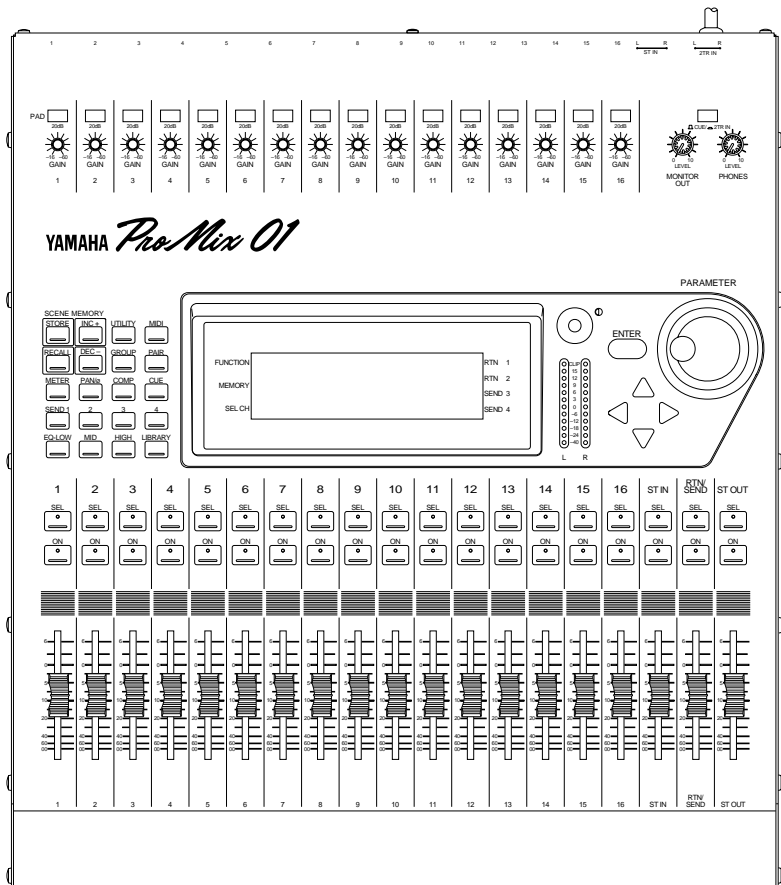


# YAMAHA

# Pro Mix 01

User's Guide  
Manuel de référence  
Bedienungsanleitung  
Manual de uso



## FCC INFORMATION (U.S.A.)

### 1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

### 2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

### 3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference

Utilize power outlets that are on different branch (circuit breaker of fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA 90620

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Dette apparat overholder det gældende EF-direktiv vedtrørende radiostøj.

Cet appareil est conforme aux prescriptions de la directive communautaire 87/308/CEE.

Diese Geräte entsprechen der EG-Richtlinie 82/499/EWG und/oder 87/308/EWG.

This product complies with the radio frequency interference requirements of the Council Directive 82/499/EEC and/or 87/308/EEC.

Questo apparecchio è conforme al D.M.13 aprile 1989 (Direttiva CEE/87/308) sulla soppressione dei radiodisturbi.

Este producto está de acuerdo con los requisitos sobre interferencias de radio frecuencia fijados por el Consejo Directivo 87/308/CEE.

**YAMAHA CORPORATION**

## IMPORTANT NOTICE FOR THE UNITED KINGDOM

### Connecting the Plug and Cord

WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW : EARTH  
BLUE : NEUTRAL  
BROWN : LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN and YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured GREEN and YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

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THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

\* This applies only to products distributed by YAMAHA CANADA MUSIC LTD.

Litiumbatter!  
Bör endast bytas av servicepersonal.  
Explosionsfara vid felaktig hantering.

VAROITUS!  
Lithiumparisto, Räjähdyksvaara.  
Pariston saa vaihtaa ainoastaan aian ammattimies.

ADVARSEL!  
Lithiumbatter!  
Ekspløsningsfare. Udskiftning må kun foretages af en sagkyndig, -og som beskrevet i servicemanualen.

## CONNEXIONS DES MICROPHONES ET DE LEURS CÂBLES

POUR ÉVITER TOUT ENDOMMAGEMENT, S'ASSURER DE BRANCHER UNIQUEMENT DES MICROPHONES ET DES CÂBLES DE MICROPHONES CONCUS SELON LA NORME IEC268-15A.

## MICROPHONE CABLES AND MICROPHONES CONNECTION

TO PREVENT HAZARD OR DAMAGE, ENSURE THAT ONLY MICROPHONE CABLES AND MICROPHONES DESIGNED TO THE IEC268-15A STANDARD ARE CONNECTED.

