  | EQ        | F LO-MID | INPUT16 |
| 80  | EQ        | F LO-MID | INPUT17 |
| 81  | EQ        | F LO-MID | INPUT18 |
| 82  | EQ        | F LO-MID | INPUT19 |
| 83  | EQ        | F LO-MID | INPUT20 |
| 84  | EQ        | F LO-MID | INPUT21 |
| 85  | EQ        | F LO-MID | INPUT22 |
| 86  | EQ        | F LO-MID | INPUT23 |
| 87  | EQ        | F LO-MID | INPUT24 |
| 88  | NO ASSIGN |          |         |
| 89  | EQ        | Q LO-MID | INPUT1  |
| 90  | EQ        | Q LO-MID | INPUT2  |
| 91  | EQ        | Q LO-MID | INPUT3  |
| 92  | EQ        | Q LO-MID | INPUT4  |
| 93  | EQ        | Q LO-MID | INPUT5  |
| 94  | EQ        | Q LO-MID | INPUT6  |
| 95  | EQ        | Q LO-MID | INPUT7  |
| 102 | EQ        | Q LO-MID | INPUT8  |
| 103 | EQ        | Q LO-MID | INPUT9  |
| 104 | EQ        | Q LO-MID | INPUT10 |
| 105 | EQ        | Q LO-MID | INPUT11 |
| 106 | EQ        | Q LO-MID | INPUT12 |
| 107 | EQ        | Q LO-MID | INPUT13 |
| 108 | EQ        | Q LO-MID | INPUT14 |
| 109 | EQ        | Q LO-MID | INPUT15 |
| 110 | EQ        | Q LO-MID | INPUT16 |
| 111 | EQ        | Q LO-MID | INPUT17 |
| 112 | EQ        | Q LO-MID | INPUT18 |
| 113 | EQ        | Q LO-MID | INPUT19 |
| 114 | EQ        | Q LO-MID | INPUT20 |
| 115 | EQ        | Q LO-MID | INPUT21 |
| 116 | EQ        | Q LO-MID | INPUT22 |
| 117 | EQ        | Q LO-MID | INPUT23 |
| 118 | EQ        | Q LO-MID | INPUT24 |
| 119 | NO ASSIGN |          |         |

## CHANNEL6

| #  | High      | Mid        | Low     |
|----|-----------|------------|---------|
| 0  | NO ASSIGN |            |         |
| 1  | EQ        | G LO-MID H | INPUT25 |
| 2  | EQ        | G LO-MID H | INPUT26 |
| 3  | EQ        | G LO-MID H | INPUT27 |
| 4  | EQ        | G LO-MID H | INPUT28 |
| 5  | EQ        | G LO-MID H | INPUT29 |
| 6  | EQ        | G LO-MID H | INPUT30 |
| 7  | EQ        | G LO-MID H | INPUT31 |
| 8  | EQ        | G LO-MID H | INPUT32 |
| 9  | EQ        | G LO-MID H | ST-IN1  |
| 10 | EQ        | G LO-MID H | ST-IN2  |
| 11 | EQ        | G LO-MID H | ST-IN3  |
| 12 | EQ        | G LO-MID H | ST-IN4  |
| 13 | NO ASSIGN |            |         |
| 14 | NO ASSIGN |            |         |
| 15 | NO ASSIGN |            |         |
| 16 | NO ASSIGN |            |         |
| 17 | NO ASSIGN |            |         |
| 18 | NO ASSIGN |            |         |
| 19 | NO ASSIGN |            |         |
| 20 | NO ASSIGN |            |         |
| 21 | NO ASSIGN |            |         |
| 22 | NO ASSIGN |            |         |
| 23 | NO ASSIGN |            |         |
| 24 | NO ASSIGN |            |         |
| 25 | NO ASSIGN |            |         |
| 26 | NO ASSIGN |            |         |
| 27 | NO ASSIGN |            |         |
| 28 | NO ASSIGN |            |         |
| 29 | NO ASSIGN |            |         |
| 30 | NO ASSIGN |            |         |
| 31 | NO ASSIGN |            |         |
| 32 | NO ASSIGN |            |         |
| 33 | EQ        | G LO-MID L | INPUT25 |
| 34 | EQ        | G LO-MID L | INPUT26 |
| 35 | EQ        | G LO-MID L | INPUT27 |
| 36 | EQ        | G LO-MID L | INPUT28 |
| 37 | EQ        | G LO-MID L | INPUT29 |
| 38 | EQ        | G LO-MID L | INPUT30 |
| 39 | EQ        | G LO-MID L | INPUT31 |
| 40 | EQ        | G LO-MID L | INPUT32 |
| 41 | EQ        | G LO-MID L | ST-IN1  |
| 42 | EQ        | G LO-MID L | ST-IN2  |
| 43 | EQ        | G LO-MID L | ST-IN3  |
| 44 | EQ        | G LO-MID L | ST-IN4  |
| 45 | NO ASSIGN |            |         |
| 46 | NO ASSIGN |            |         |
| 47 | NO ASSIGN |            |         |
| 48 | NO ASSIGN |            |         |
| 49 | NO ASSIGN |            |         |
| 50 | NO ASSIGN |            |         |
| 51 | NO ASSIGN |            |         |
| 52 | NO ASSIGN |            |         |
| 53 | NO ASSIGN |            |         |
| 54 | NO ASSIGN |            |         |
| 55 | NO ASSIGN |            |         |
| 56 | NO ASSIGN |            |         |
| 57 | NO ASSIGN |            |         |
| 58 | NO ASSIGN |            |         |

| #   | High      | Mid      | Low     |
|-----|-----------|----------|---------|
| 59  | NO ASSIGN |          |         |
| 60  | NO ASSIGN |          |         |
| 61  | NO ASSIGN |          |         |
| 62  | NO ASSIGN |          |         |
| 63  | NO ASSIGN |          |         |
| 64  | EQ        | F LO-MID | INPUT25 |
| 65  | EQ        | F LO-MID | INPUT26 |
| 66  | EQ        | F LO-MID | INPUT27 |
| 67  | EQ        | F LO-MID | INPUT28 |
| 68  | EQ        | F LO-MID | INPUT29 |
| 69  | EQ        | F LO-MID | INPUT30 |
| 70  | EQ        | F LO-MID | INPUT31 |
| 71  | EQ        | F LO-MID | INPUT32 |
| 72  | EQ        | F LO-MID | ST-IN1  |
| 73  | EQ        | F LO-MID | ST-IN2  |
| 74  | EQ        | F LO-MID | ST-IN3  |
| 75  | EQ        | F LO-MID | ST-IN4  |
| 76  | NO ASSIGN |          |         |
| 77  | NO ASSIGN |          |         |
| 78  | NO ASSIGN |          |         |
| 79  | NO ASSIGN |          |         |
| 80  | NO ASSIGN |          |         |
| 81  | NO ASSIGN |          |         |
| 82  | NO ASSIGN |          |         |
| 83  | NO ASSIGN |          |         |
| 84  | NO ASSIGN |          |         |
| 85  | NO ASSIGN |          |         |
| 86  | NO ASSIGN |          |         |
| 87  | NO ASSIGN |          |         |
| 88  | NO ASSIGN |          |         |
| 89  | EQ        | Q LO-MID | INPUT25 |
| 90  | EQ        | Q LO-MID | INPUT26 |
| 91  | EQ        | Q LO-MID | INPUT27 |
| 92  | EQ        | Q LO-MID | INPUT28 |
| 93  | EQ        | Q LO-MID | INPUT29 |
| 94  | EQ        | Q LO-MID | INPUT30 |
| 95  | EQ        | Q LO-MID | INPUT31 |
| 102 | EQ        | Q LO-MID | INPUT32 |
| 103 | EQ        | Q LO-MID | ST-IN1  |
| 104 | EQ        | Q LO-MID | ST-IN2  |
| 105 | EQ        | Q LO-MID | ST-IN3  |
| 106 | EQ        | Q LO-MID | ST-IN4  |
| 107 | NO ASSIGN |          |         |
| 108 | NO ASSIGN |          |         |
| 109 | NO ASSIGN |          |         |
| 110 | NO ASSIGN |          |         |
| 111 | NO ASSIGN |          |         |
| 112 | NO ASSIGN |          |         |
| 113 | NO ASSIGN |          |         |
| 114 | NO ASSIGN |          |         |
| 115 | NO ASSIGN |          |         |
| 116 | NO ASSIGN |          |         |
| 117 | NO ASSIGN |          |         |
| 118 | NO ASSIGN |          |         |
| 119 | NO ASSIGN |          |         |

## CHANNEL7

| #  | High      | Mid        | Low     |
|----|-----------|------------|---------|
| 0  | NO ASSIGN |            |         |
| 1  | EQ        | G HI-MID H | INPUT1  |
| 2  | EQ        | G HI-MID H | INPUT2  |
| 3  | EQ        | G HI-MID H | INPUT3  |
| 4  | EQ        | G HI-MID H | INPUT4  |
| 5  | EQ        | G HI-MID H | INPUT5  |
| 6  | EQ        | G HI-MID H | INPUT6  |
| 7  | EQ        | G HI-MID H | INPUT7  |
| 8  | EQ        | G HI-MID H | INPUT8  |
| 9  | EQ        | G HI-MID H | INPUT9  |
| 10 | EQ        | G HI-MID H | INPUT10 |
| 11 | EQ        | G HI-MID H | INPUT11 |
| 12 | EQ        | G HI-MID H | INPUT12 |
| 13 | EQ        | G HI-MID H | INPUT13 |
| 14 | EQ        | G HI-MID H | INPUT14 |
| 15 | EQ        | G HI-MID H | INPUT15 |
| 16 | EQ        | G HI-MID H | INPUT16 |
| 17 | EQ        | G HI-MID H | INPUT17 |
| 18 | EQ        | G HI-MID H | INPUT18 |
| 19 | EQ        | G HI-MID H | INPUT19 |
| 20 | EQ        | G HI-MID H | INPUT20 |
| 21 | EQ        | G HI-MID H | INPUT21 |
| 22 | EQ        | G HI-MID H | INPUT22 |
| 23 | EQ        | G HI-MID H | INPUT23 |
| 24 | EQ        | G HI-MID H | INPUT24 |
| 25 | NO ASSIGN |            |         |
| 26 | NO ASSIGN |            |         |
| 27 | NO ASSIGN |            |         |
| 28 | NO ASSIGN |            |         |
| 29 | NO ASSIGN |            |         |
| 30 | NO ASSIGN |            |         |
| 31 | NO ASSIGN |            |         |
| 32 | NO ASSIGN |            |         |
| 33 | EQ        | G HI-MID L | INPUT1  |
| 34 | EQ        | G HI-MID L | INPUT2  |
| 35 | EQ        | G HI-MID L | INPUT3  |
| 36 | EQ        | G HI-MID L | INPUT4  |
| 37 | EQ        | G HI-MID L | INPUT5  |
| 38 | EQ        | G HI-MID L | INPUT6  |
| 39 | EQ        | G HI-MID L | INPUT7  |
| 40 | EQ        | G HI-MID L | INPUT8  |
| 41 | EQ        | G HI-MID L | INPUT9  |
| 42 | EQ        | G HI-MID L | INPUT10 |
| 43 | EQ        | G HI-MID L | INPUT11 |
| 44 | EQ        | G HI-MID L | INPUT12 |
| 45 | EQ        | G HI-MID L | INPUT13 |
| 46 | EQ        | G HI-MID L | INPUT14 |
| 47 | EQ        | G HI-MID L | INPUT15 |
| 48 | EQ        | G HI-MID L | INPUT16 |
| 49 | EQ        | G HI-MID L | INPUT17 |
| 50 | EQ        | G HI-MID L | INPUT18 |
| 51 | EQ        | G HI-MID L | INPUT19 |
| 52 | EQ        | G HI-MID L | INPUT20 |
| 53 | EQ        | G HI-MID L | INPUT21 |
| 54 | EQ        | G HI-MID L | INPUT22 |
| 55 | EQ        | G HI-MID L | INPUT23 |
| 56 | EQ        | G HI-MID L | INPUT24 |
| 57 | NO ASSIGN |            |         |
| 58 | NO ASSIGN |            |         |

| #   | High      | Mid      | Low     |
|-----|-----------|----------|---------|
| 59  | NO ASSIGN |          |         |
| 60  | NO ASSIGN |          |         |
| 61  | NO ASSIGN |          |         |
| 62  | NO ASSIGN |          |         |
| 63  | NO ASSIGN |          |         |
| 64  | EQ        | F HI-MID | INPUT1  |
| 65  | EQ        | F HI-MID | INPUT2  |
| 66  | EQ        | F HI-MID | INPUT3  |
| 67  | EQ        | F HI-MID | INPUT4  |
| 68  | EQ        | F HI-MID | INPUT5  |
| 69  | EQ        | F HI-MID | INPUT6  |
| 70  | EQ        | F HI-MID | INPUT7  |
| 71  | EQ        | F HI-MID | INPUT8  |
| 72  | EQ        | F HI-MID | INPUT9  |
| 73  | EQ        | F HI-MID | INPUT10 |
| 74  | EQ        | F HI-MID | INPUT11 |
| 75  | EQ        | F HI-MID | INPUT12 |
| 76  | EQ        | F HI-MID | INPUT13 |
| 77  | EQ        | F HI-MID | INPUT14 |
| 78  | EQ        | F HI-MID | INPUT15 |
| 79  | EQ        | F HI-MID | INPUT16 |
| 80  | EQ        | F HI-MID | INPUT17 |
| 81  | EQ        | F HI-MID | INPUT18 |
| 82  | EQ        | F HI-MID | INPUT19 |
| 83  | EQ        | F HI-MID | INPUT20 |
| 84  | EQ        | F HI-MID | INPUT21 |
| 85  | EQ        | F HI-MID | INPUT22 |
| 86  | EQ        | F HI-MID | INPUT23 |
| 87  | EQ        | F HI-MID | INPUT24 |
| 88  | NO ASSIGN |          |         |
| 89  | EQ        | Q HI-MID | INPUT1  |
| 90  | EQ        | Q HI-MID | INPUT2  |
| 91  | EQ        | Q HI-MID | INPUT3  |
| 92  | EQ        | Q HI-MID | INPUT4  |
| 93  | EQ        | Q HI-MID | INPUT5  |
| 94  | EQ        | Q HI-MID | INPUT6  |
| 95  | EQ        | Q HI-MID | INPUT7  |
| 102 | EQ        | Q HI-MID | INPUT8  |
| 103 | EQ        | Q HI-MID | INPUT9  |
| 104 | EQ        | Q HI-MID | INPUT10 |
| 105 | EQ        | Q HI-MID | INPUT11 |
| 106 | EQ        | Q HI-MID | INPUT12 |
| 107 | EQ        | Q HI-MID | INPUT13 |
| 108 | EQ        | Q HI-MID | INPUT14 |
| 109 | EQ        | Q HI-MID | INPUT15 |
| 110 | EQ        | Q HI-MID | INPUT16 |
| 111 | EQ        | Q HI-MID | INPUT17 |
| 112 | EQ        | Q HI-MID | INPUT18 |
| 113 | EQ        | Q HI-MID | INPUT19 |
| 114 | EQ        | Q HI-MID | INPUT20 |
| 115 | EQ        | Q HI-MID | INPUT21 |
| 116 | EQ        | Q HI-MID | INPUT22 |
| 117 | EQ        | Q HI-MID | INPUT23 |
| 118 | EQ        | Q HI-MID | INPUT24 |
| 119 | NO ASSIGN |          |         |

## CHANNEL8

| #  | High      | Mid        | Low     |
|----|-----------|------------|---------|
| 0  | NO ASSIGN |            |         |
| 1  | EQ        | G HI-MID H | INPUT25 |
| 2  | EQ        | G HI-MID H | INPUT26 |
| 3  | EQ        | G HI-MID H | INPUT27 |
| 4  | EQ        | G HI-MID H | INPUT28 |
| 5  | EQ        | G HI-MID H | INPUT29 |
| 6  | EQ        | G HI-MID H | INPUT30 |
| 7  | EQ        | G HI-MID H | INPUT31 |
| 8  | EQ        | G HI-MID H | INPUT32 |
| 9  | EQ        | G HI-MID H | ST-IN1  |
| 10 | EQ        | G HI-MID H | ST-IN2  |
| 11 | EQ        | G HI-MID H | ST-IN3  |
| 12 | EQ        | G HI-MID H | ST-IN4  |
| 13 | NO ASSIGN |            |         |
| 14 | NO ASSIGN |            |         |
| 15 | NO ASSIGN |            |         |
| 16 | NO ASSIGN |            |         |
| 17 | NO ASSIGN |            |         |
| 18 | NO ASSIGN |            |         |
| 19 | NO ASSIGN |            |         |
| 20 | NO ASSIGN |            |         |
| 21 | NO ASSIGN |            |         |
| 22 | NO ASSIGN |            |         |
| 23 | NO ASSIGN |            |         |
| 24 | NO ASSIGN |            |         |
| 25 | NO ASSIGN |            |         |
| 26 | NO ASSIGN |            |         |
| 27 | NO ASSIGN |            |         |
| 28 | NO ASSIGN |            |         |
| 29 | NO ASSIGN |            |         |
| 30 | NO ASSIGN |            |         |
| 31 | NO ASSIGN |            |         |
| 32 | NO ASSIGN |            |         |
| 33 | EQ        | G HI-MID L | INPUT25 |
| 34 | EQ        | G HI-MID L | INPUT26 |
| 35 | EQ        | G HI-MID L | INPUT27 |
| 36 | EQ        | G HI-MID L | INPUT28 |
| 37 | EQ        | G HI-MID L | INPUT29 |
| 38 | EQ        | G HI-MID L | INPUT30 |
| 39 | EQ        | G HI-MID L | INPUT31 |
| 40 | EQ        | G HI-MID L | INPUT32 |
| 41 | EQ        | G HI-MID L | ST-IN1  |
| 42 | EQ        | G HI-MID L | ST-IN2  |
| 43 | EQ        | G HI-MID L | ST-IN3  |
| 44 | EQ        | G HI-MID L | ST-IN4  |
| 45 | NO ASSIGN |            |         |
| 46 | NO ASSIGN |            |         |
| 47 | NO ASSIGN |            |         |
| 48 | NO ASSIGN |            |         |
| 49 | NO ASSIGN |            |         |
| 50 | NO ASSIGN |            |         |
| 51 | NO ASSIGN |            |         |
| 52 | NO ASSIGN |            |         |
| 53 | NO ASSIGN |            |         |
| 54 | NO ASSIGN |            |         |
| 55 | NO ASSIGN |            |         |
| 56 | NO ASSIGN |            |         |
| 57 | NO ASSIGN |            |         |
| 58 | NO ASSIGN |            |         |

| #   | High      | Mid      | Low     |
|-----|-----------|----------|---------|
| 59  | NO ASSIGN |          |         |
| 60  | NO ASSIGN |          |         |
| 61  | NO ASSIGN |          |         |
| 62  | NO ASSIGN |          |         |
| 63  | NO ASSIGN |          |         |
| 64  | EQ        | F HI-MID | INPUT25 |
| 65  | EQ        | F HI-MID | INPUT26 |
| 66  | EQ        | F HI-MID | INPUT27 |
| 67  | EQ        | F HI-MID | INPUT28 |
| 68  | EQ        | F HI-MID | INPUT29 |
| 69  | EQ        | F HI-MID | INPUT30 |
| 70  | EQ        | F HI-MID | INPUT31 |
| 71  | EQ        | F HI-MID | INPUT32 |
| 72  | EQ        | F HI-MID | ST-IN1  |
| 73  | EQ        | F HI-MID | ST-IN2  |
| 74  | EQ        | F HI-MID | ST-IN3  |
| 75  | EQ        | F HI-MID | ST-IN4  |
| 76  | NO ASSIGN |          |         |
| 77  | NO ASSIGN |          |         |
| 78  | NO ASSIGN |          |         |
| 79  | NO ASSIGN |          |         |
| 80  | NO ASSIGN |          |         |
| 81  | NO ASSIGN |          |         |
| 82  | NO ASSIGN |          |         |
| 83  | NO ASSIGN |          |         |
| 84  | NO ASSIGN |          |         |
| 85  | NO ASSIGN |          |         |
| 86  | NO ASSIGN |          |         |
| 87  | NO ASSIGN |          |         |
| 88  | NO ASSIGN |          |         |
| 89  | EQ        | Q HI-MID | INPUT25 |
| 90  | EQ        | Q HI-MID | INPUT26 |
| 91  | EQ        | Q HI-MID | INPUT27 |
| 92  | EQ        | Q HI-MID | INPUT28 |
| 93  | EQ        | Q HI-MID | INPUT29 |
| 94  | EQ        | Q HI-MID | INPUT30 |
| 95  | EQ        | Q HI-MID | INPUT31 |
| 102 | EQ        | Q HI-MID | INPUT32 |
| 103 | EQ        | Q HI-MID | ST-IN1  |
| 104 | EQ        | Q HI-MID | ST-IN2  |
| 105 | EQ        | Q HI-MID | ST-IN3  |
| 106 | EQ        | Q HI-MID | ST-IN4  |
| 107 | NO ASSIGN |          |         |
| 108 | NO ASSIGN |          |         |
| 109 | NO ASSIGN |          |         |
| 110 | NO ASSIGN |          |         |
| 111 | NO ASSIGN |          |         |
| 112 | NO ASSIGN |          |         |
| 113 | NO ASSIGN |          |         |
| 114 | NO ASSIGN |          |         |
| 115 | NO ASSIGN |          |         |
| 116 | NO ASSIGN |          |         |
| 117 | NO ASSIGN |          |         |
| 118 | NO ASSIGN |          |         |
| 119 | NO ASSIGN |          |         |

## CHANNEL9

| #  | High      | Mid      | Low     |
|----|-----------|----------|---------|
| 0  | NO ASSIGN |          |         |
| 1  | EQ        | G HIGH H | INPUT1  |
| 2  | EQ        | G HIGH H | INPUT2  |
| 3  | EQ        | G HIGH H | INPUT3  |
| 4  | EQ        | G HIGH H | INPUT4  |
| 5  | EQ        | G HIGH H | INPUT5  |
| 6  | EQ        | G HIGH H | INPUT6  |
| 7  | EQ        | G HIGH H | INPUT7  |
| 8  | EQ        | G HIGH H | INPUT8  |
| 9  | EQ        | G HIGH H | INPUT9  |
| 10 | EQ        | G HIGH H | INPUT10 |
| 11 | EQ        | G HIGH H | INPUT11 |
| 12 | EQ        | G HIGH H | INPUT12 |
| 13 | EQ        | G HIGH H | INPUT13 |
| 14 | EQ        | G HIGH H | INPUT14 |
| 15 | EQ        | G HIGH H | INPUT15 |
| 16 | EQ        | G HIGH H | INPUT16 |
| 17 | EQ        | G HIGH H | INPUT17 |
| 18 | EQ        | G HIGH H | INPUT18 |
| 19 | EQ        | G HIGH H | INPUT19 |
| 20 | EQ        | G HIGH H | INPUT20 |
| 21 | EQ        | G HIGH H | INPUT21 |
| 22 | EQ        | G HIGH H | INPUT22 |
| 23 | EQ        | G HIGH H | INPUT23 |
| 24 | EQ        | G HIGH H | INPUT24 |
| 25 | NO ASSIGN |          |         |
| 26 | NO ASSIGN |          |         |
| 27 | NO ASSIGN |          |         |
| 28 | NO ASSIGN |          |         |
| 29 | NO ASSIGN |          |         |
| 30 | NO ASSIGN |          |         |
| 31 | NO ASSIGN |          |         |
| 32 | NO ASSIGN |          |         |
| 33 | EQ        | G HIGH L | INPUT1  |
| 34 | EQ        | G HIGH L | INPUT2  |
| 35 | EQ        | G HIGH L | INPUT3  |
| 36 | EQ        | G HIGH L | INPUT4  |
| 37 | EQ        | G HIGH L | INPUT5  |
| 38 | EQ        | G HIGH L | INPUT6  |
| 39 | EQ        | G HIGH L | INPUT7  |
| 40 | EQ        | G HIGH L | INPUT8  |
| 41 | EQ        | G HIGH L | INPUT9  |
| 42 | EQ        | G HIGH L | INPUT10 |
| 43 | EQ        | G HIGH L | INPUT11 |
| 44 | EQ        | G HIGH L | INPUT12 |
| 45 | EQ        | G HIGH L | INPUT13 |
| 46 | EQ        | G HIGH L | INPUT14 |
| 47 | EQ        | G HIGH L | INPUT15 |
| 48 | EQ        | G HIGH L | INPUT16 |
| 49 | EQ        | G HIGH L | INPUT17 |
| 50 | EQ        | G HIGH L | INPUT18 |
| 51 | EQ        | G HIGH L | INPUT19 |
| 52 | EQ        | G HIGH L | INPUT20 |
| 53 | EQ        | G HIGH L | INPUT21 |
| 54 | EQ        | G HIGH L | INPUT22 |
| 55 | EQ        | G HIGH L | INPUT23 |
| 56 | EQ        | G HIGH L | INPUT24 |
| 57 | NO ASSIGN |          |         |
| 58 | NO ASSIGN |          |         |

| #   | High      | Mid    | Low     |
|-----|-----------|--------|---------|
| 59  | NO ASSIGN |        |         |
| 60  | NO ASSIGN |        |         |
| 61  | NO ASSIGN |        |         |
| 62  | NO ASSIGN |        |         |
| 63  | NO ASSIGN |        |         |
| 64  | EQ        | F HIGH | INPUT1  |
| 65  | EQ        | F HIGH | INPUT2  |
| 66  | EQ        | F HIGH | INPUT3  |
| 67  | EQ        | F HIGH | INPUT4  |
| 68  | EQ        | F HIGH | INPUT5  |
| 69  | EQ        | F HIGH | INPUT6  |
| 70  | EQ        | F HIGH | INPUT7  |
| 71  | EQ        | F HIGH | INPUT8  |
| 72  | EQ        | F HIGH | INPUT9  |
| 73  | EQ        | F HIGH | INPUT10 |
| 74  | EQ        | F HIGH | INPUT11 |
| 75  | EQ        | F HIGH | INPUT12 |
| 76  | EQ        | F HIGH | INPUT13 |
| 77  | EQ        | F HIGH | INPUT14 |
| 78  | EQ        | F HIGH | INPUT15 |
| 79  | EQ        | F HIGH | INPUT16 |
| 80  | EQ        | F HIGH | INPUT17 |
| 81  | EQ        | F HIGH | INPUT18 |
| 82  | EQ        | F HIGH | INPUT19 |
| 83  | EQ        | F HIGH | INPUT20 |
| 84  | EQ        | F HIGH | INPUT21 |
| 85  | EQ        | F HIGH | INPUT22 |
| 86  | EQ        | F HIGH | INPUT23 |
| 87  | EQ        | F HIGH | INPUT24 |
| 88  | NO ASSIGN |        |         |
| 89  | EQ        | Q HIGH | INPUT1  |
| 90  | EQ        | Q HIGH | INPUT2  |
| 91  | EQ        | Q HIGH | INPUT3  |
| 92  | EQ        | Q HIGH | INPUT4  |
| 93  | EQ        | Q HIGH | INPUT5  |
| 94  | EQ        | Q HIGH | INPUT6  |
| 95  | EQ        | Q HIGH | INPUT7  |
| 102 | EQ        | Q HIGH | INPUT8  |
| 103 | EQ        | Q HIGH | INPUT9  |
| 104 | EQ        | Q HIGH | INPUT10 |
| 105 | EQ        | Q HIGH | INPUT11 |
| 106 | EQ        | Q HIGH | INPUT12 |
| 107 | EQ        | Q HIGH | INPUT13 |
| 108 | EQ        | Q HIGH | INPUT14 |
| 109 | EQ        | Q HIGH | INPUT15 |
| 110 | EQ        | Q HIGH | INPUT16 |
| 111 | EQ        | Q HIGH | INPUT17 |
| 112 | EQ        | Q HIGH | INPUT18 |
| 113 | EQ        | Q HIGH | INPUT19 |
| 114 | EQ        | Q HIGH | INPUT20 |
| 115 | EQ        | Q HIGH | INPUT21 |
| 116 | EQ        | Q HIGH | INPUT22 |
| 117 | EQ        | Q HIGH | INPUT23 |
| 118 | EQ        | Q HIGH | INPUT24 |
| 119 | NO ASSIGN |        |         |

## CHANNEL10

| #  | High      | Mid      | Low     |
|----|-----------|----------|---------|
| 0  | NO ASSIGN |          |         |
| 1  | EQ        | G HIGH H | INPUT25 |
| 2  | EQ        | G HIGH H | INPUT26 |
| 3  | EQ        | G HIGH H | INPUT27 |
| 4  | EQ        | G HIGH H | INPUT28 |
| 5  | EQ        | G HIGH H | INPUT29 |
| 6  | EQ        | G HIGH H | INPUT30 |
| 7  | EQ        | G HIGH H | INPUT31 |
| 8  | EQ        | G HIGH H | INPUT32 |
| 9  | EQ        | G HIGH H | ST-IN1  |
| 10 | EQ        | G HIGH H | ST-IN2  |
| 11 | EQ        | G HIGH H | ST-IN3  |
| 12 | EQ        | G HIGH H | ST-IN4  |
| 13 | NO ASSIGN |          |         |
| 14 | NO ASSIGN |          |         |
| 15 | NO ASSIGN |          |         |
| 16 | NO ASSIGN |          |         |
| 17 | NO ASSIGN |          |         |
| 18 | NO ASSIGN |          |         |
| 19 | NO ASSIGN |          |         |
| 20 | NO ASSIGN |          |         |
| 21 | NO ASSIGN |          |         |
| 22 | NO ASSIGN |          |         |
| 23 | NO ASSIGN |          |         |
| 24 | NO ASSIGN |          |         |
| 25 | NO ASSIGN |          |         |
| 26 | NO ASSIGN |          |         |
| 27 | NO ASSIGN |          |         |
| 28 | NO ASSIGN |          |         |
| 29 | NO ASSIGN |          |         |
| 30 | NO ASSIGN |          |         |
| 31 | NO ASSIGN |          |         |
| 32 | NO ASSIGN |          |         |
| 33 | EQ        | G HIGH L | INPUT25 |
| 34 | EQ        | G HIGH L | INPUT26 |
| 35 | EQ        | G HIGH L | INPUT27 |
| 36 | EQ        | G HIGH L | INPUT28 |
| 37 | EQ        | G HIGH L | INPUT29 |
| 38 | EQ        | G HIGH L | INPUT30 |
| 39 | EQ        | G HIGH L | INPUT31 |
| 40 | EQ        | G HIGH L | INPUT32 |
| 41 | EQ        | G HIGH L | ST-IN1  |
| 42 | EQ        | G HIGH L | ST-IN2  |
| 43 | EQ        | G HIGH L | ST-IN3  |
| 44 | EQ        | G HIGH L | ST-IN4  |
| 45 | NO ASSIGN |          |         |
| 46 | NO ASSIGN |          |         |
| 47 | NO ASSIGN |          |         |
| 48 | NO ASSIGN |          |         |
| 49 | NO ASSIGN |          |         |
| 50 | NO ASSIGN |          |         |
| 51 | NO ASSIGN |          |         |
| 52 | NO ASSIGN |          |         |
| 53 | NO ASSIGN |          |         |
| 54 | NO ASSIGN |          |         |
| 55 | NO ASSIGN |          |         |
| 56 | NO ASSIGN |          |         |
| 57 | NO ASSIGN |          |         |
| 58 | NO ASSIGN |          |         |