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# 1

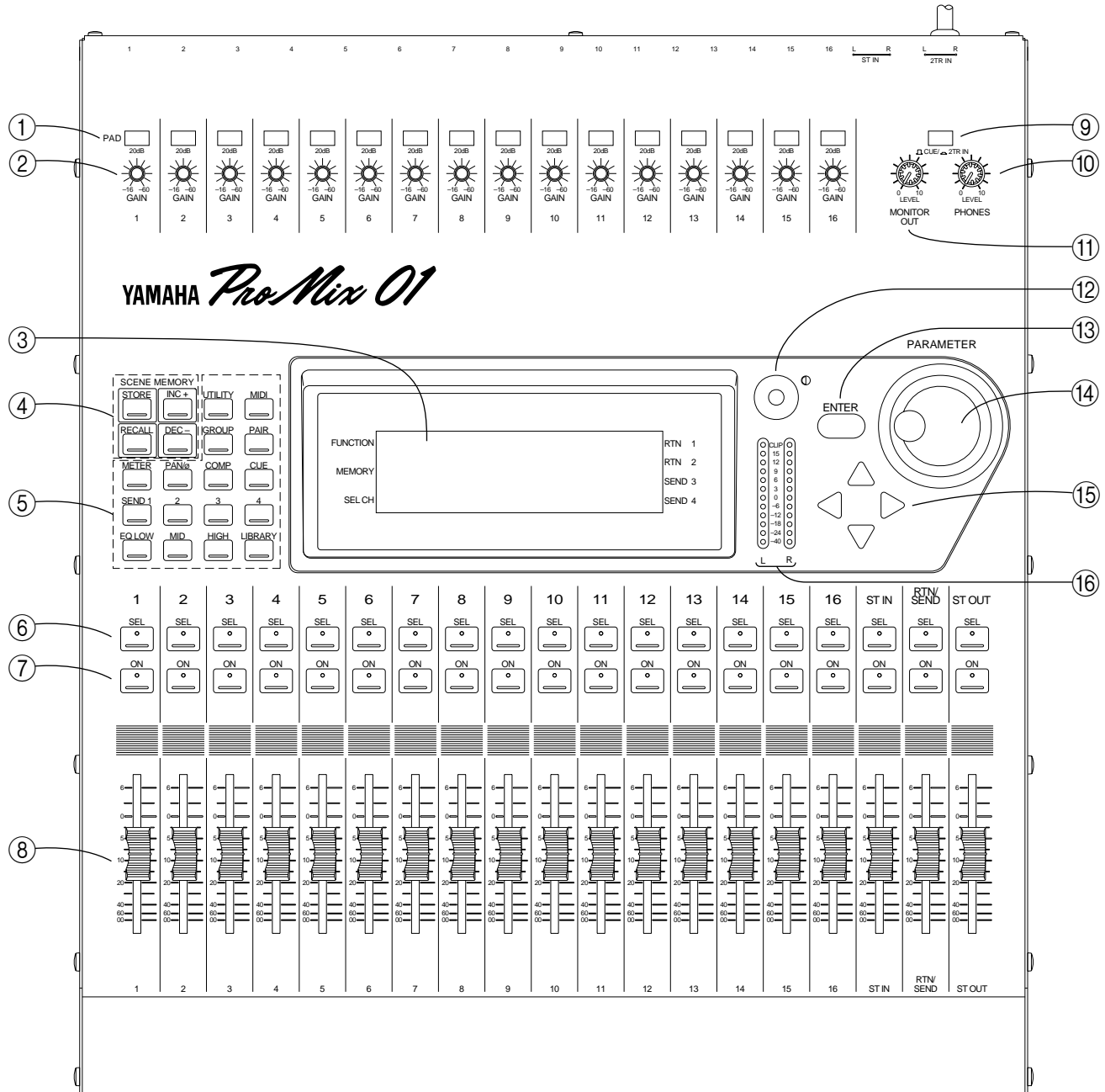
## Touring ProMix 01

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# Top Panel



### **1. PAD switches**

These switch the input Pad, which attenuates the input signal by 20 dB. See “Pad” on page 18 for more details.

### **2. GAIN controls**

These control the gain of the input preamp. See “Gain” on page 18 for more details.

### **3. LCD**

This is a 240 x 64 dot backlit graphic LCD and it displays the LCD functions and their parameter values graphically and numerically.

### **4. SCENE MEMORY buttons**

These buttons are used to select, store, and recall mix scenes. See “Scene Memories” on page 61 for more details.

### **5. Function buttons**

These buttons access the various LCD functions. The name of the currently selected LCD function is shown in the FUNCTION area on the LCD.

### **6. SEL buttons**

The SEL buttons are used to select channels. Input channel and stereo input channel [SEL] buttons select their respective channels. The RTN/SEND [SEL] button, however, is used to select SEND3, SEND4, RTN1, and RTN2. Pressing it repeatedly cycles through the four options. The currently selected RTN/SEND channel is indicated by the highlighted arrow at the right side of the LCD. When a channel is selected, its [SEL] button LED lights up.

### **7. ON buttons**

These buttons are used to turn channels ON and OFF. Input channel and stereo input channel [ON] buttons turn their respective channels ON and OFF. The RTN/SEND [ON] button, however, is used to turn SEND3, SEND4, RTN1, and RTN2 ON and OFF. You must, therefore, use the RTN/SEND [SEL] button to select the RTN/SEND channel that you want to turn ON or OFF beforehand. When a channel is ON, its [ON] button LED lights up. When a channel is turned OFF, the LED goes OFF.

### **8. Faders**

These are multifunction controls, which means they are used to control more than one signal. They're motorized, too, which means that they position themselves automatically when, for example, a mix scene is recalled, a number of faders are grouped, or an automated mix via MIDI is played back. See “Faders” on page 25 for more details.

### **9. CUE/2TR IN switch**

This switch determines the signal source for the monitor output and phones. CUE selects the Cue bus, and 2TR IN selects the 2TR IN connection.

**10.PHONES LEVEL control**

This is used to adjust the headphone output level.

**11.MONITOR OUT LEVEL control**

This is used to adjust the monitor output level.

**12.LCD Contrast control**

This is used to adjust the LCD contrast. Set it so that the LCD appears clear and easy to read. You may need to adjust it again when ProMix 01 warms up or when the LCD is viewed from a different height or angle.

**13.ENTER button**

The exact operation of this button depends on the selected LCD function. Essentially, it performs two operations. First, to enter/confirm settings made using the PARAMETER wheel. Second, to set parameters that have only two options. For example, EQ ON/OFF and Peak Hold ON/OFF.

**14.PARAMETER wheel**

This is used to adjust parameter values. Turn it clockwise to increase a value, and counterclockwise to decrease it.

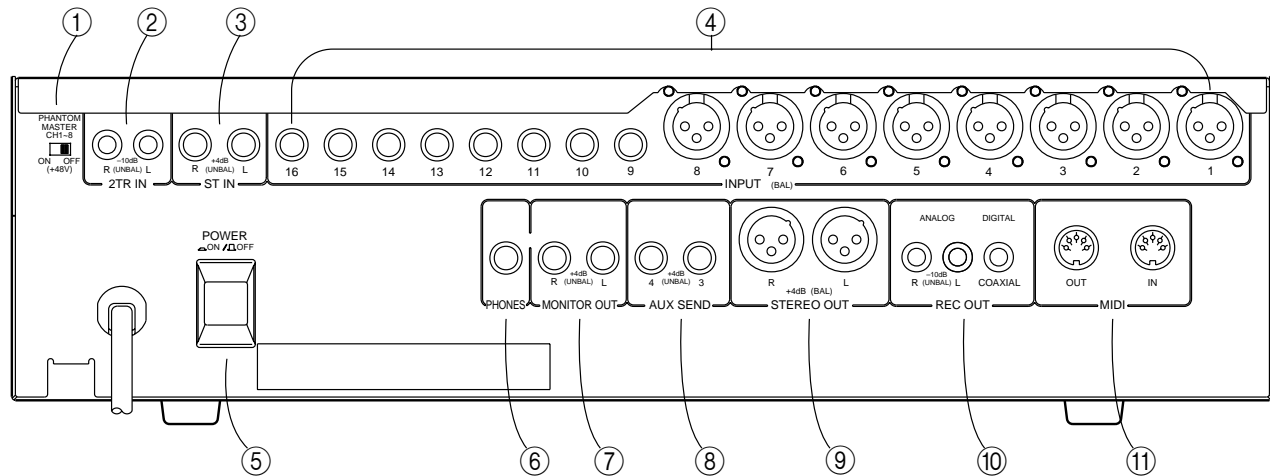
**15.Cursor buttons**

These are used to select parameters and options on the LCD.

**16.Stereo output meters**

These 12-segment LED meters display the stereo output levels. See “Metering” on page 19 for more details.

## Rear Panel



### 1. PHANTOM MASTER switch

This switch is used to turn the +48V DC phantom power ON and OFF. Phantom power is switched simultaneously for input channels 1 through 8.

### 2. 2TR IN

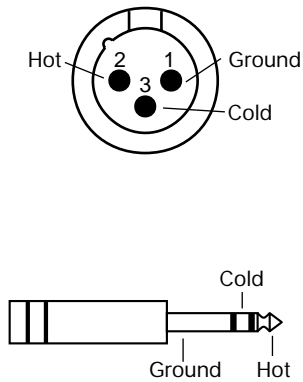
These are RCA/phono jacks with a -10 dB nominal input level. Signals input here are fed through to the CUE/2TR IN switch and are monitored via the monitor out and headphones. The outputs of a 2-track master recorder can be connected here for confidence monitoring and playback.

*Note: When no plugs are inserted into the ST IN phone jacks, the 2TR IN signals are fed through to the stereo input channel. This means that you can apply EQ, etc., to the 2TR IN signals. When plugs are inserted into the ST IN phone jacks, however, this connection is broken.*

### 3. ST IN

These are unbalanced 1/4" phone jacks with a +4dB nominal input level. Signals input here are fed through to the stereo input channel. The outputs of an external effects processor, or other device with stereo line-level outputs can be connected here.

When no plugs are inserted, the 2TR IN signals are fed through to the stereo input channel (see above note).



#### 4. INPUT (BAL)

Input channels 1 through 8 have balanced XLR-3-31 type connectors for connecting microphones. The nominal input level is  $-60\text{dB}$  to  $+4\text{dB}$ . They are wired according to the IEC 268 standard: Pin 1–ground, pin 2–hot (+), and pin 3–cold (–). Phantom powering is available for condenser type microphones, and it is set using the PHANTOM MASTER switch.

Input channels 9 through 16 have balanced phone jack connectors. The nominal input level is  $-60\text{dB}$  to  $+4\text{dB}$ . Wiring is sleeve–ground, tip–hot (+), and ring–cold (–). They can be used with balanced or unbalanced plugs.

Besides connector type and phantom power, the input circuits for inputs 1 through 16 are the same. So with an adaptor cable, inputs 9 through 16 can also be used with balanced microphones.

*Note: Make sure that the balanced devices you connect to the INPUTs also use pin 2–hot, pin 3–cold wiring. If they’re wired differently, undesirable phase shifts may occur. Refer to their user manuals for details.*

#### 5. POWER switch

This is a push-type power switch. It’s recessed to prevent accidental operation. Press once to power ON; press again to power OFF.

#### 6. PHONES

This is a stereo (TRS) 1/4" phone jack. A pair of stereo headphones can be connected here for monitoring. The phones output signal source is the same as that of the monitor output. The headphone level is set using the PHONES LEVEL control.

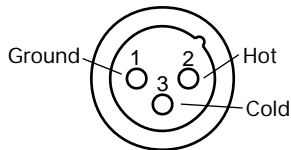
#### 7. MONITOR OUT

These are unbalanced 1/4" phone jacks with a  $+4\text{dB}$  nominal output level. They output the monitor signals, and can be connected to the inputs on a monitor amplifier. The monitor signal source is determined by the CUE/2TR IN switch and CUE modes. The output level is set using the MONITOR OUT LEVEL control.