| #   | High      | Mid    | Low     |
|-----|-----------|--------|---------|
| 59  | NO ASSIGN |        |         |
| 60  | NO ASSIGN |        |         |
| 61  | NO ASSIGN |        |         |
| 62  | NO ASSIGN |        |         |
| 63  | NO ASSIGN |        |         |
| 64  | EQ        | F HIGH | INPUT25 |
| 65  | EQ        | F HIGH | INPUT26 |
| 66  | EQ        | F HIGH | INPUT27 |
| 67  | EQ        | F HIGH | INPUT28 |
| 68  | EQ        | F HIGH | INPUT29 |
| 69  | EQ        | F HIGH | INPUT30 |
| 70  | EQ        | F HIGH | INPUT31 |
| 71  | EQ        | F HIGH | INPUT32 |
| 72  | EQ        | F HIGH | ST-IN1  |
| 73  | EQ        | F HIGH | ST-IN2  |
| 74  | EQ        | F HIGH | ST-IN3  |
| 75  | EQ        | F HIGH | ST-IN4  |
| 76  | NO ASSIGN |        |         |
| 77  | NO ASSIGN |        |         |
| 78  | NO ASSIGN |        |         |
| 79  | NO ASSIGN |        |         |
| 80  | NO ASSIGN |        |         |
| 81  | NO ASSIGN |        |         |
| 82  | NO ASSIGN |        |         |
| 83  | NO ASSIGN |        |         |
| 84  | NO ASSIGN |        |         |
| 85  | NO ASSIGN |        |         |
| 86  | NO ASSIGN |        |         |
| 87  | NO ASSIGN |        |         |
| 88  | NO ASSIGN |        |         |
| 89  | EQ        | Q HIGH | INPUT25 |
| 90  | EQ        | Q HIGH | INPUT26 |
| 91  | EQ        | Q HIGH | INPUT27 |
| 92  | EQ        | Q HIGH | INPUT28 |
| 93  | EQ        | Q HIGH | INPUT29 |
| 94  | EQ        | Q HIGH | INPUT30 |
| 95  | EQ        | Q HIGH | INPUT31 |
| 102 | EQ        | Q HIGH | INPUT32 |
| 103 | EQ        | Q HIGH | ST-IN1  |
| 104 | EQ        | Q HIGH | ST-IN2  |
| 105 | EQ        | Q HIGH | ST-IN3  |
| 106 | EQ        | Q HIGH | ST-IN4  |
| 107 | NO ASSIGN |        |         |
| 108 | NO ASSIGN |        |         |
| 109 | NO ASSIGN |        |         |
| 110 | NO ASSIGN |        |         |
| 111 | NO ASSIGN |        |         |
| 112 | NO ASSIGN |        |         |
| 113 | NO ASSIGN |        |         |
| 114 | NO ASSIGN |        |         |
| 115 | NO ASSIGN |        |         |
| 116 | NO ASSIGN |        |         |
| 117 | NO ASSIGN |        |         |
| 118 | NO ASSIGN |        |         |
| 119 | NO ASSIGN |        |         |

## CHANNEL11

| #  | High      | Mid   | Low     |
|----|-----------|-------|---------|
| 0  | NO ASSIGN |       |         |
| 1  | EQ        | ATT H | INPUT1  |
| 2  | EQ        | ATT H | INPUT2  |
| 3  | EQ        | ATT H | INPUT3  |
| 4  | EQ        | ATT H | INPUT4  |
| 5  | EQ        | ATT H | INPUT5  |
| 6  | EQ        | ATT H | INPUT6  |
| 7  | EQ        | ATT H | INPUT7  |
| 8  | EQ        | ATT H | INPUT8  |
| 9  | EQ        | ATT H | INPUT9  |
| 10 | EQ        | ATT H | INPUT10 |
| 11 | EQ        | ATT H | INPUT11 |
| 12 | EQ        | ATT H | INPUT12 |
| 13 | EQ        | ATT H | INPUT13 |
| 14 | EQ        | ATT H | INPUT14 |
| 15 | EQ        | ATT H | INPUT15 |
| 16 | EQ        | ATT H | INPUT16 |
| 17 | EQ        | ATT H | INPUT17 |
| 18 | EQ        | ATT H | INPUT18 |
| 19 | EQ        | ATT H | INPUT19 |
| 20 | EQ        | ATT H | INPUT20 |
| 21 | EQ        | ATT H | INPUT21 |
| 22 | EQ        | ATT H | INPUT22 |
| 23 | EQ        | ATT H | INPUT23 |
| 24 | EQ        | ATT H | INPUT24 |
| 25 | NO ASSIGN |       |         |
| 26 | NO ASSIGN |       |         |
| 27 | NO ASSIGN |       |         |
| 28 | NO ASSIGN |       |         |
| 29 | NO ASSIGN |       |         |
| 30 | NO ASSIGN |       |         |
| 31 | NO ASSIGN |       |         |
| 32 | NO ASSIGN |       |         |
| 33 | EQ        | ATT L | INPUT1  |
| 34 | EQ        | ATT L | INPUT2  |
| 35 | EQ        | ATT L | INPUT3  |
| 36 | EQ        | ATT L | INPUT4  |
| 37 | EQ        | ATT L | INPUT5  |
| 38 | EQ        | ATT L | INPUT6  |
| 39 | EQ        | ATT L | INPUT7  |
| 40 | EQ        | ATT L | INPUT8  |
| 41 | EQ        | ATT L | INPUT9  |
| 42 | EQ        | ATT L | INPUT10 |
| 43 | EQ        | ATT L | INPUT11 |
| 44 | EQ        | ATT L | INPUT12 |
| 45 | EQ        | ATT L | INPUT13 |
| 46 | EQ        | ATT L | INPUT14 |
| 47 | EQ        | ATT L | INPUT15 |
| 48 | EQ        | ATT L | INPUT16 |
| 49 | EQ        | ATT L | INPUT17 |
| 50 | EQ        | ATT L | INPUT18 |
| 51 | EQ        | ATT L | INPUT19 |
| 52 | EQ        | ATT L | INPUT20 |
| 53 | EQ        | ATT L | INPUT21 |
| 54 | EQ        | ATT L | INPUT22 |
| 55 | EQ        | ATT L | INPUT23 |
| 56 | EQ        | ATT L | INPUT24 |
| 57 | NO ASSIGN |       |         |
| 58 | NO ASSIGN |       |         |

| #   | High      | Mid    | Low     |
|-----|-----------|--------|---------|
| 59  | NO ASSIGN |        |         |
| 60  | NO ASSIGN |        |         |
| 61  | NO ASSIGN |        |         |
| 62  | NO ASSIGN |        |         |
| 63  | NO ASSIGN |        |         |
| 64  | EQ        | HPF ON | INPUT1  |
| 65  | EQ        | HPF ON | INPUT2  |
| 66  | EQ        | HPF ON | INPUT3  |
| 67  | EQ        | HPF ON | INPUT4  |
| 68  | EQ        | HPF ON | INPUT5  |
| 69  | EQ        | HPF ON | INPUT6  |
| 70  | EQ        | HPF ON | INPUT7  |
| 71  | EQ        | HPF ON | INPUT8  |
| 72  | EQ        | HPF ON | INPUT9  |
| 73  | EQ        | HPF ON | INPUT10 |
| 74  | EQ        | HPF ON | INPUT11 |
| 75  | EQ        | HPF ON | INPUT12 |
| 76  | EQ        | HPF ON | INPUT13 |
| 77  | EQ        | HPF ON | INPUT14 |
| 78  | EQ        | HPF ON | INPUT15 |
| 79  | EQ        | HPF ON | INPUT16 |
| 80  | EQ        | HPF ON | INPUT17 |
| 81  | EQ        | HPF ON | INPUT18 |
| 82  | EQ        | HPF ON | INPUT19 |
| 83  | EQ        | HPF ON | INPUT20 |
| 84  | EQ        | HPF ON | INPUT21 |
| 85  | EQ        | HPF ON | INPUT22 |
| 86  | EQ        | HPF ON | INPUT23 |
| 87  | EQ        | HPF ON | INPUT24 |
| 88  | NO ASSIGN |        |         |
| 89  | EQ        | LPF ON | INPUT1  |
| 90  | EQ        | LPF ON | INPUT2  |
| 91  | EQ        | LPF ON | INPUT3  |
| 92  | EQ        | LPF ON | INPUT4  |
| 93  | EQ        | LPF ON | INPUT5  |
| 94  | EQ        | LPF ON | INPUT6  |
| 95  | EQ        | LPF ON | INPUT7  |
| 102 | EQ        | LPF ON | INPUT8  |
| 103 | EQ        | LPF ON | INPUT9  |
| 104 | EQ        | LPF ON | INPUT10 |
| 105 | EQ        | LPF ON | INPUT11 |
| 106 | EQ        | LPF ON | INPUT12 |
| 107 | EQ        | LPF ON | INPUT13 |
| 108 | EQ        | LPF ON | INPUT14 |
| 109 | EQ        | LPF ON | INPUT15 |
| 110 | EQ        | LPF ON | INPUT16 |
| 111 | EQ        | LPF ON | INPUT17 |
| 112 | EQ        | LPF ON | INPUT18 |
| 113 | EQ        | LPF ON | INPUT19 |
| 114 | EQ        | LPF ON | INPUT20 |
| 115 | EQ        | LPF ON | INPUT21 |
| 116 | EQ        | LPF ON | INPUT22 |
| 117 | EQ        | LPF ON | INPUT23 |
| 118 | EQ        | LPF ON | INPUT24 |
| 119 | NO ASSIGN |        |         |

## CHANNEL 12

| #  | High      | Mid   | Low     |
|----|-----------|-------|---------|
| 0  | NO ASSIGN |       |         |
| 1  | EQ        | ATT H | INPUT25 |
| 2  | EQ        | ATT H | INPUT26 |
| 3  | EQ        | ATT H | INPUT27 |
| 4  | EQ        | ATT H | INPUT28 |
| 5  | EQ        | ATT H | INPUT29 |
| 6  | EQ        | ATT H | INPUT30 |
| 7  | EQ        | ATT H | INPUT31 |
| 8  | EQ        | ATT H | INPUT32 |
| 9  | EQ        | ATT H | ST-IN1L |
| 10 | EQ        | ATT H | ST-IN1R |
| 11 | EQ        | ATT H | ST-IN2L |
| 12 | EQ        | ATT H | ST-IN2R |
| 13 | EQ        | ATT H | ST-IN3L |
| 14 | EQ        | ATT H | ST-IN3R |
| 15 | EQ        | ATT H | ST-IN4L |
| 16 | EQ        | ATT H | ST-IN4R |
| 17 | NO ASSIGN |       |         |
| 18 | NO ASSIGN |       |         |
| 19 | NO ASSIGN |       |         |
| 20 | NO ASSIGN |       |         |
| 21 | NO ASSIGN |       |         |
| 22 | NO ASSIGN |       |         |
| 23 | NO ASSIGN |       |         |
| 24 | NO ASSIGN |       |         |
| 25 | NO ASSIGN |       |         |
| 26 | NO ASSIGN |       |         |
| 27 | NO ASSIGN |       |         |
| 28 | NO ASSIGN |       |         |
| 29 | NO ASSIGN |       |         |
| 30 | NO ASSIGN |       |         |
| 31 | NO ASSIGN |       |         |
| 32 | NO ASSIGN |       |         |
| 33 | EQ        | ATT L | INPUT25 |
| 34 | EQ        | ATT L | INPUT26 |
| 35 | EQ        | ATT L | INPUT27 |
| 36 | EQ        | ATT L | INPUT28 |
| 37 | EQ        | ATT L | INPUT29 |
| 38 | EQ        | ATT L | INPUT30 |
| 39 | EQ        | ATT L | INPUT31 |
| 40 | EQ        | ATT L | INPUT32 |
| 41 | EQ        | ATT L | ST-IN1L |
| 42 | EQ        | ATT L | ST-IN1R |
| 43 | EQ        | ATT L | ST-IN2L |
| 44 | EQ        | ATT L | ST-IN2R |
| 45 | EQ        | ATT L | ST-IN3L |
| 46 | EQ        | ATT L | ST-IN3R |
| 47 | EQ        | ATT L | ST-IN4L |
| 48 | EQ        | ATT L | ST-IN4R |
| 49 | NO ASSIGN |       |         |
| 50 | NO ASSIGN |       |         |
| 51 | NO ASSIGN |       |         |
| 52 | NO ASSIGN |       |         |
| 53 | NO ASSIGN |       |         |
| 54 | NO ASSIGN |       |         |
| 55 | NO ASSIGN |       |         |
| 56 | NO ASSIGN |       |         |
| 57 | NO ASSIGN |       |         |
| 58 | NO ASSIGN |       |         |

| #   | High      | Mid    | Low     |
|-----|-----------|--------|---------|
| 59  | NO ASSIGN |        |         |
| 60  | NO ASSIGN |        |         |
| 61  | NO ASSIGN |        |         |
| 62  | NO ASSIGN |        |         |
| 63  | NO ASSIGN |        |         |
| 64  | EQ        | HPF ON | INPUT25 |
| 65  | EQ        | HPF ON | INPUT26 |
| 66  | EQ        | HPF ON | INPUT27 |
| 67  | EQ        | HPF ON | INPUT28 |
| 68  | EQ        | HPF ON | INPUT29 |
| 69  | EQ        | HPF ON | INPUT30 |
| 70  | EQ        | HPF ON | INPUT31 |
| 71  | EQ        | HPF ON | INPUT32 |
| 72  | EQ        | HPF ON | ST-IN1  |
| 73  | EQ        | HPF ON | ST-IN2  |
| 74  | EQ        | HPF ON | ST-IN3  |
| 75  | EQ        | HPF ON | ST-IN4  |
| 76  | NO ASSIGN |        |         |
| 77  | NO ASSIGN |        |         |
| 78  | NO ASSIGN |        |         |
| 79  | NO ASSIGN |        |         |
| 80  | NO ASSIGN |        |         |
| 81  | NO ASSIGN |        |         |
| 82  | NO ASSIGN |        |         |
| 83  | NO ASSIGN |        |         |
| 84  | NO ASSIGN |        |         |
| 85  | NO ASSIGN |        |         |
| 86  | NO ASSIGN |        |         |
| 87  | NO ASSIGN |        |         |
| 88  | NO ASSIGN |        |         |
| 89  | EQ        | LPF ON | INPUT25 |
| 90  | EQ        | LPF ON | INPUT26 |
| 91  | EQ        | LPF ON | INPUT27 |
| 92  | EQ        | LPF ON | INPUT28 |
| 93  | EQ        | LPF ON | INPUT29 |
| 94  | EQ        | LPF ON | INPUT30 |
| 95  | EQ        | LPF ON | INPUT31 |
| 102 | EQ        | LPF ON | INPUT32 |
| 103 | EQ        | LPF ON | ST-IN1  |
| 104 | EQ        | LPF ON | ST-IN2  |
| 105 | EQ        | LPF ON | ST-IN3  |
| 106 | EQ        | LPF ON | ST-IN4  |
| 107 | NO ASSIGN |        |         |
| 108 | NO ASSIGN |        |         |
| 109 | NO ASSIGN |        |         |
| 110 | NO ASSIGN |        |         |
| 111 | NO ASSIGN |        |         |
| 112 | NO ASSIGN |        |         |
| 113 | NO ASSIGN |        |         |
| 114 | NO ASSIGN |        |         |
| 115 | NO ASSIGN |        |         |
| 116 | NO ASSIGN |        |         |
| 117 | NO ASSIGN |        |         |
| 118 | NO ASSIGN |        |         |
| 119 | NO ASSIGN |        |         |