#### 8. AUX SEND

These are unbalanced 1/4" phone jacks with a  $+4\text{dB}$  nominal output level. They output the SEND3 and SEND4 signals, and can be used to feed external effects processors, foldback amplifiers, or multitrack recording equipment.

SEND3 and SEND4 can be configured as a stereo pair. In this case, an additional pan control on each input channel and a balance control on the stereo input channel allows input signals to be panned between these outputs. See “SEND3-4 Stereo Pair” on page 46 for more details.



## 9. STEREO OUT

These are balanced XLR-3-32 type connectors with a +4dB nominal output level. They are wired pin 1–ground, pin 2–hot (+), and pin 3–cold (–). They output the main stereo signals and can be connected to power amplifiers in sound reinforcement applications.

*Note: When the STEREO OUT XLRs are used with unbalanced connectors, their maximum output level is reduced by 6dB. This means that the STEREO OUT signal actually clips when the 12dB LED lights up, which is 8dB before the CLIP LED.*

## 10. REC OUT

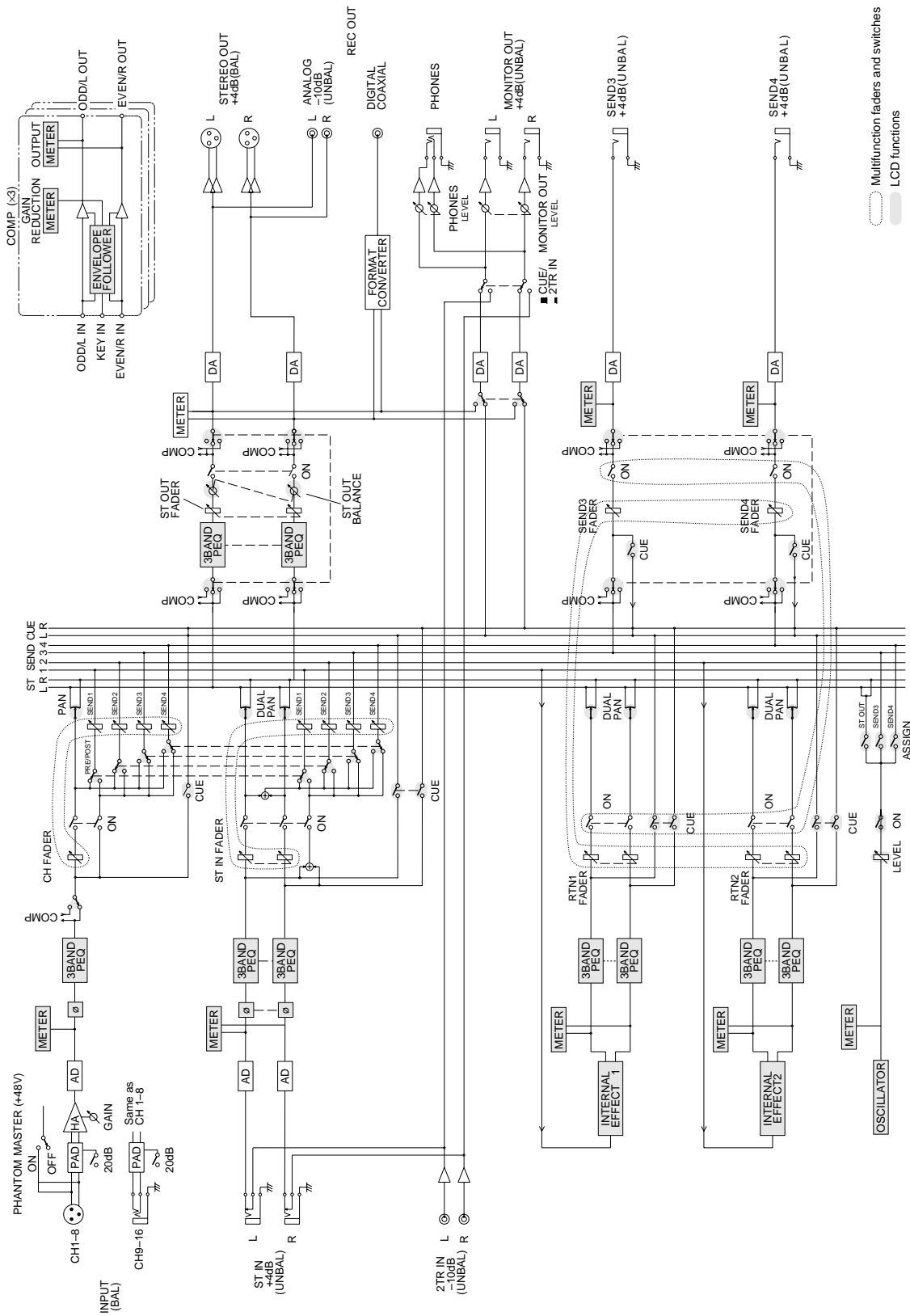
The ANALOG outputs are RCA/phono jacks with a –10dB nominal output level. They output the main stereo signals for recording, and can be connected to cassette and other analog recorders. They can also be used instead of the XLR STEREO OUTs to connect ProMix 01 to your home hi-fi system.

The DIGITAL COAXIAL output is an RCA/phono jack. It outputs the main stereo signals for recording, and can be connected to DAT, MD, and DCC digital recorders via a 75 ohm coaxial cable. The digital output format is IEC958 (Consumer).

## 11. MIDI

These are standard MIDI IN and OUT connections. They can be used to connect a controlling computer or MIDI sequencer for automated control. They can also be used for control of other ProMix 01s in a multiple system. See “MIDI” on page 79.

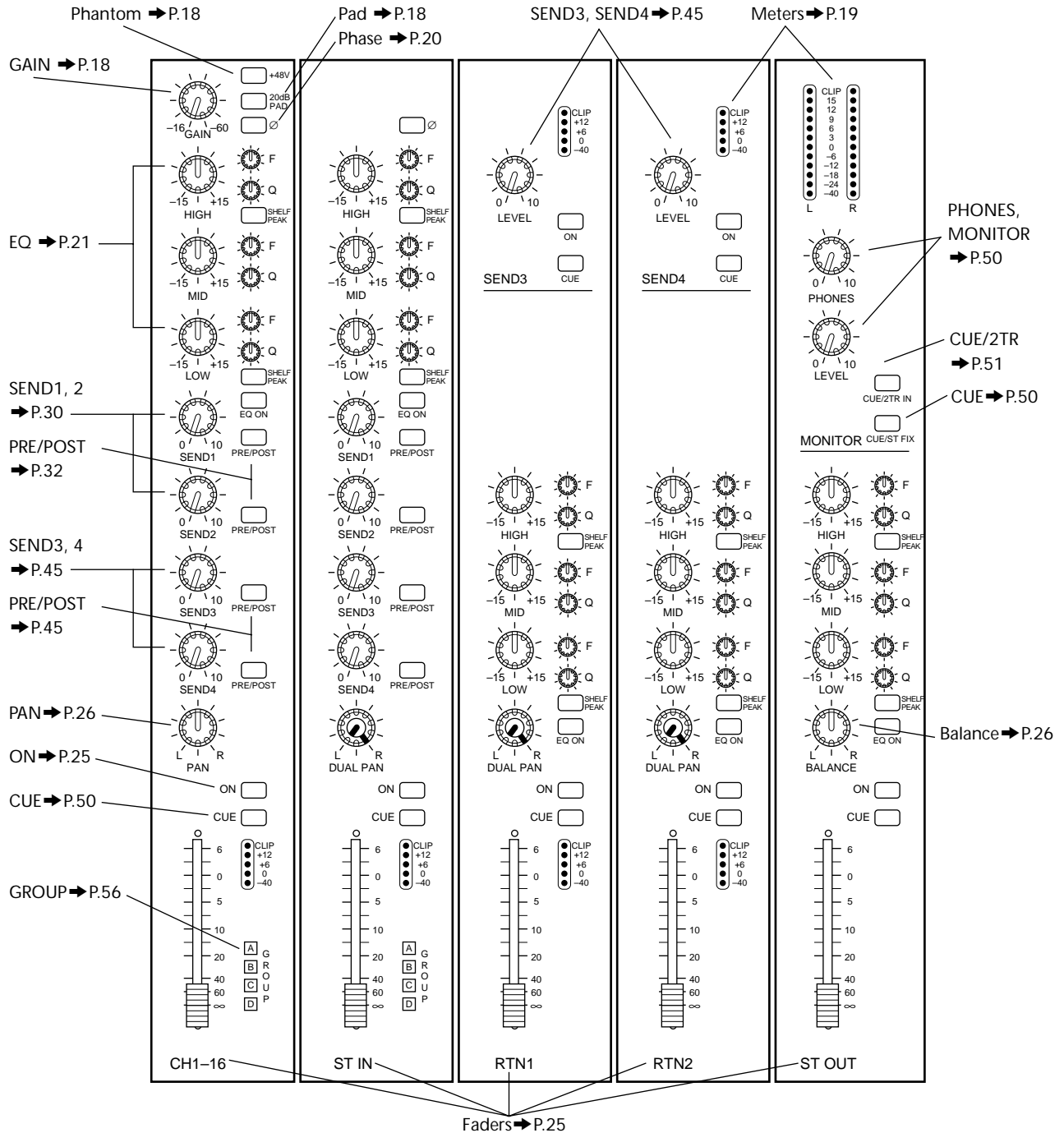
# ProMix 01 Block Diagram





# An Analog Mixer Analogy

If ProMix 01 had an analog mixer interface, it might look something like this. If you're familiar with analog mixers, you may find this illustration reassuring, and the cross references will certainly help you locate information quickly. Remember that ProMix 01 offers a lot more than what's shown below, i.e., scene memories, full MIDI control, two internal effects, three dynamics processors...





# 2

## User Interface

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In this chapter...

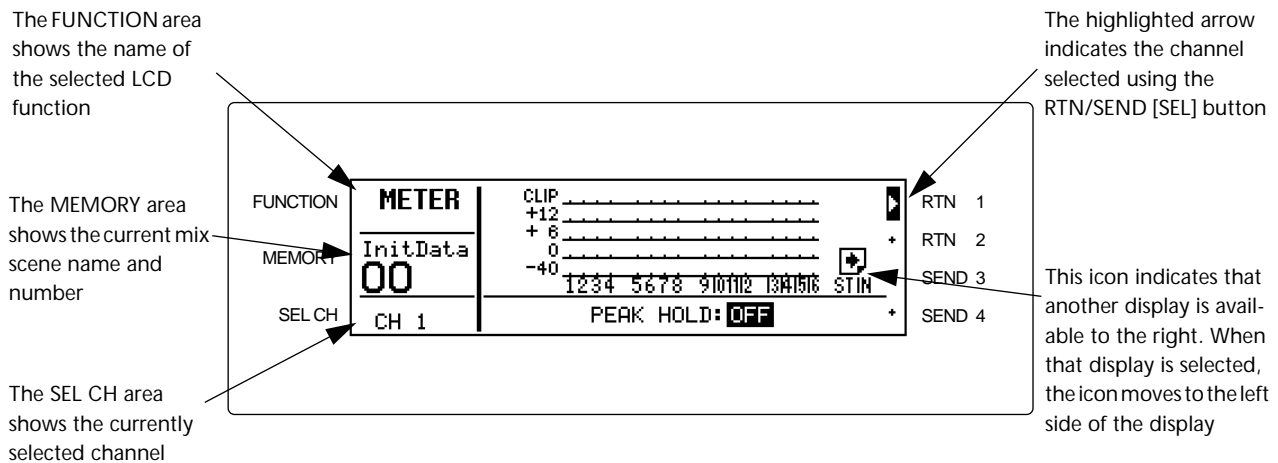
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## About the User Interface