## CHANNEL13

| #  | High      | Mid   | Low     |
|----|-----------|-------|---------|
| 0  | NO ASSIGN |       |         |
| 1  | SURROUND  | LFE H | INPUT1  |
| 2  | SURROUND  | LFE H | INPUT2  |
| 3  | SURROUND  | LFE H | INPUT3  |
| 4  | SURROUND  | LFE H | INPUT4  |
| 5  | SURROUND  | LFE H | INPUT5  |
| 6  | SURROUND  | LFE H | INPUT6  |
| 7  | SURROUND  | LFE H | INPUT7  |
| 8  | SURROUND  | LFE H | INPUT8  |
| 9  | SURROUND  | LFE H | INPUT9  |
| 10 | SURROUND  | LFE H | INPUT10 |
| 11 | SURROUND  | LFE H | INPUT11 |
| 12 | SURROUND  | LFE H | INPUT12 |
| 13 | SURROUND  | LFE H | INPUT13 |
| 14 | SURROUND  | LFE H | INPUT14 |
| 15 | SURROUND  | LFE H | INPUT15 |
| 16 | SURROUND  | LFE H | INPUT16 |
| 17 | SURROUND  | LFE H | INPUT17 |
| 18 | SURROUND  | LFE H | INPUT18 |
| 19 | SURROUND  | LFE H | INPUT19 |
| 20 | SURROUND  | LFE H | INPUT20 |
| 21 | SURROUND  | LFE H | INPUT21 |
| 22 | SURROUND  | LFE H | INPUT22 |
| 23 | SURROUND  | LFE H | INPUT23 |
| 24 | SURROUND  | LFE H | INPUT24 |
| 25 | NO ASSIGN |       |         |
| 26 | NO ASSIGN |       |         |
| 27 | NO ASSIGN |       |         |
| 28 | NO ASSIGN |       |         |
| 29 | NO ASSIGN |       |         |
| 30 | NO ASSIGN |       |         |
| 31 | NO ASSIGN |       |         |
| 32 | NO ASSIGN |       |         |
| 33 | SURROUND  | LFE L | INPUT1  |
| 34 | SURROUND  | LFE L | INPUT2  |
| 35 | SURROUND  | LFE L | INPUT3  |
| 36 | SURROUND  | LFE L | INPUT4  |
| 37 | SURROUND  | LFE L | INPUT5  |
| 38 | SURROUND  | LFE L | INPUT6  |
| 39 | SURROUND  | LFE L | INPUT7  |
| 40 | SURROUND  | LFE L | INPUT8  |
| 41 | SURROUND  | LFE L | INPUT9  |
| 42 | SURROUND  | LFE L | INPUT10 |
| 43 | SURROUND  | LFE L | INPUT11 |
| 44 | SURROUND  | LFE L | INPUT12 |
| 45 | SURROUND  | LFE L | INPUT13 |
| 46 | SURROUND  | LFE L | INPUT14 |
| 47 | SURROUND  | LFE L | INPUT15 |
| 48 | SURROUND  | LFE L | INPUT16 |
| 49 | SURROUND  | LFE L | INPUT17 |
| 50 | SURROUND  | LFE L | INPUT18 |
| 51 | SURROUND  | LFE L | INPUT19 |
| 52 | SURROUND  | LFE L | INPUT20 |
| 53 | SURROUND  | LFE L | INPUT21 |
| 54 | SURROUND  | LFE L | INPUT22 |
| 55 | SURROUND  | LFE L | INPUT23 |
| 56 | SURROUND  | LFE L | INPUT24 |
| 57 | NO ASSIGN |       |         |
| 58 | NO ASSIGN |       |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | SURROUND  | DIV F | INPUT1  |
| 65  | SURROUND  | DIV F | INPUT2  |
| 66  | SURROUND  | DIV F | INPUT3  |
| 67  | SURROUND  | DIV F | INPUT4  |
| 68  | SURROUND  | DIV F | INPUT5  |
| 69  | SURROUND  | DIV F | INPUT6  |
| 70  | SURROUND  | DIV F | INPUT7  |
| 71  | SURROUND  | DIV F | INPUT8  |
| 72  | SURROUND  | DIV F | INPUT9  |
| 73  | SURROUND  | DIV F | INPUT10 |
| 74  | SURROUND  | DIV F | INPUT11 |
| 75  | SURROUND  | DIV F | INPUT12 |
| 76  | SURROUND  | DIV F | INPUT13 |
| 77  | SURROUND  | DIV F | INPUT14 |
| 78  | SURROUND  | DIV F | INPUT15 |
| 79  | SURROUND  | DIV F | INPUT16 |
| 80  | SURROUND  | DIV F | INPUT17 |
| 81  | SURROUND  | DIV F | INPUT18 |
| 82  | SURROUND  | DIV F | INPUT19 |
| 83  | SURROUND  | DIV F | INPUT20 |
| 84  | SURROUND  | DIV F | INPUT21 |
| 85  | SURROUND  | DIV F | INPUT22 |
| 86  | SURROUND  | DIV F | INPUT23 |
| 87  | SURROUND  | DIV F | INPUT24 |
| 88  | NO ASSIGN |       |         |
| 89  | EQ        | ON    | INPUT1  |
| 90  | EQ        | ON    | INPUT2  |
| 91  | EQ        | ON    | INPUT3  |
| 92  | EQ        | ON    | INPUT4  |
| 93  | EQ        | ON    | INPUT5  |
| 94  | EQ        | ON    | INPUT6  |
| 95  | EQ        | ON    | INPUT7  |
| 102 | EQ        | ON    | INPUT8  |
| 103 | EQ        | ON    | INPUT9  |
| 104 | EQ        | ON    | INPUT10 |
| 105 | EQ        | ON    | INPUT11 |
| 106 | EQ        | ON    | INPUT12 |
| 107 | EQ        | ON    | INPUT13 |
| 108 | EQ        | ON    | INPUT14 |
| 109 | EQ        | ON    | INPUT15 |
| 110 | EQ        | ON    | INPUT16 |
| 111 | EQ        | ON    | INPUT17 |
| 112 | EQ        | ON    | INPUT18 |
| 113 | EQ        | ON    | INPUT19 |
| 114 | EQ        | ON    | INPUT20 |
| 115 | EQ        | ON    | INPUT21 |
| 116 | EQ        | ON    | INPUT22 |
| 117 | EQ        | ON    | INPUT23 |
| 118 | EQ        | ON    | INPUT24 |
| 119 | NO ASSIGN |       |         |

## CHANNEL 14

| #  | High      | Mid   | Low     |
|----|-----------|-------|---------|
| 0  | NO ASSIGN |       |         |
| 1  | SURROUND  | LFE H | INPUT25 |
| 2  | SURROUND  | LFE H | INPUT26 |
| 3  | SURROUND  | LFE H | INPUT27 |
| 4  | SURROUND  | LFE H | INPUT28 |
| 5  | SURROUND  | LFE H | INPUT29 |
| 6  | SURROUND  | LFE H | INPUT30 |
| 7  | SURROUND  | LFE H | INPUT31 |
| 8  | SURROUND  | LFE H | INPUT32 |
| 9  | SURROUND  | LFE H | ST-IN1L |
| 10 | SURROUND  | LFE H | ST-IN1R |
| 11 | SURROUND  | LFE H | ST-IN2L |
| 12 | SURROUND  | LFE H | ST-IN2R |
| 13 | SURROUND  | LFE H | ST-IN3L |
| 14 | SURROUND  | LFE H | ST-IN3R |
| 15 | SURROUND  | LFE H | ST-IN4L |
| 16 | SURROUND  | LFE H | ST-IN4R |
| 17 | NO ASSIGN |       |         |
| 18 | NO ASSIGN |       |         |
| 19 | NO ASSIGN |       |         |
| 20 | NO ASSIGN |       |         |
| 21 | NO ASSIGN |       |         |
| 22 | NO ASSIGN |       |         |
| 23 | NO ASSIGN |       |         |
| 24 | NO ASSIGN |       |         |
| 25 | NO ASSIGN |       |         |
| 26 | NO ASSIGN |       |         |
| 27 | NO ASSIGN |       |         |
| 28 | NO ASSIGN |       |         |
| 29 | NO ASSIGN |       |         |
| 30 | NO ASSIGN |       |         |
| 31 | NO ASSIGN |       |         |
| 32 | NO ASSIGN |       |         |
| 33 | SURROUND  | LFE L | INPUT25 |
| 34 | SURROUND  | LFE L | INPUT26 |
| 35 | SURROUND  | LFE L | INPUT27 |
| 36 | SURROUND  | LFE L | INPUT28 |
| 37 | SURROUND  | LFE L | INPUT29 |
| 38 | SURROUND  | LFE L | INPUT30 |
| 39 | SURROUND  | LFE L | INPUT31 |
| 40 | SURROUND  | LFE L | INPUT32 |
| 41 | SURROUND  | LFE L | ST-IN1L |
| 42 | SURROUND  | LFE L | ST-IN1R |
| 43 | SURROUND  | LFE L | ST-IN2L |
| 44 | SURROUND  | LFE L | ST-IN2R |
| 45 | SURROUND  | LFE L | ST-IN3L |
| 46 | SURROUND  | LFE L | ST-IN3R |
| 47 | SURROUND  | LFE L | ST-IN4L |
| 48 | SURROUND  | LFE L | ST-IN4R |
| 49 | NO ASSIGN |       |         |
| 50 | NO ASSIGN |       |         |
| 51 | NO ASSIGN |       |         |
| 52 | NO ASSIGN |       |         |
| 53 | NO ASSIGN |       |         |
| 54 | NO ASSIGN |       |         |
| 55 | NO ASSIGN |       |         |
| 56 | NO ASSIGN |       |         |
| 57 | NO ASSIGN |       |         |
| 58 | NO ASSIGN |       |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | SURROUND  | DIV F | INPUT25 |
| 65  | SURROUND  | DIV F | INPUT26 |
| 66  | SURROUND  | DIV F | INPUT27 |
| 67  | SURROUND  | DIV F | INPUT28 |
| 68  | SURROUND  | DIV F | INPUT29 |
| 69  | SURROUND  | DIV F | INPUT30 |
| 70  | SURROUND  | DIV F | INPUT31 |
| 71  | SURROUND  | DIV F | INPUT32 |
| 72  | SURROUND  | DIV F | ST-IN1L |
| 73  | SURROUND  | DIV F | ST-IN1R |
| 74  | SURROUND  | DIV F | ST-IN2L |
| 75  | SURROUND  | DIV F | ST-IN2R |
| 76  | SURROUND  | DIV F | ST-IN3L |
| 77  | SURROUND  | DIV F | ST-IN3R |
| 78  | SURROUND  | DIV F | ST-IN4L |
| 79  | SURROUND  | DIV F | ST-IN4R |
| 80  | NO ASSIGN |       |         |
| 81  | NO ASSIGN |       |         |
| 82  | NO ASSIGN |       |         |
| 83  | NO ASSIGN |       |         |
| 84  | NO ASSIGN |       |         |
| 85  | NO ASSIGN |       |         |
| 86  | NO ASSIGN |       |         |
| 87  | NO ASSIGN |       |         |
| 88  | NO ASSIGN |       |         |
| 89  | EQ        | ON    | INPUT25 |
| 90  | EQ        | ON    | INPUT26 |
| 91  | EQ        | ON    | INPUT27 |
| 92  | EQ        | ON    | INPUT28 |
| 93  | EQ        | ON    | INPUT29 |
| 94  | EQ        | ON    | INPUT30 |
| 95  | EQ        | ON    | INPUT31 |
| 102 | EQ        | ON    | INPUT32 |
| 103 | EQ        | ON    | ST-IN1  |
| 104 | EQ        | ON    | ST-IN2  |
| 105 | EQ        | ON    | ST-IN3  |
| 106 | EQ        | ON    | ST-IN4  |
| 107 | NO ASSIGN |       |         |
| 108 | NO ASSIGN |       |         |
| 109 | NO ASSIGN |       |         |
| 110 | NO ASSIGN |       |         |
| 111 | NO ASSIGN |       |         |
| 112 | NO ASSIGN |       |         |
| 113 | NO ASSIGN |       |         |
| 114 | NO ASSIGN |       |         |
| 115 | NO ASSIGN |       |         |
| 116 | NO ASSIGN |       |         |
| 117 | NO ASSIGN |       |         |
| 118 | NO ASSIGN |       |         |
| 119 | NO ASSIGN |       |         |

## CHANNEL15

| #  | High      | Mid | Low     |
|----|-----------|-----|---------|
| 0  | NO ASSIGN |     |         |
| 1  | SURROUND  | LR  | INPUT1  |
| 2  | SURROUND  | LR  | INPUT2  |
| 3  | SURROUND  | LR  | INPUT3  |
| 4  | SURROUND  | LR  | INPUT4  |
| 5  | SURROUND  | LR  | INPUT5  |
| 6  | SURROUND  | LR  | INPUT6  |
| 7  | SURROUND  | LR  | INPUT7  |
| 8  | SURROUND  | LR  | INPUT8  |
| 9  | SURROUND  | LR  | INPUT9  |
| 10 | SURROUND  | LR  | INPUT10 |
| 11 | SURROUND  | LR  | INPUT11 |
| 12 | SURROUND  | LR  | INPUT12 |
| 13 | SURROUND  | LR  | INPUT13 |
| 14 | SURROUND  | LR  | INPUT14 |
| 15 | SURROUND  | LR  | INPUT15 |
| 16 | SURROUND  | LR  | INPUT16 |
| 17 | SURROUND  | LR  | INPUT17 |
| 18 | SURROUND  | LR  | INPUT18 |
| 19 | SURROUND  | LR  | INPUT19 |
| 20 | SURROUND  | LR  | INPUT20 |
| 21 | SURROUND  | LR  | INPUT21 |
| 22 | SURROUND  | LR  | INPUT22 |
| 23 | SURROUND  | LR  | INPUT23 |
| 24 | SURROUND  | LR  | INPUT24 |
| 25 | NO ASSIGN |     |         |
| 26 | NO ASSIGN |     |         |
| 27 | NO ASSIGN |     |         |
| 28 | NO ASSIGN |     |         |
| 29 | NO ASSIGN |     |         |
| 30 | NO ASSIGN |     |         |
| 31 | NO ASSIGN |     |         |
| 32 | NO ASSIGN |     |         |
| 33 | SURROUND  | FR  | INPUT1  |
| 34 | SURROUND  | FR  | INPUT2  |
| 35 | SURROUND  | FR  | INPUT3  |
| 36 | SURROUND  | FR  | INPUT4  |
| 37 | SURROUND  | FR  | INPUT5  |
| 38 | SURROUND  | FR  | INPUT6  |
| 39 | SURROUND  | FR  | INPUT7  |
| 40 | SURROUND  | FR  | INPUT8  |
| 41 | SURROUND  | FR  | INPUT9  |
| 42 | SURROUND  | FR  | INPUT10 |
| 43 | SURROUND  | FR  | INPUT11 |
| 44 | SURROUND  | FR  | INPUT12 |
| 45 | SURROUND  | FR  | INPUT13 |
| 46 | SURROUND  | FR  | INPUT14 |
| 47 | SURROUND  | FR  | INPUT15 |
| 48 | SURROUND  | FR  | INPUT16 |
| 49 | SURROUND  | FR  | INPUT17 |
| 50 | SURROUND  | FR  | INPUT18 |
| 51 | SURROUND  | FR  | INPUT19 |
| 52 | SURROUND  | FR  | INPUT20 |
| 53 | SURROUND  | FR  | INPUT21 |
| 54 | SURROUND  | FR  | INPUT22 |
| 55 | SURROUND  | FR  | INPUT23 |
| 56 | SURROUND  | FR  | INPUT24 |
| 57 | NO ASSIGN |     |         |
| 58 | NO ASSIGN |     |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | SURROUND  | WIDTH | INPUT1  |
| 65  | SURROUND  | WIDTH | INPUT2  |
| 66  | SURROUND  | WIDTH | INPUT3  |
| 67  | SURROUND  | WIDTH | INPUT4  |
| 68  | SURROUND  | WIDTH | INPUT5  |
| 69  | SURROUND  | WIDTH | INPUT6  |
| 70  | SURROUND  | WIDTH | INPUT7  |
| 71  | SURROUND  | WIDTH | INPUT8  |
| 72  | SURROUND  | WIDTH | INPUT9  |
| 73  | SURROUND  | WIDTH | INPUT10 |
| 74  | SURROUND  | WIDTH | INPUT11 |
| 75  | SURROUND  | WIDTH | INPUT12 |
| 76  | SURROUND  | WIDTH | INPUT13 |
| 77  | SURROUND  | WIDTH | INPUT14 |
| 78  | SURROUND  | WIDTH | INPUT15 |
| 79  | SURROUND  | WIDTH | INPUT16 |
| 80  | SURROUND  | WIDTH | INPUT17 |
| 81  | SURROUND  | WIDTH | INPUT18 |
| 82  | SURROUND  | WIDTH | INPUT19 |
| 83  | SURROUND  | WIDTH | INPUT20 |
| 84  | SURROUND  | WIDTH | INPUT21 |
| 85  | SURROUND  | WIDTH | INPUT22 |
| 86  | SURROUND  | WIDTH | INPUT23 |
| 87  | SURROUND  | WIDTH | INPUT24 |
| 88  | NO ASSIGN |       |         |
| 89  | SURROUND  | DEPTH | INPUT1  |
| 90  | SURROUND  | DEPTH | INPUT2  |
| 91  | SURROUND  | DEPTH | INPUT3  |
| 92  | SURROUND  | DEPTH | INPUT4  |
| 93  | SURROUND  | DEPTH | INPUT5  |
| 94  | SURROUND  | DEPTH | INPUT6  |
| 95  | SURROUND  | DEPTH | INPUT7  |
| 102 | SURROUND  | DEPTH | INPUT8  |
| 103 | SURROUND  | DEPTH | INPUT9  |
| 104 | SURROUND  | DEPTH | INPUT10 |
| 105 | SURROUND  | DEPTH | INPUT11 |
| 106 | SURROUND  | DEPTH | INPUT12 |
| 107 | SURROUND  | DEPTH | INPUT13 |
| 108 | SURROUND  | DEPTH | INPUT14 |
| 109 | SURROUND  | DEPTH | INPUT15 |
| 110 | SURROUND  | DEPTH | INPUT16 |
| 111 | SURROUND  | DEPTH | INPUT17 |
| 112 | SURROUND  | DEPTH | INPUT18 |
| 113 | SURROUND  | DEPTH | INPUT19 |
| 114 | SURROUND  | DEPTH | INPUT20 |
| 115 | SURROUND  | DEPTH | INPUT21 |
| 116 | SURROUND  | DEPTH | INPUT22 |
| 117 | SURROUND  | DEPTH | INPUT23 |
| 118 | SURROUND  | DEPTH | INPUT24 |
| 119 | NO ASSIGN |       |         |

## CHANNEL16

| #  | High      | Mid | Low     |
|----|-----------|-----|---------|
| 0  | NO ASSIGN |     |         |
| 1  | SURROUND  | LR  | INPUT25 |
| 2  | SURROUND  | LR  | INPUT26 |
| 3  | SURROUND  | LR  | INPUT27 |
| 4  | SURROUND  | LR  | INPUT28 |
| 5  | SURROUND  | LR  | INPUT29 |
| 6  | SURROUND  | LR  | INPUT30 |
| 7  | SURROUND  | LR  | INPUT31 |
| 8  | SURROUND  | LR  | INPUT32 |
| 9  | SURROUND  | LR  | ST-IN1L |
| 10 | SURROUND  | LR  | ST-IN1R |
| 11 | SURROUND  | LR  | ST-IN2L |
| 12 | SURROUND  | LR  | ST-IN2R |
| 13 | SURROUND  | LR  | ST-IN3L |
| 14 | SURROUND  | LR  | ST-IN3R |
| 15 | SURROUND  | LR  | ST-IN4L |
| 16 | SURROUND  | LR  | ST-IN4R |
| 17 | NO ASSIGN |     |         |
| 18 | NO ASSIGN |     |         |
| 19 | NO ASSIGN |     |         |
| 20 | NO ASSIGN |     |         |
| 21 | NO ASSIGN |     |         |
| 22 | NO ASSIGN |     |         |
| 23 | NO ASSIGN |     |         |
| 24 | NO ASSIGN |     |         |
| 25 | NO ASSIGN |     |         |
| 26 | NO ASSIGN |     |         |
| 27 | NO ASSIGN |     |         |
| 28 | NO ASSIGN |     |         |
| 29 | NO ASSIGN |     |         |
| 30 | NO ASSIGN |     |         |
| 31 | NO ASSIGN |     |         |
| 32 | NO ASSIGN |     |         |
| 33 | SURROUND  | FR  | INPUT25 |
| 34 | SURROUND  | FR  | INPUT26 |
| 35 | SURROUND  | FR  | INPUT27 |
| 36 | SURROUND  | FR  | INPUT28 |
| 37 | SURROUND  | FR  | INPUT29 |
| 38 | SURROUND  | FR  | INPUT30 |
| 39 | SURROUND  | FR  | INPUT31 |
| 40 | SURROUND  | FR  | INPUT32 |
| 41 | SURROUND  | FR  | ST-IN1L |
| 42 | SURROUND  | FR  | ST-IN1R |
| 43 | SURROUND  | FR  | ST-IN2L |
| 44 | SURROUND  | FR  | ST-IN2R |
| 45 | SURROUND  | FR  | ST-IN3L |
| 46 | SURROUND  | FR  | ST-IN3R |
| 47 | SURROUND  | FR  | ST-IN4L |
| 48 | SURROUND  | FR  | ST-IN4R |
| 49 | NO ASSIGN |     |         |
| 50 | NO ASSIGN |     |         |
| 51 | NO ASSIGN |     |         |
| 52 | NO ASSIGN |     |         |
| 53 | NO ASSIGN |     |         |
| 54 | NO ASSIGN |     |         |
| 55 | NO ASSIGN |     |         |
| 56 | NO ASSIGN |     |         |
| 57 | NO ASSIGN |     |         |
| 58 | NO ASSIGN |     |         |

| #   | High      | Mid   | Low     |
|-----|-----------|-------|---------|
| 59  | NO ASSIGN |       |         |
| 60  | NO ASSIGN |       |         |
| 61  | NO ASSIGN |       |         |
| 62  | NO ASSIGN |       |         |
| 63  | NO ASSIGN |       |         |
| 64  | SURROUND  | WIDTH | INPUT25 |
| 65  | SURROUND  | WIDTH | INPUT26 |
| 66  | SURROUND  | WIDTH | INPUT27 |
| 67  | SURROUND  | WIDTH | INPUT28 |
| 68  | SURROUND  | WIDTH | INPUT29 |
| 69  | SURROUND  | WIDTH | INPUT30 |
| 70  | SURROUND  | WIDTH | INPUT31 |
| 71  | SURROUND  | WIDTH | INPUT32 |
| 72  | SURROUND  | WIDTH | ST-IN1L |
| 73  | SURROUND  | WIDTH | ST-IN1R |
| 74  | SURROUND  | WIDTH | ST-IN2L |
| 75  | SURROUND  | WIDTH | ST-IN2R |
| 76  | SURROUND  | WIDTH | ST-IN3L |
| 77  | SURROUND  | WIDTH | ST-IN3R |
| 78  | SURROUND  | WIDTH | ST-IN4L |
| 79  | SURROUND  | WIDTH | ST-IN4R |
| 80  | NO ASSIGN |       |         |
| 81  | NO ASSIGN |       |         |
| 82  | NO ASSIGN |       |         |
| 83  | NO ASSIGN |       |         |
| 84  | NO ASSIGN |       |         |
| 85  | NO ASSIGN |       |         |
| 86  | NO ASSIGN |       |         |
| 87  | NO ASSIGN |       |         |
| 88  | NO ASSIGN |       |         |
| 89  | SURROUND  | DEPTH | INPUT25 |
| 90  | SURROUND  | DEPTH | INPUT26 |
| 91  | SURROUND  | DEPTH | INPUT27 |
| 92  | SURROUND  | DEPTH | INPUT28 |
| 93  | SURROUND  | DEPTH | INPUT29 |
| 94  | SURROUND  | DEPTH | INPUT30 |
| 95  | SURROUND  | DEPTH | INPUT31 |
| 102 | SURROUND  | DEPTH | INPUT32 |
| 103 | SURROUND  | DEPTH | ST-IN1L |
| 104 | SURROUND  | DEPTH | ST-IN1R |
| 105 | SURROUND  | DEPTH | ST-IN2L |
| 106 | SURROUND  | DEPTH | ST-IN2R |
| 107 | SURROUND  | DEPTH | ST-IN3L |
| 108 | SURROUND  | DEPTH | ST-IN3R |
| 109 | SURROUND  | DEPTH | ST-IN4L |
| 110 | SURROUND  | DEPTH | ST-IN4R |
| 111 | NO ASSIGN |       |         |
| 112 | NO ASSIGN |       |         |
| 113 | NO ASSIGN |       |         |
| 114 | NO ASSIGN |       |         |
| 115 | NO ASSIGN |       |         |
| 116 | NO ASSIGN |       |         |
| 117 | NO ASSIGN |       |         |
| 118 | NO ASSIGN |       |         |
| 119 | NO ASSIGN |       |         |

# MIDI Data Format

## 1. DATA FORMAT

### 1.1 CHANNEL MESSAGE

| Command           | rx/tx | function                     |
|-------------------|-------|------------------------------|
| 8n NOTE OFF       | rx    | Control the internal effects |
| 9n NOTE ON        | rx    | Control the internal effects |
| Bn CONTROL CHANGE | rx/tx | Control parameters           |
| Cn PROGRAM CHANGE | rx/tx | Switch scene memories        |

### 1.2 SYSTEM COMMON MESSAGE

| Command                         | rx/tx | function |
|---------------------------------|-------|----------|
| F1 MIDI TIME CODE QUARTER FRAME | rx    | MTC      |

### 1.3 SYSTEM REALTIME MESSAGE

| Command           | rx/tx | function                     |
|-------------------|-------|------------------------------|
| F8 TIMING CLOCK   | rx    | MIDI clock                   |
| FE ACTIVE SENSING | rx    | Check MIDI cable connections |
| FF RESET          | rx    | Clear running status         |

### 1.4 EXCLUSIVE MESSAGE

#### 1.4.1 Real Time System Exclusive

| Command                           | rx/tx | function         |
|-----------------------------------|-------|------------------|
| F0 7F dd 06 ... F7 MMC COMMAND    | tx    | MMC command      |
| F0 7F dd 07 ... F7 MMC RESPONSE   | rx    | MMC response     |
| F0 7F dd 01 ... F7 MIDI TIME CODE | rx    | MTC full message |

#### 1.4.2 System Exclusive Message

##### 1.4.2.1 Bulk Dump

| Command                              | rx/tx | function          |
|--------------------------------------|-------|-------------------|
| F0 43 0n 7E ... F7 BULK DUMP DATA    | rx/tx | BULK DUMP DATA    |
| F0 43 2n 7E ... F7 BULK DUMP REQUEST | rx/tx | BULK DUMP REQUEST |

The following data types of bulk dump are used on the 01V96i.

| Data name | tx/rx | function                                 |
|-----------|-------|------------------------------------------|
| 'm'       | tx/rx | Scene Memory & Request (compressed data) |
| 'S'       | tx/rx | Setup Memory & Request                   |
| 'L'       | tx/rx | User defined MIDI remote & Request       |
| 'V'       | tx/rx | User defined keys & Request              |
| 'U'       | tx/rx | User assignable layer & Request          |
| 'C'       | tx/rx | Control change table & Request           |
| 'P'       | tx/rx | Program change table & Request           |
| 'Q'       | tx/rx | Equalizer library & Request              |
| 'Y'       | tx/rx | Compressor library & Request             |
| 'G'       | tx/rx | Gate library & Request                   |
| 'E'       | tx/rx | Effect library & Request                 |
| 'H'       | tx/rx | Channel library & Request                |
| 'R'       | tx/rx | Input patch library & Request            |
| 'O'       | tx/rx | Output patch library & Request           |
| 'N'       | tx/rx | Plug-in Effect Card Data & Request       |

##### 1.4.2.2 PARAMETER CHANGE

| Command                                 | rx/tx | function                                        |
|-----------------------------------------|-------|-------------------------------------------------|
| F0 43 1n 3E 0D ... F7 PARAMETER CHANGE  | rx/tx | 01V96i-specific parameter change                |
| F0 43 3n 3E 0D ... F7 PARAMETER REQUEST | rx/tx | 01V96i-specific parameter change                |
| F0 43 1n 3E 7F ... F7 PARAMETER CHANGE  | rx/tx | General purpose digital mixer parameter change  |
| F0 43 3n 3E 7F ... F7 PARAMETER REQUEST | rx/tx | General purpose digital mixer parameter request |

The following data types of parameter change are used by the 01V96i.

| Type (HEX) | tx/rx | function                               |
|------------|-------|----------------------------------------|
| 1 (01)     | tx/rx | Edit buffer                            |
| 2 (02)     | tx/rx | Patch data                             |
| 3 (03)     | tx/rx | Setup data                             |
| 4 (04)     | tx/rx | Backup data                            |
| 16 (10)    | tx/rx | Function (recall, store, title, clear) |
| 17 (11)    | rx    | Function (pair, copy)                  |
| 18 (12)    | rx    | Function (effect)                      |
| 19 (13)    | tx/rx | Sort table                             |
| 20 (14)    | tx/rx | Function (attribute, link)             |
| 32 (20)    | rx    | Key remote                             |
| 33 (21)    | tx/rx | Remote meter                           |
| 34 (22)    | tx/rx | Remote time counter                    |

\* 'tx' indicates that the data can be transmitted from the 01V96i, and 'rx' indicates that the data can be received by the 01V96i.

## 2. Format Details

### 2.1 NOTE OFF

(8n)

#### Reception

If [OTHER ECHO] is ON, these message are echoed from MIDI OUT.

If the [Rx CH] matches, these messages are received and used to control effects.

|        |                 |    |                   |
|--------|-----------------|----|-------------------|
| STATUS | 1 0 0 0 n n n n | 8n | Note off message  |
| DATA   | 0 n n n n n n n | nn | Note number       |
|        | 0 v v v v v v v | vv | Velocity(ignored) |

### 2.2 NOTE ON

(9n)

#### Reception

If [OTHER ECHO] is ON, these messages are echoed from MIDI OUT.

If the [Rx CH] matches, these messages are received and used to control effects.

|        |                 |    |                           |
|--------|-----------------|----|---------------------------|
| STATUS | 1 0 0 1 n n n n | 9n | Note on message           |
| DATA   | 0 n n n n n n n | nn | Note number               |
|        | 0 v v v v v v v | vv | Velocity(1-127:on, 0:off) |

### 2.3 CONTROL CHANGE

(Bn)

#### Reception

If [Control Change ECHO] is ON, these messages are echoed from MIDI OUT.

If [TABLE] is selected, these message are received if [Control Change Rx] is ON, and will control parameters according to the [Control assign table] settings.