ProMix 01 user interface is straightforward and easy to use. It consists of a large backlit LCD display, four cursor buttons, a detented PARAMETER wheel, ENTER button, and the channel [SEL] buttons. Each of these are explained in detail in the following sections. Functions without dedicated controls are organized into LCD functions, which are selected using the function buttons to the left of the LCD.

## LCD Display

The large backlit 240 x 64 dot graphic LCD display provides clear indication of mix settings and operating status. As well as showing parameter values numerically, faders and rotary controls are represented graphically, so you can actually see pan positions and fader positions. In addition, EQ curves are displayed graphically and signal levels are metered. The following illustration shows information that is always displayed and explains what it means.

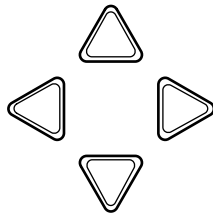


The following table shows what can appear in the FUNCTION, MEMORY, and SEL CH areas of the LCD.

| LCD Area | Displayed   |
|----------|---|
| FUNCTION | UTILITY, MIDI, SCENE MEMORY, GROUP, PAIR, METER, PAN/Ø, COMP, CUE, SEND1, SEND2, SEND3, SEND4, SEND3-4, EQ, LIBRARY |
| MEMORY   | Name and number of the current mix scene: 00 to 50  |
| SEL CH   | CH1-CH16, ST IN, RTN1, RTN2, SEND3, SEND4, SEND3-4, ST OUT  |

## Cursor Buttons

The cursor buttons are used to select parameters and options on the LCD. The selected parameter or option appears highlighted.




Highlighted → **STORE** **RECALL** **EDIT**

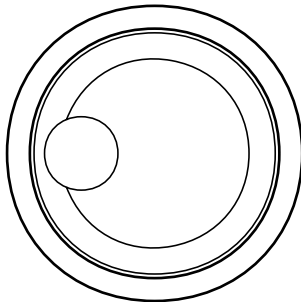
The [◀] and [▶] cursor buttons move the cursor left and right, and the [▲] and [▼] cursor buttons move the cursor up and down.

Cursor buttons are also used to position the cursor in a name when naming mix scenes, user effects programs, user EQ programs, and user dynamics programs. They are also used to select LCD functions listed on the UTILITY and MIDI LCD function menus.

When a display left or right icon appears at the left or right side of the display, indicating that another display is available, the [◀] and [▶] cursor buttons are used to select the display.

Display left-right icons. → 

## PARAMETER Wheel



The PARAMETER wheel is used to adjust the parameter selected using the cursor buttons. Its detented action gives it a positive feel, allowing quick and accurate parameter adjustments. Turning it clockwise increases the selected parameter value, or turns the parameter ON. Turning it counterclockwise decreases the selected parameter value, or turns the parameter OFF. The faster you turn it, the faster the parameter value changes.

The PARAMETER wheel is also used to scroll through mix scenes, effects programs, EQ programs, and dynamics processor programs. When naming mix scenes, user effects programs, user EQ programs, and user dynamics programs, the PARAMETER wheel is used scroll through the available characters.

## ENTER Button



The [ENTER] button is used to confirm settings made using the PARAMETER wheel and to toggle two-option parameters such as EQ ON/OFF and Effect ON/OFF. It is also used to access LCD functions listed on the UTILITY and MIDI LCD function menus.

## SEL Buttons



The [SEL] buttons are used in conjunction with the LCD functions. To perform an action on a channel, first select it using a [SEL] button, then choose a function using the function buttons to the left of the LCD. This form of editing is similar to computer word processing. First, you select your text, then execute a function.

The input channel, stereo input channel, and stereo output [SEL] buttons select their respective channels. The RTN/SEND [SEL] button, on the other hand, is used to select RTN1, RTN2, SEND3, and SEND4. Pressing it repeatedly cycles through the options in the following order:

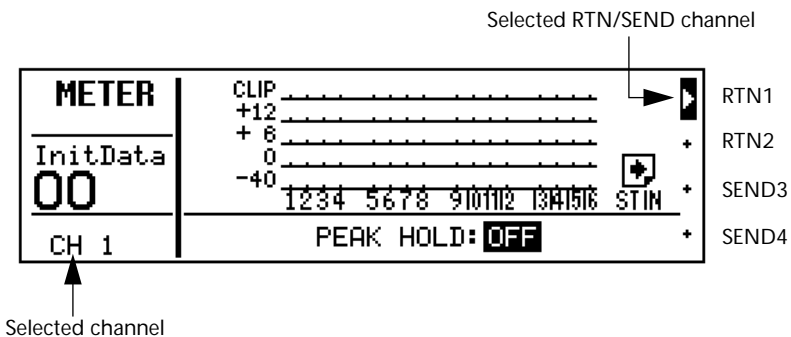
RTN1—>RTN2—>SEND3—>SEND4—>

When SEND3 and SEND4 are used as a stereo pair, SEND3 and SEND4 are selected together. The order then becomes:

RTN1—>RTN2—>SEND3-4—>

RTN1, RTN2, SEND3, and SEND4 are selected automatically when the corresponding [SEND] button is pressed. For example, pressing [SEND1] selects RTN1 and pressing [SEND3] selects SEND3.