The parameters that can be set are defined in the Control Change Assign Parameter List.

If [NRPN] is selected, these messages are received if [Control Change Rx] is ON and the [Rx CH] matches, and will control the parameter that is specified by the four messages NRPN control number (62h, 63h) and Data Entry control number (06h, 26h). Parameter settings are defined in the Control Change Assign Parameter List.

#### Transmission

If [TABLE] is selected, operating a parameter specified in the [Control assign table] will cause these messages to be transmitted if [Control Change Tx] is ON. The parameters that can be specified are defined in the Control Change Assign Parameter List.

If [NRPN] is selected, operating a specified parameter will cause data to be transmitted on the [Tx CH] if [Control Change Tx] is ON, using the four messages NRPN control number (62h, 63h) and Data Entry control number (06h, 26h). Parameter settings are defined in the Control Change Assign Parameter List.

This data cannot be transmitted via control change to Studio Manager since there is no guarantee that the contents of the tables will match. (Parameter Change messages will always be used.)

**If [TABLE] is selected**

|        |          |    |                                |
|--------|----------|----|--------------------------------|
| STATUS | 1011nnnn | Bn | Control change                 |
| DATA   | 0nnnnnnn | nn | Control number (0-95, 102-119) |
|        | 0vvvvvvv | vv | Control Value (0-127)          |

**If [NRPN] is selected**

|        |          |    |                         |
|--------|----------|----|-------------------------|
| STATUS | 1011nnnn | Bn | Control change          |
| DATA   | 01100010 | 62 | NRPN LSB                |
|        | 0vvvvvvv | vv | LSB of parameter number |
| STATUS | 1011nnnn | Bn | Control change *1       |
| DATA   | 01100011 | 63 | NRPN MSB                |
|        | 0vvvvvvv | vv | MSB of parameter number |
| STATUS | 1011nnnn | Bn | Control change *1       |
| DATA   | 00000110 | 06 | MSB of data entry       |
|        | 0vvvvvvv | vv | MSB of parameter data   |
| STATUS | 1011nnnn | Bn | Control change *1       |
| DATA   | 00100110 | 26 | LSB of data entry       |
|        | 0vvvvvvv | vv | LSB of parameter data   |

\*1) The second and subsequent STATUS need not be added during transmission. Reception must be implemented so that reception occurs whether or not STATUS is present.

**2.4 PROGRAM CHANGE (Cn)****Reception**

If [Program Change ECHO] is ON, these messages are echoed from MIDI OUT.

If [Program Change RX] is ON and the [Rx CH] matches, these messages will be received. However if [OMNI] is ON, they will be received regardless of the channel. When a message is received, a Scene Memory will be recalled according to the settings of the [Program Change Table].

**Transmission**

If [Program Change TX] is ON, this message is transmitted according to the settings of the [Program Change Table] on the [Tx CH] channel when a scene memory is recalled.

If the recalled scene has been assigned to more than one program number, the lowest-numbered program number will be transmitted. Transmission to Studio Manager using Program Change messages will not be performed since there is no guarantee that the contents of the tables will match. (Parameter Changes will always be used.)

|        |          |    |                        |
|--------|----------|----|------------------------|
| STATUS | 1100nnnn | Cn | Program change         |
| DATA   | 0nnnnnnn | nn | Program number (0-127) |

**2.5 TIMING CLOCK (F8)****Reception**

It is used to control effects. This message is transmitted 24 times per quarter note.

|        |          |    |              |
|--------|----------|----|--------------|
| STATUS | 11111000 | F8 | Timing clock |
|--------|----------|----|--------------|

**2.6 ACTIVE SENSING (FE)****Reception**

Once this message has been received, the failure to receive any message for an interval of 400 ms or longer will cause MIDI transmission to be initialized, such as by clearing the Running Status.

|        |          |    |                |
|--------|----------|----|----------------|
| STATUS | 11111110 | FE | Active sensing |
|--------|----------|----|----------------|

**2.7 SYSTEM RESET (FF)****Reception**

When this message is received, MIDI communications will be cleared, e.g., by clearing the Running Status.

|        |          |    |              |
|--------|----------|----|--------------|
| STATUS | 11111111 | FF | System reset |
|--------|----------|----|--------------|

**2.8 SYSTEM EXCLUSIVE MESSAGE (F0)****2.8.1 MIDI MACHINE CONTROL (MMC)**

These messages are transmitted when the Machine Control section of the 01V96i is operated. For details, refer to the MMC specification.

**2.8.2 BULK DUMP**

This message sends or receives the contents of various memories stored within the 01V96i.

The basic format is as follows.

**For DUMP DATA**

F0 43 0n 7E cc cc <Model ID> tt mm mm [Data ...] cs F7

**For DUMP REQUEST**

F0 43 2n 7E <Model ID> tt mm mm F7

|                         |                                                                               |
|-------------------------|-------------------------------------------------------------------------------|
| n                       | Device Number                                                                 |
| cc cc                   | DATA COUNT (the number of bytes that follow this, ending before the checksum) |
| 4C 4D 20 20 38 43 39 33 | Model ID                                                                      |
| tt                      | DATA TYPE                                                                     |
| mm mm                   | DATA NUMBER                                                                   |
| cs                      | CHECK SUM                                                                     |

A unique header (Model ID) is used to determine whether the device is a 01V96i.

CHECK SUM is obtained by adding the bytes that follow BYTE COUNT (LOW) and end before CHECK SUM, taking the binary compliment of this sum, and then setting bit 7 to 0.

CHECK SUM = (~sum) & 0x7F

**Reception**

This message is received if [Bulk RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS.

When a bulk dump is received, it is immediately written into the specified memory.

When a bulk dump request is received, a bulk dump is immediately transmitted.

**Transmission**

This message is transmitted on the [Tx CH] by key operations in the [MIDI]-[BULK DUMP] screen.

A bulk dump is transmitted on the [Rx CH] in response to a bulk dump request. The data area is handled by converting seven words of 8-bit data into eight words of 7-bit data.

**Conversion from actual data into bulk data**

```
d[0~6]: actual data
b[0~7]: bulk data
b[0] = 0;
for( I=0; I<7; I++){
    if( d[I]&0x80){
        b[0] |= 1<<(6-I);
    }
    b[I+1] = d[I]&0x7F;
}
```

**Restoration from bulk data into actual data**

```
d[0~6]: actual data
b[0~7]: bulk data
for( I=0; I<7; I++){
    b[0] <= 1;
    d[I] = b[I+1] + (0x80 & b[0]);
}
```

**2.8.2.1 Scene memory bulk dump format (compress)**

The 01V96i can transmit and receive scene memories in compressed form.

|            |          |    |                                                 |
|------------|----------|----|-------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                        |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                |
| SUB STATUS | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)             |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                             |
| COUNT HIGH | 0ccccccc | ch | data count = ch * 128 + cl                      |
| COUNT LOW  | 0ccccccc | cl |                                                 |
|            | 01001100 | 4C | 'L'                                             |
|            | 01001101 | 4D | 'M'                                             |
|            | 00100000 | 20 | ''                                              |
|            | 00100000 | 20 | ''                                              |
|            | 00111000 | 38 | '8'                                             |
|            | 01000011 | 43 | 'C'                                             |
|            | 00111001 | 39 | '9'                                             |
|            | 00110011 | 33 | '3'                                             |
| DATA NAME  | 01101101 | 6D | 'm'                                             |
|            | 0mmmmmmm | mh | m=0-99, 256, 8192(Scene0-99, EDIT BUFFER, UNDO) |

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
|             | 0mmmmmm  | m1 | Receive is effective 1-99, 256, 8192       |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddd   | ds | Scene data of block[bb]                    |
|             | :        | :  |                                            |
|             | 0ddddd   | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.2 Scene memory bulk dump request format (compress)

The second and third bytes of the DATA NAME indicate the scene number that is being requested. If this is 256, the data of the Edit Buffer will be bulk-dumped. If this is 8192, the data of the Undo Buffer will be bulk-dumped.

|            |          |    |                                                 |
|------------|----------|----|-------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                        |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel)             |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                             |
|            | 01001100 | 4C | 'L'                                             |
|            | 01001101 | 4D | 'M'                                             |
|            | 00100000 | 20 | ' '                                             |
|            | 00100000 | 20 | ' '                                             |
|            | 00111000 | 38 | '8'                                             |
|            | 01000011 | 43 | 'C'                                             |
|            | 00111001 | 39 | '9'                                             |
|            | 00110011 | 33 | '3'                                             |
| DATA NAME  | 01101101 | 6D | 'm'                                             |
|            | 0mmmmmm  | mh | m=0-99, 256, 8192(Scene0-99, EDIT BUFFER, UNDO) |
|            | 0mmmmmm  | m1 |                                                 |
| EOX        | 11110111 | F7 | End of exclusive                                |

### 2.8.2.3 Setup memory bulk dump format

Of the setup memory of the 01V96i, this bulk-dumps data other than the User Define MIDI Remote, User Defined Keys, User Assignable Layer, Control Change Table, and Program Change Table.

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01010011 | 53 | 'S'                                        |
|             | 00000010 | 02 |                                            |
|             | 00000000 | 00 | No.256 = Current                           |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddd   | ds | Setup data of block[bb]                    |
|             | :        | :  |                                            |
|             | 0ddddd   | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.4 Setup memory bulk dump request format

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |

|           |          |    |                  |
|-----------|----------|----|------------------|
|           | 00111000 | 38 | '8'              |
|           | 01000011 | 43 | 'C'              |
|           | 00111001 | 39 | '9'              |
|           | 00110011 | 33 | '3'              |
| DATA NAME | 01010011 | 53 | 'S'              |
|           | 00000010 | 02 |                  |
|           | 00000000 | 00 | No.256 = Current |
| EOX       | 11110111 | F7 | End of exclusive |

### 2.8.2.5 User Defined MIDI Remote bulk dump format

The second and third bytes of the DATA NAME indicate the bank number. Be aware that the state of the transmission destination will (in some cases) change if the same bank is being used.

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01001100 | 4C | 'L'                                        |
|             | 00000000 | 00 |                                            |
|             | 0bbbbbbb | bb | b=0-3(bank no.1-4)                         |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddd   | ds | User define layer data of block[bb]        |
|             | :        | :  |                                            |
|             | 0ddddd   | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.6 User Defined MIDI Remote bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01001100 | 4C | 'L'                                 |
|            | 00000000 | 00 |                                     |
|            | 0bbbbbbb | bb | b=0-3(bank no.1-4)                  |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.2.7 User Defined Keys bulk dump format

The second and third bytes of the DATA NAME indicate the bank number. Be aware that the state of the transmission destination will (in some cases) change if the same bank is being used.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
| COUNT HIGH | 0ccccccc | ch | data count = ch * 128 + cl          |
| COUNT LOW  | 0ccccccc | cl |                                     |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
|             | 00100000 | 20 | ''                                         |
|             | 00100000 | 20 | ''                                         |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01010110 | 56 | 'V'                                        |
|             | 00000000 | 00 |                                            |
|             | 0bbbbbbb | bb | b=0-7(bank no.A-H)                         |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | User define key data of block[bb]          |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.8 User Defined Keys bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01010110 | 56 | 'V'                                 |
|            | 00000000 | 00 |                                     |
|            | 0bbbbbbb | bb | b=0-7(bank no.A-H)                  |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.2.9 User Assignable Layer bulk dump format

The second and third bytes of the DATA NAME indicate the bank number.  
Be aware that the state of the transmission destination will (in some cases) change if the same bank is being used.

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ''                                         |
|             | 00100000 | 20 | ''                                         |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01010101 | 55 | 'U'                                        |
|             | 00000000 | 00 |                                            |
|             | 0bbbbbbb | bb | b=0-3(bank no.1-4)                         |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | User assignable layer data of block[bb]    |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.10 User Assignable Layer bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01010101 | 55 | 'U'                                 |
|            | 00000000 | 00 |                                     |
|            | 0bbbbbbb | bb | b=0-3(bank no.1-4)                  |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.2.11 Control change table bulk dump format

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ''                                         |
|             | 00100000 | 20 | ''                                         |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01000011 | 43 | 'C'                                        |
|             | 00000010 | 02 |                                            |
|             | 00000000 | 00 | No.256 = Current                           |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | Control change table data of block[bb]     |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.12 Control change table bulk dump request format

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01000011 | 43 | 'C'                                 |
|            | 00000010 | 02 |                                     |
|            | 00000000 | 00 | No.256 = Current                    |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.13 Program change table bulk dump format**

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01010000 | 50 | 'P'                                        |
|             | 00000010 | 02 |                                            |
|             | 00000000 | 00 | No.256 = Current                           |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | Program change table data of block[bb]     |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

**2.8.2.14 Program change table bulk dump request format**

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01010000 | 50 | 'P'                                 |
|            | 00000010 | 02 |                                     |
|            | 00000000 | 00 | No.256 = Current                    |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.15 Equalizer library bulk dump format**

The second and third bytes of the DATA NAME indicate the bank number.  
 0:Library no.1 – 199:Library no.200,  
 256:CH1 – 287:CH32, 288:STEREO 1L – 295:STEREO 4R, 384:BUS1 –  
 391:BUS8, 512:AUX1 – 519:AUX8, 768:STEREO, 8192:UNDO  
 256 and following are data for the corresponding channel of the edit buffer.  
 For reception by the 01V96i, only the user area is valid. (40-199, 256-)

|             |          |    |                                         |
|-------------|----------|----|-----------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)        |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)     |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                     |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl              |
| COUNT LOW   | 0ccccccc | cl |                                         |
|             | 01001100 | 4C | 'L'                                     |
|             | 01001101 | 4D | 'M'                                     |
|             | 00100000 | 20 | ' '                                     |
|             | 00100000 | 20 | ' '                                     |
|             | 00111000 | 38 | '8'                                     |
|             | 01000011 | 43 | 'C'                                     |
|             | 00111001 | 39 | '9'                                     |
|             | 00110011 | 33 | '3'                                     |
| DATA NAME   | 01010001 | 51 | 'Q'                                     |
|             | 0mmmmmmm | mh | 0-199(EQ Library no.1-200),             |
|             | 0mmmmmmm | ml | 256-(Channel current data)              |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0) |

|           |          |    |                                            |
|-----------|----------|----|--------------------------------------------|
|           | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA      | 0ddddddd | ds | EQ Library data of block[bb]               |
|           | :        | :  |                                            |
|           | 0ddddddd | de |                                            |
| CHECK SUM | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX       | 11110111 | F7 | End of exclusive                           |

**2.8.2.16 Equalizer library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01010001 | 51 | 'Q'                                 |
|            | 0mmmmmmm | mh | 0-199(EQ Library no.1-200),         |
|            | 0mmmmmmm | ml | 256-(Channel current data)          |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.17 Compressor library bulk dump format**

The second and third bytes of the DATA NAME indicate the bank number.  
 0:Library no.1 – 127:Library no.128,  
 256:CH1 – 287:CH32, 384:BUS1 – 391:BUS8, 512:AUX1 – 519:AUX8,  
 768:STEREO, 8192:UNDO  
 256 and following are data for the corresponding channel of the edit buffer.  
 For reception by the 01V96i, only the user area is valid. (36-127, 256-)

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01011001 | 59 | 'Y'                                        |
|             | 0mmmmmmm | mh | 0-127(COMP Library no.1-128),              |
|             | 0mmmmmmm | ml | 256-(Channel current data)                 |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | COMP Library data of block[bb]             |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

**2.8.2.18 Compressor library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01011001 | 59 | 'Y'                                 |
|            | 0mmmmmmm | mh | 0-127(COMP Library no.1-128),       |
|            | 0mmmmmmm | ml | 256-(Channel current data)          |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.19 Gate library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number.  
0:Library no.1 – 127:Library no.128, 256:CH1 – 287:CH32, 8192:UNDO  
256 and following are data for the corresponding channel of the edit buffer.  
For reception by the 01V96i, only the user area is valid. (4-127, 256-)

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ''                                         |
|             | 00100000 | 20 | ''                                         |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01000111 | 47 | 'G'                                        |
|             | 0mmmmmmm | mh | 0-127(GATE Library no.1-128),              |
|             | 0mmmmmmm | ml | 256-351(Channel current data)              |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddd   | ds | GATE Library data of block[bb]             |
|             | :        | :  |                                            |
|             | 0ddddd   | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

**2.8.2.20 Gate library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01000111 | 47 | 'G'                                 |
|            | 0mmmmmmm | mh | 0-127(GATE Library no.1-128),       |
|            | 0mmmmmmm | ml | 256-351(Channel current data)       |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.21 Effect library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number.  
0:Library no.1 – 127:Library no.128, 256:EFFECT1 – 259:EFFECT4, 8192:UNDO  
256-259 are the data for the corresponding area of the edit buffer.  
For reception by the 01V96i, only the user area is valid. (xx-127, 256-259, 8192)  
(xx varies with the firmware version.)