When a channel is selected, its [SEL] button LED lights up and its name appears in the SEL CH area of the LCD. Stereo-pair channels are selected together. The channel currently selected by the RTN/SEND [SEL] button is indicated by the highlighted arrow head at the right side of the LCD.



## LCD Functions

ProMix 01 functions without dedicated controls are organized into LCD functions. They are selected using the function buttons to the left of the LCD. The name of the selected LCD function appears in the FUNCTION area of the display.

The following table lists all LCD functions and explains what they do.

| LCD Function | Description   |
|--------------|---|
| UTILITY      | Lists the utility functions: OSCILLATOR, SEND3, 4 CONFIGURATION, OUTPUT COMP PATCH POINT, MEMORY PROTECT, and BATTERY CHECK.  |
| MIDI         | Lists the MIDI functions: MIDI SETUP, PROGRAM CHANGE ASSIGN, CONTROL CHANGE ASSIGN, BULK DUMP/REQUEST, LOCAL ON/OFF, and MEMORY CONTROL CHANGE OUT.                   |
| SCENE MEMORY | Store and recall mix scenes.  |
| GROUP        | Set up the four fader groups.   |
| PAIR         | Set up channel pairs.   |
| METER        | Meter CH1–16, ST IN, RTN1, RTN2, SEND3, and SEND4 levels. There are two displays.   |
| PAN/Ø        | Set pan, balance, and phase. There are three displays.  |
| COMP         | Store, recall, and edit COMP1, COMP2, COMP3.  |
| CUE          | Set the CUE mode and display channel information.   |
| SEND1        | Store, recall, and edit effects programs for internal Effect 1.   |
| SEND2        | Store, recall, and edit effects programs for internal Effect 2.   |
| SEND3        | Set up SEND3.   |
| SEND4        | Set up SEND4.   |
| SEND3-4      | This LCD function appears instead of SEND3 and SEND4 in SEND3-4 stereo mode. There are two displays. The second display contains the channel-to-SEND3-4 pan controls. |
| EQ           | Set the EQ.   |
| LIBRARY      | Store and recall EQ programs.   |





# 3

## Mixer Functions

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## Phantom Power

Phantom power provides a +48V DC power source for condenser type microphones. It is applied to XLR input channels 1 through 8. The PHANTOM MASTER switch on the rear panel is used to turn it ON and OFF. Phantom power is applied simultaneously to all eight inputs. It cannot be set for individual inputs.

With phantom power set to ON, non-phantom powered microphones, dynamic microphones, and balanced line-level sources can still be connected to inputs 1 through 8. However, be careful with unbalanced sources.



## Pad

The Pad function attenuates input signals by 20dB. This is useful when inputting high level signals that overload the input preamp. By increasing the effective range of the GAIN control, high-level signals can be adjusted accurately. Pad can be set individually for the 16 input channels. The PAD switch at the top of each channel is used to turn it ON and OFF: switch up for OFF, down for ON.



## Gain

The GAIN controls are used to optimize the input channel signal levels. Use them with the METER LCD function, which shows the input signal levels. Ideally the level should be set relatively high and it's OK for it to reach CLIP *occasionally*. If CLIP is reached often, however, back off the GAIN control a little, otherwise signal distortion may occur. The GAIN control should be set with some care, because if it is set too low, the S/N performance will suffer, and if it is set too high, unpleasant signal clipping and distortion may occur.

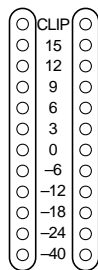
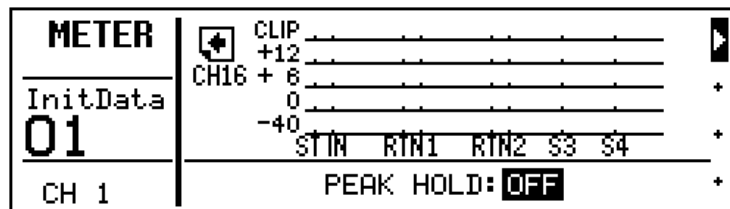
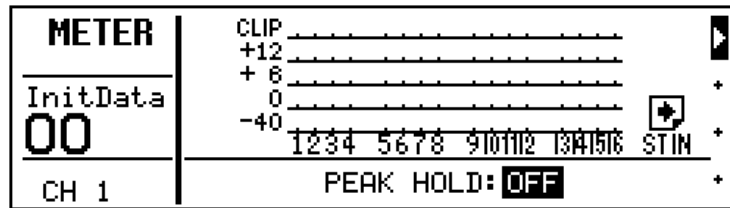


# Metering

1. Press [METER].  
*The METER LCD function appears.*
2. To turn the Peak Hold function ON and OFF, press [ENTER] or use the PARAMETER wheel.
3. Use the [◀] [▶] cursor buttons or press [ENTER] to switch between the two METER displays.

ProMix 01 features comprehensive signal level metering. Input channels, the stereo input channel, RTN1, RTN2, SEND3, and SEND4 are all metered using the METER LCD function. The stereo output is metered using the dedicated 12-segment LED meters. Peak hold is available for all meters.

The METER LCD function consists of two displays. One shows the 16 input channels. The other, the stereo input (ST IN), RTN1, RTN2, SEND3, and SEND4. Both displays are shown below.



L R

Stereo output meters

The Peak Hold function can be turned ON and OFF on either display. Peak hold levels are cancelled when Peak Hold is turned OFF or another LCD function is selected. The stereo output meter peak hold is not affected when other LCD functions are selected.