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ''                                         |
|             | 00100000 | 20 | ''                                         |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01000101 | 45 | 'E'                                        |
|             | 0mmmmmmm | mh | 0-127(Effect Library no.1-128),            |
|             | 0mmmmmmm | ml | 256-259(Effect1-4 current)                 |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddd   | ds | Effect Library data of block[bb]           |
|             | :        | :  |                                            |
|             | 0ddddd   | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

**2.8.2.22 Effect library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01000101 | 45 | 'E'                                 |
|            | 0mmmmmmm | mh | 0-127(Effect Library no.1-128),     |
|            | 0mmmmmmm | ml | 256-259(Effect1-4 current)          |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.23 Channel library bulk dump request format**

The second and third bytes of the DATA NAME indicate the bank number.  
0:Library no.0 – 128:Library no.128,  
256:CH1 – 287:CH32, 288:STEREO 1L – 295:STEREO 4R, 384:BUS1 –  
391:BUS8, 512:AUX1 – 519:AUX8, 768:STEREO, 8192:UNDO  
256 and following are data for the corresponding channel of the edit buffer.  
For reception by the 01V96i, only the user area is valid. (2-128, 256-)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
| COUNT HIGH | 0ccccccc | ch | data count = ch * 128 + cl          |
| COUNT LOW  | 0ccccccc | cl |                                     |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01001000 | 48 | 'H'                                        |
|             | 0mmmmmmm | mh | 0-128(Channel Library no.0-128),           |
|             | 0mmmmmmm | m1 | 256-(Current data)                         |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | Channel Library data of block[bb]          |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.24 Channel library bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01001000 | 48 | 'H'                                 |
|            | 0mmmmmmm | mh | 0-128(Channel Library no.0-128),    |
|            | 0mmmmmmm | m1 | 256-(Current data)                  |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.2.25 Input patch library bulk dump format

The second and third bytes of the DATA NAME indicate the bank number.  
0:Library no.0 – 32:Library no.32, 256:current input patch data, 8192:UNDO  
For reception by the 01V96i, only the user area is valid. (1-32, 256, 8192)

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01010010 | 52 | 'R'                                        |
|             | 0mmmmmmm | mh | 0-32(Input patch Library no.0-32),         |
|             | 0mmmmmmm | m1 | 256(Current data)                          |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | Input patch Library data of block[bb]      |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.26 Input patch library bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01010010 | 52 | 'R'                                 |
|            | 0mmmmmmm | mh | 0-32(Input patch Library no.0-32),  |
|            | 0mmmmmmm | m1 | 256(Current data)                   |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.2.27 Output patch library bulk dump format

The second and third bytes of the DATA NAME indicate the bank number.  
0:Library no.0 – 32:Library no.32, 256:current output patch data, 8192:UNDO  
For reception by the 01V96i, only the user area is valid. (1-32, 256)

|             |          |    |                                            |
|-------------|----------|----|--------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                   |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)           |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)        |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                        |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                 |
| COUNT LOW   | 0ccccccc | cl |                                            |
|             | 01001100 | 4C | 'L'                                        |
|             | 01001101 | 4D | 'M'                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00100000 | 20 | ' '                                        |
|             | 00111000 | 38 | '8'                                        |
|             | 01000011 | 43 | 'C'                                        |
|             | 00111001 | 39 | '9'                                        |
|             | 00110011 | 33 | '3'                                        |
| DATA NAME   | 01001111 | 4F | 'O'                                        |
|             | 0mmmmmmm | mh | 0-32(Output patch Library no.0-32),        |
|             | 0mmmmmmm | m1 | 256(Current data)                          |
| BLOCK INFO. | 0ttttttt | tt | total block number(minimum number is 0)    |
|             | 0bbbbbbb | bb | current block number(0-total block number) |
| DATA        | 0ddddddd | ds | Output patch Library data of block[bb]     |
|             | :        | :  |                                            |
|             | 0ddddddd | de |                                            |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F             |
| EOX         | 11110111 | F7 | End of exclusive                           |

### 2.8.2.28 Output patch library bulk dump request format

The second and third bytes of the DATA NAME indicate the bank number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00100000 | 20 | ' '                                 |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01001111 | 4F | 'O'                                 |
|            | 0mmmmmmm | mh | 0-32(Output patch Library no.0-32), |
|            | 0mmmmmmm | m1 | 256(Current data)                   |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.2.29 Plug-in effect card bulk dump format**

The second byte of the DATA NAME indicates the slot number.

0:SLOT 1

The data is not received if the Developer ID and Product ID are different than the card that is installed in the slot.

The data is not transmitted if a valid plug-in effect card is not installed.

|             |          |    |                                              |
|-------------|----------|----|----------------------------------------------|
| STATUS      | 11110000 | F0 | System exclusive message                     |
| ID No.      | 01000011 | 43 | Manufacture's ID number (YAMAHA)             |
| SUB STATUS  | 0000nnnn | 0n | n=0-15 (Device number=MIDI Channel)          |
| FORMAT No.  | 01111110 | 7E | Universal bulk dump                          |
| COUNT HIGH  | 0ccccccc | ch | data count = ch * 128 + cl                   |
| COUNT LOW   | 0ccccccc | cl |                                              |
|             | 01001100 | 4C | 'L'                                          |
|             | 01001101 | 4D | 'M'                                          |
|             | 00100000 | 20 | ''                                           |
|             | 00100000 | 20 | ''                                           |
|             | 00111000 | 38 | '8'                                          |
|             | 01000011 | 43 | 'C'                                          |
|             | 00111001 | 39 | '9'                                          |
|             | 00110011 | 33 | '3'                                          |
| DATA NAME   | 01001110 | 4E | 'N'                                          |
|             | 0mmmmmm  | mh | m=0(SLOT 1)                                  |
|             | 0mmmmmm  | ml |                                              |
| BLOCK INFO. | 0bbbbbbb | bh | current block number(0-total block number)   |
|             | 0bbbbbbb | bl |                                              |
|             | 0ttttttt | th | total block number(minimum number is 0)      |
|             | 0ttttttt | tl |                                              |
|             | 0000iiii | 0i | Developer id (High)                          |
|             | 0000iiii | 0i | Developer id (Low)                           |
|             | 0000jjjj | 0j | Product id (High)                            |
|             | 0000jjjj | 0j | Product id (Low)                             |
| DATA        | 0ddddddd | ds | Plug-in Effect card memory data of block[bb] |
|             | :        | :  |                                              |
|             | 0ddddddd | de |                                              |
| CHECK SUM   | 0eeeeeee | ee | ee=(Invert('L'+...+de)+1)&0x7F               |
| EOX         | 11110111 | F7 | End of exclusive                             |

**2.8.2.30 Plug-in effect card bulk dump request format**

The second and third bytes of the DATA NAME indicate the slot number. (See above)

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0010nnnn | 2n | n=0-15 (Device number=MIDI Channel) |
| FORMAT No. | 01111110 | 7E | Universal bulk dump                 |
|            | 01001100 | 4C | 'L'                                 |
|            | 01001101 | 4D | 'M'                                 |
|            | 00100000 | 20 | ''                                  |
|            | 00100000 | 20 | ''                                  |
|            | 00111000 | 38 | '8'                                 |
|            | 01000011 | 43 | 'C'                                 |
|            | 00111001 | 39 | '9'                                 |
|            | 00110011 | 33 | '3'                                 |
| DATA NAME  | 01001110 | 4E | 'N'                                 |
|            | 0mmmmmm  | mh | m=0(SLOT 1)                         |
|            | 0mmmmmm  | ml |                                     |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.3 PARAMETER CHANGE****2.8.3.1 Basic behavior****Reception**

If [Parameter change ECHO] is ON, these messages are echoed.

If [Parameter change RX] is ON and the [Rx CH] matches the Device Number included in the SUB STATUS, these messages are received. A specific parameter is controlled when a Parameter Change is received. When a Parameter Request is received, the current value of the specified parameter will be transmitted as a Parameter Change with the Device Number set to [Rx CH].

**Transmission**

If [Parameter change TX] is ON and you operate a parameter for which Control Change transmission is not enabled, a parameter change will be transmitted with [Tx CH] as the Device Number.

As a response to a Parameter Request, a parameter change will be transmitted with [Rx CH] as the Device Number.

**2.8.3.1.1 Parameter change basic format**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 0ttttttt | tt | Data type                                                    |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA *)    | 0ddddddd | dd | data                                                         |
|            | :        | :  |                                                              |
| EOX        | 11110111 | F7 | End of exclusive                                             |

\*) For parameters with a data size of 2 or more, data for that size will be transmitted.

**2.8.3.1.2 Parameter Change basic format (Universal format)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 01111111 | 7F | Universal                                                    |
| ADDRESS    | 0ttttttt | tt | Data type                                                    |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA *)    | 0ddddddd | dd | data                                                         |
|            | :        | :  |                                                              |
| EOX        | 11110111 | F7 | End of exclusive                                             |

\*) For parameters with a data size of 2 or more, data for that size will be transmitted.

**2.8.3.1.3 Parameter request basic format**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 0ttttttt | tt | Data type                                                    |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.1.4 Parameter request basic format (Universal format)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 01111111 | 7F | Universal                                                    |
| ADDRESS    | 0ttttttt | tt | Data type                                                    |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.1.5 Parameter Address**

Consult your dealer for parameter address details.

**2.8.3.2 Parameter change (Edit buffer)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 01111111 | 7F | Universal                                                    |
| ADDRESS    | 00000001 | 01 | Edit Buffer                                                  |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA       | 0ddddd   | dd | data                                                         |
|            | :        | :  |                                                              |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.3 Parameter request (Edit buffer)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 01111111 | 7F | Universal                                                    |
| ADDRESS    | 00000001 | 01 | Edit Buffer                                                  |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.4 Parameter change (Patch data)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000010 | 02 | Patch data                                                   |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA       | 0ddddd   | dd | data                                                         |
|            | :        | :  |                                                              |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.5 Parameter request (Patch data)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000010 | 02 | Patch data                                                   |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.6 Parameter change (Setup memory)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000011 | 03 | Setup data                                                   |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA       | 0ddddd   | dd | data                                                         |

|     |                              |
|-----|------------------------------|
| :   | :                            |
| EOX | 11110111 F7 End of exclusive |

**2.8.3.7 Parameter request (Setup memory)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000011 | 03 | Setup data                                                   |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.8 Parameter change (Backup memory)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000100 | 04 | Backup data                                                  |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| DATA       | 0ddddd   | dd | data                                                         |
|            | :        | :  |                                                              |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.9 Parameter request (Backup memory)**

|            |          |    |                                                              |
|------------|----------|----|--------------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                                     |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                             |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                          |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                                     |
| MODEL ID   | 00011010 | 1A | 01V96i                                                       |
| ADDRESS    | 00000100 | 04 | Backup data                                                  |
|            | 0eeeeeee | ee | Element no.<br>(If 'ee' is 0, 'ee' is expanded to two bytes) |
|            | 0ppppppp | pp | Parameter no.                                                |
|            | 0ccccccc | cc | Channel no.                                                  |
| EOX        | 11110111 | F7 | End of exclusive                                             |

**2.8.3.10 Parameter change (Function call: Library store / recall)****Reception**

When this is received, the specified memory/library will be stored/recalled. If this is received from Studio Manager or Cascade Link, the operation will be executed, and then the result of execution will be transmitted as a Parameter Response.

**Transmission**

If [Parameter change Tx] is ON, and you store or recall a memory/library for which Program Change transmission is not valid, this message will be transmitted with the Device Number set to the [Tx CH].

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010000 | 10 | Function call                       |
|            | 00ffffff | ff | function                            |
|            | 0mmmmmm  | mh | number High                         |
|            | 0mmmmmm  | ml | number Low                          |
| DATA       | 0ccccccc | ch | channel High                        |
|            | 0ccccccc | cl | channel Low                         |
| EOX        | 11110111 | F7 | End of exclusive                    |

| function            | number | channel*1)  | tx/rx              |
|---------------------|--------|-------------|--------------------|
| SCENE RECALL        | 0x00   | 0-99, 8192  | 256 tx/rx          |
| EQ LIB RECALL       | 0x01   | 1-200, 8192 | 0-513 tx/rx        |
| GATE LIB RECALL     | 0x02   | 1-128, 8192 | 0-95 tx/rx         |
| COMP LIB RECALL     | 0x03   | 1-128, 8192 | 0-513 tx/rx        |
| EFF LIB RECALL      | 0x04   | 1-128, 8192 | 0-3 tx/rx          |
| CHANNEL LIB RECALL  | 0x06   | 0-128, 8192 | 0-513 tx/rx        |
| INPATCH LIB RECALL  | 0x07   | 0-32, 8192  | 256 tx/rx          |
| OUTPATCH LIB RECALL | 0x08   | 0-32, 8192  | 256 tx/rx          |
| SCENE STORE         | 0x20   | 1-99        | 256, 16383 tx/rx   |
| EQ LIB STORE        | 0x21   | 41-200      | 0-513, 16383 tx/rx |
| GATE LIB STORE      | 0x22   | 5-128       | 0-31, 16383 tx/rx  |
| COMP LIB STORE      | 0x23   | 37-128      | 0-513, 16383 tx/rx |
| EFF LIB STORE       | 0x24   | xx(*2)-128  | 0-3, 16383 tx/rx   |
| CHANNEL LIB STORE   | 0x26   | 1-128       | 0-513, 16383 tx/rx |
| INPATCH LIB STORE   | 0x27   | 1-32        | 256, 16383 tx/rx   |
| OUTPATCH LIB STORE  | 0x28   | 1-32        | 256, 16383 tx/rx   |

\*1) 0:CH1 – 31:CH32, 32:ST-IN1L – 39:ST-IN4R, 128:BUS1 – 135:BUS8, 256:AUX1 – 263:AUX8, 512:STEREO

Use 256 if the recall destination or store source is a single data item. Effect is 0:Effect 1–3:Effect 4

If the store destination is 16383 (0x3FFF), this indicates that the library data has been changed by an external cause (such as bulk reception)

(only transmitted by the 01V96i)

\*2) Varies with the firmware version.

### 2.8.3.11 Parameter change (Function call: title)

#### Reception

When this is received, the title of the specified memory/library will be changed. If this is received from Studio Manager or Cascade Link, the operation will be executed, and then the result of execution will be transmitted as a parameter response.

#### Transmission

In response to a request, this is transmitted with the device number set to the [Tx CH].

When the title is changed on the 01V96i, this message will be transmitted with the device number set to [Tx CH].

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010000 | 10 | Function call                       |
|            | 0100ffff | 4f | title                               |
|            | 0mmmmmmm | mh | number High                         |
|            | 0mmmmmmm | ml | number Low                          |
| DATA       | 0ddddd   | dd | title 1                             |
| :          | :        | :  | :                                   |
|            | 0ddddd   | dd | title x(depend on the library)      |
| EOX        | 11110111 | F7 | End of exclusive                    |

| function           | number | size                          |
|--------------------|--------|-------------------------------|
| SCENE LIB TITLE    | 0x40   | 0-99,256(0:response only)     |
| EQ LIB TITLE       | 0x41   | 1-200(1-40:response only)     |
| GATE LIB TITLE     | 0x42   | 1-128(1-4:response only)      |
| COMP LIB TITLE     | 0x43   | 1-128(1-36:response only)     |
| EFF LIB TITLE      | 0x44   | 1-128(1-xx(*1):response only) |
| CHANNEL LIB TITLE  | 0x46   | 0-128(0:response only)        |
| INPATCH LIB TITLE  | 0x47   | 0-32(0:response only)         |
| OUTPATCH LIB TITLE | 0x48   | 0-32(0:response only)         |

\*1) Varies with the firmware version.

### 2.8.3.12 Parameter request (Function call: title)

#### Reception

When this is received, a parameter change will be transmitted with the device number set to [Rx CH].

Refer to the above table for the Functions and Numbers.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |

|         |          |    |                  |
|---------|----------|----|------------------|
| ADDRESS | 00010000 | 10 | Function call    |
|         | 0100ffff | 4f | title            |
|         | 0mmmmmmm | mh | number High      |
|         | 0mmmmmmm | ml | number Low       |
| EOX     | 11110111 | F7 | End of exclusive |

### 2.8.3.13 Parameter change (Function call: Scene/Library Clear)

#### Reception

When this is received, the specified memory/library will be cleared. If this is received from Studio Manager or Cascade Link, the operation will be executed, and then the result of execution will be transmitted as a parameter response.

#### Transmission

When a memory or library is cleared on the 01V96i, this message will be transmitted with the device number set to [Tx CH].

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010000 | 10 | Function call                       |
|            | 0110ffff | 6f | clear function                      |
|            | 0mmmmmmm | mh | number High                         |
|            | 0mmmmmmm | ml | number Low                          |
| EOX        | 11110111 | F7 | End of exclusive                    |

| function           | number |
|--------------------|--------|
| SCENE LIB CLEAR    | 0x60   |
| EQ LIB CLEAR       | 0x61   |
| GATE LIB CLEAR     | 0x62   |
| COMP LIB CLEAR     | 0x63   |
| EFF LIB CLEAR      | 0x64   |
| CHANNEL LIB CLEAR  | 0x66   |
| INPATCH LIB CLEAR  | 0x67   |
| OUTPATCH LIB CLEAR | 0x68   |

\*1) Varies with the firmware version.

### 2.8.3.14 Parameter change (Function call: attribute)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, the attribute of the specified memory/library will be changed.

#### Transmission

In response to a request, a Parameter Change message will be transmitted on the [Rx CH].

If [Parameter change ECHO] is ON, this message will be retransmitted without change.

|            |          |    |                                          |
|------------|----------|----|------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                 |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)         |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)      |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                 |
| MODEL ID   | 01111111 | 7F | Universal                                |
| ADDRESS    | 00010100 | 14 | Function call                            |
|            | 0000ffff | 0f | attribute                                |
|            | 0mmmmmmm | mh | number High                              |
|            | 0mmmmmmm | ml | number Low                               |
| DATA       | 0ttttttt | tt | attribute(protect:0x0001, normal:0x0000) |
|            | 0ttttttt | tt |                                          |
| EOX        | 11110111 | F7 | End of exclusive                         |

| function            | number |
|---------------------|--------|
| SCENE LIB ATTRIBUTE | 0x00   |

### 2.8.3.15 Parameter request (Function call: attribute)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, a Parameter Change message will be transmitted on the [Rx CH].

Refer to the above table for the Functions and Numbers.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010100 | 14 | Function call                       |
|            | 0000ffff | 0f | attribute                           |
|            | 0mmmmmmm | mh | number High                         |
|            | 0mmmmmmm | ml | number Low                          |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.3.16 Parameter change (Function call: link)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, the patch link data of the specified scene will be modified.

#### Transmission

In response to a request, a Parameter Change message will be transmitted on the [Rx CH].

If [Parameter change ECHO] is ON, this message will be retransmitted without change.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010100 | 14 | Function call                       |
|            | 0010ffff | 2f | link                                |
|            | 0mmmmmmm | mh | number High                         |
|            | 0mmmmmmm | ml | number Low                          |
| DATA       | 0iiiiiii | ih | inpatch                             |
|            | 0iiiiiii | il |                                     |
|            | 0ooooooo | oh | outpatch                            |
|            | 0ooooooo | ol |                                     |
| EOX        | 11110111 | F7 | End of exclusive                    |

| function       | number                |
|----------------|-----------------------|
| SCENE LIB LINK | 0x20                  |
|                | 0-99(0:response only) |

### 2.8.3.17 Parameter request (Function call: link)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, a Parameter Change message will be transmitted on the [Rx CH].

Refer to the above table for the Functions and Numbers.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 01111111 | 7F | Universal                           |
| ADDRESS    | 00010100 | 14 | Function call                       |
|            | 0010ffff | 2f | link                                |
|            | 0mmmmmmm | mh | number High                         |
|            | 0mmmmmmm | ml | number Low                          |
| EOX        | 11110111 | F7 | End of exclusive                    |

### 2.8.3.18 Parameter change (Function call: pair, copy)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, pairing will be enabled/disabled for the specified channel.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |

|          |          |    |                       |
|----------|----------|----|-----------------------|
| MODEL ID | 01111111 | 7F | Universal             |
| ADDRESS  | 00010001 | 11 | Function call Pair    |
|          | 0000ffff | 0f | function              |
|          | 0sssssss | sh | Source channel H      |
|          | 0sssssss | sl | Source channel L      |
| DATA     | 0ddddd   | dh | Destination channel H |
|          | 0ddddd   | dl | Destination channel L |
| EOX      | 11110111 | F7 | End of exclusive      |

| function                | channel  |
|-------------------------|----------|
| PAIR ON with COPY       | 0x00 *1) |
| PAIR ON with RESET BOTH | 0x01 *1) |
| PAIR OFF                | 0x02 *1) |

\*1) 0:CH1 – 31:CH32, 128:BUS1 – 135:BUS8, 256:AUX1 – 263:AUX8, 512:STEREO  
Effect is 0:Effect 1–3:Effect 4

- In the case of PAIR, you must specify channels for which pairing is possible.
- In the case of PAIR ON with COPY, you must specify Source Channel as the copy source, and Destination Channel as the copy destination.

### 2.8.3.19 Parameter change (Function call Event: Effect)

#### Reception

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS.

This is echoed if [Parameter change ECHO] is ON.

When this is received, the corresponding effect's function activates (depending on the effect type).

|            |          |    |                                       |
|------------|----------|----|---------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message              |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)      |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel)   |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)              |
| MODEL ID   | 01111111 | 7F | Universal                             |
| ADDRESS    | 00010010 | 12 | Function call Effect Event            |
|            | 0000ffff | 0f | function                              |
|            | 00000000 | 00 |                                       |
|            | 0ppppppp | pp | Release:0, Press:1                    |
| DATA       | 00000000 | 00 |                                       |
|            | 0eeeeeee | ee | Effect number (0:Effect1 - 3:Effect4) |
| EOX        | 11110111 | F7 | End of exclusive                      |

| function             | channel                  |
|----------------------|--------------------------|
| Freeze Play button   | 0x00 0:Effect1-3:Effect4 |
| Freeze Record button | 0x01 0:Effect1-3:Effect4 |

- This does not activate when the effect type is different.

### 2.8.3.20 Parameter change (Sort Table)

When scene memory sort is executed on the 01V96i, the memory sort table will be transmitted to Studio Manager.

Studio Manager will sort the memories according to this data.

If Studio Manager performs a scene memory sort, it will transmit this data to the 01V96i.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00010011 | 13 | Library sort table                  |
|            | 0000ffff | 0f | Library type                        |
| DATA       | 0ddddd   | ds | Data                                |
|            | :        | :  |                                     |
|            | 0ddddd   | de | Data                                |
| EOX        | 11110111 | F7 | End of exclusive                    |

8-7 conversion is performed on the data area in the same way as for bulk.

**2.8.3.21 Parameter request (Sort Table)**

When the 01V96i receives this data, it will transmit Sort Table Data.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00010011 | 13 | Library sort table                  |
|            | 0000ffff | 0f | Library type                        |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.3.22 Parameter change (Key remote)****Reception**

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS.

This is echoed if [Parameter change ECHO] is ON.

When this is received, the same processing that is executed when the key specified by Address is pressed (released).

**Transmission**

If [Parameter Change ECHO] is ON, this message is retransmitted without change.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00100000 | 20 | Key remote                          |
|            | 0kkkkkkk | kk | Key address H                       |
|            | 0kkkkkkk | kk | Key address M                       |
|            | 0kkkkkkk | kk | Key address L                       |
| DATA       | 0ppppppp | pp | Release:0, Press:1                  |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.3.23 Parameter change (Remote Meter)**

When transmission is enabled by receiving a Request of Remote meter, the specified meter information is transmitted every 50 msec for 10 seconds. When you want to transmit meter information continuously, a Request must be transmitted continuously within every 10 seconds.

**Reception**

This is echoed if [Parameter change ECHO] is ON.

**Transmission**

When transmission has been enabled by a Request, the parameter specified by Address will be transmitted on the [Rx CH] channel at 50 msec intervals for a duration of 10 seconds.

Transmission will be disabled if the power is turned off and on again, or if the PORT setting is changed.

If [Parameter Change ECHO] is ON, this message is retransmitted without change.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00100001 | 21 | Remote meter                        |
|            | 0mmmmmmm | mm | ADDRESS UL                          |
|            | 0mmmmmmm | mm | ADDRESS LU                          |
|            | 0mmmmmmm | mm | ADDRESS LL                          |
| DATA       | 0ddddd   | dd | Data1 H                             |
|            | 0ddddd   | dd | Data1 L                             |
|            | :        | :  |                                     |
| EOX        | 11110111 | F7 | End of exclusive                    |

\* Meter data uses the unmodified DECAY value of the DSP. The interpretation of the data will depend on the parameter.

**2.8.3.24 Parameter request (Remote Meter)****Reception**

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, data of the specified address is transmitted on the [Rx

CH] at intervals of 50 msec as a rule (although this may not be the case if the port is being used by other communication), for a period of 10 seconds. If Address UL= 0x7F is received, transmission of all meter data will be halted immediately. (disable)

**Transmission**

If [Parameter Change ECHO] is ON, this message is retransmitted without change.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00100001 | 21 | Remote meter                        |
|            | 0mmmmmmm | mm | ADDRESS UL                          |
|            | 0mmmmmmm | mm | ADDRESS LU                          |
|            | 0mmmmmmm | mm | ADDRESS LL                          |
|            | 0ccccccc | ch | Count H                             |
|            | 0ccccccc | cl | Count L                             |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.3.25 Parameter change (Remote Time Counter)**

When transmission is enabled by receiving a Request of Remote Time Counter, the Time Counter data is transmitted every 50 msec for 10 seconds. When you want to transmit Counter information continuously, a Request must be transmitted within every 10 seconds.

**Reception**

This is echoed if [Parameter change ECHO] is ON.

**Transmission**

When transmission is enabled by receiving a Request, the Time Counter information is transmitted on [RxCH] channel every 50 msec for 10 seconds. Transmission will be disabled if the power is turned off and on again, or if the PORT setting is changed.

If [Parameter Change ECHO] is ON, this message is retransmitted without change.

|            |          |    |                                     |
|------------|----------|----|-------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message            |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)    |
| SUB STATUS | 0001nnnn | 1n | n=0-15 (Device number=MIDI Channel) |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)            |
| MODEL ID   | 00011010 | 1A | 01V96i                              |
| ADDRESS    | 00100010 | 22 | Remote Time counter                 |
|            | 0000tttt | 0t | 0:Time code, 1:Measure.Beat.Clock   |
|            | 0ddddd   | dd | Hour / Measure H                    |
|            | 0ddddd   | dd | Minute / Measure L                  |
| DATA       | 0ddddd   | dd | Second / Beat                       |
|            | 0ddddd   | dd | Frame / Clock                       |
| EOX        | 11110111 | F7 | End of exclusive                    |

**2.8.3.26 Parameter request (Remote Time Counter)****Reception**

This is received if [Parameter change RX] is ON and the [Rx CH] matches the device number included in the SUB STATUS. This is echoed if [Parameter change ECHO] is ON.

When this is received, the Time Counter information is transmitted on the [Rx CH] channel every 50 msec for 10 seconds.

When the second byte of Address is received on 0x7F, data transmission will be halted immediately. (disable)

**Transmission**

If [Parameter Change ECHO] is ON, this message is retransmitted without change.

|            |          |    |                                                        |
|------------|----------|----|--------------------------------------------------------|
| STATUS     | 11110000 | F0 | System exclusive message                               |
| ID No.     | 01000011 | 43 | Manufacture's ID number (YAMAHA)                       |
| SUB STATUS | 0011nnnn | 3n | n=0-15 (Device number=MIDI Channel)                    |
| GROUP ID   | 00111110 | 3E | MODEL ID (digital mixer)                               |
| MODEL ID   | 00011010 | 1A | 01V96i                                                 |
| ADDRESS    | 00100010 | 22 | Remote Time counter                                    |
|            | 0ddddd   | dd | 0:Transmission request, 0x7F:Transmission stop request |
| EOX        | 11110111 | F7 | End of exclusive                                       |

| Function...      |                                                                                                                                                            | Transmitted      | Recognized                 | Remarks        |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|----------------|
| Basic Channel    | Default Changed                                                                                                                                            | 1-16<br>1-16     | 1-16<br>1-16               | Memorized      |
| Mode             | Default Messages Altered                                                                                                                                   | X<br>X<br>*****  | OMNI off/OMNI on<br>X<br>X | Memorized      |
| Note Number      | True Voice                                                                                                                                                 | X<br>*****       | 0-127<br>X                 |                |
| Velocity         | Note On<br>Note Off                                                                                                                                        | X<br>X           | O<br>O                     | Effect Control |
| After            | Key's<br>Ch's                                                                                                                                              | X<br>X           | X<br>X                     |                |
| Pitch Bend       |                                                                                                                                                            | X                | X                          |                |
| Control Change   | 0-95,102-119                                                                                                                                               | O                | O                          | Assignable     |
| Prog Change      | :True#                                                                                                                                                     | 0-127<br>*****   | 0-127<br>0-99              | Assignable     |
| System Exclusive |                                                                                                                                                            | O                | O                          | *1             |
| System Common    | :Song Pos<br>:Song Sel<br>:Tune                                                                                                                            | X<br>X<br>X      | X<br>X<br>X                |                |
| System Real Time | :Clock<br>:Commands                                                                                                                                        | X<br>X           | O<br>X                     | Effect Control |
| Aux Messages     | :Local ON/OFF<br>:All Notes OFF<br>:Active Sense<br>:Reset                                                                                                 | X<br>X<br>X<br>X | X<br>X<br>O<br>O           |                |
| Notes            | MTC quarter frame message is recognized.<br>*1: Bulk Dump/Request, Parameter Change/Request, and MMC.<br>For MIDI Remote, ALL messages can be transmitted. |                  |                            |                |

Mode 1: OMNI ON, POLY  
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO  
Mode 4: OMNI OFF, MONO

O: Yes  
X: No



Yamaha Pro Audio Global Web Site  
<http://www.yamahaproaudio.com/>  
Yamaha Manual Library  
<http://www.yamaha.co.jp/manual/>

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