*Note: It's OK for signal levels to reach CLIP occasionally. If CLIP is reached often, however, back off the GAIN control a little, otherwise signal distortion may occur.*

The following table lists the meter signal source points.

| Signal                       | Source Point                                 |
|------------------------------|--|
| Input channel                | Post GAIN and A/D converter—pre phase and EQ |
| Stereo input channel (ST IN) | Post GAIN and A/D converter—pre phase and EQ |
| Stereo output                | Post fader and balance—pre D/A converter     |
| RTN1, RTN2                   | Post internal effect—pre EQ and fader        |
| SEND3, SEND4                 | Post fader—pre D/A converter                 |

*Note: When the STEREO OUT XLRs are used with unbalanced connectors, their maximum output level is reduced by 6dB. This means that the STEREO OUT signal actually clips when the 15dB LED lights up, which is 5dB before the CLIP LED.*

When the stereo output meter's 0dB LED lights up, the DIGITAL REC OUT still has 20dB of headroom.

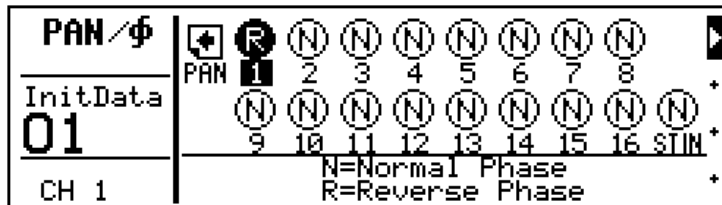
1. Select a channel using the [SEL] buttons.
2. Press [PAN/Ø].  
*The PHASE LCD function appears. If the PAN display appears, press [PAN/Ø] again.*
3. To change the phase, press [ENTER] or use the PARAMETER wheel.

*Other channels can be selected using the [SEL] buttons or cursor buttons.*

## Phase

The Phase function reverses the polarity of the hot and cold feeds in a balanced input (i.e. pins 2 and 3). The phase can be set for the input channels and stereo input channel. It can be used to compensate for incorrectly wired cables and connectors. It is also useful, for example, when a snare drum is miked top and bottom. In this case the bottom microphone signal needs to be phase reversed.

Shown below is the PHASE LCD function.

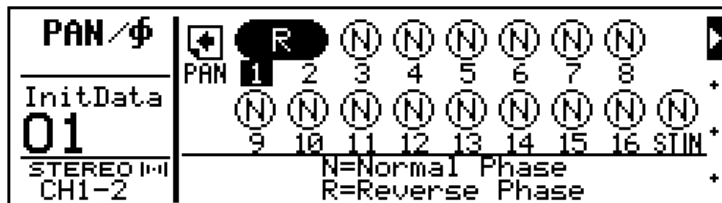


The parameters are:

N — normal phase.

R — reverse phase.

Stereo-pair channels are controlled together, as shown below.



## EQ

1. Select a channel using the [SEL] buttons.
2. Press [EQ LOW], [MID], or [HIGH].

*The EQ LCD function appears.*

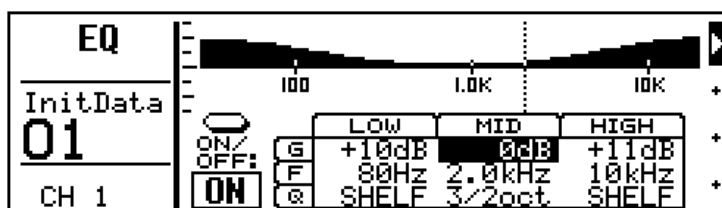
3. Press [EQ LOW], [MID], or [HIGH] repeatedly to select the parameters for each band.

*You can also use the cursor buttons to select parameters.*

4. To turn the EQ ON or OFF, press [ENTER] or select the ON/OFF parameter and use the PARAMETER wheel.

ProMix 01 EQ is three-band fully parametric, with variable Q, frequency, gain, and ON/OFF parameters. Initially the EQ is configured as a conventional three-band EQ, with shelving-type low and high and peaking-type mid. However, high and low can also be configured as peaking types. EQ can be applied to the inputs channels, stereo input channel, RTN1, RTN2, and stereo output. Stereo-pair input channels are controlled together.

Shown below is the EQ LCD function. The top-half shows the EQ response curve, the bottom-half, the EQ parameters. The vertical dotted line indicates the frequency of the selected band.



EQ parameters are:

|   | LOW  | MID                                       | HIGH   |                  |
|---|--|---|--|------------------|
| Q | 1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, SHELF | 1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct | 1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, SHELF | 9 steps          |
| F | 32 Hz-1 kHz                                      | 32 Hz-18 kHz                              | 1 kHz-18 kHz                                     | 1/6 octave steps |
| G | ±15 dB   | ±15 dB                                    | ±15 dB   | 1 dB steps       |

Q is stated in musically intuitive octave values. The following table compares octave values with conventional decimal Q values.

| Octave | Q    |
|--------|------|
| 1/6    | 8.65 |
| 1/4    | 5.76 |
| 1/3    | 4.32 |
| 1/2    | 2.87 |
| 3/4    | 1.90 |
| 1      | 1.41 |
| 3/2    | 0.92 |
| 2      | 0.67 |
| 3      | 0.40 |

## Recalling EQ Programs

1. Select a channel using the [SEL] buttons.
2. Press [LIBRARY].

*The LIBRARY LCD function appears.*

3. Use the PARAMETER wheel to select an EQ program.
4. Press [ENTER] to recall.

*The EQ program is recalled.*

## Storing EQ Programs

1. Select STORE.
2. Use the PARAMETER wheel to select an EQ program.
3. Press [ENTER].

*The LIBRARY NAME LCD function appears.*

4. Use the [◀] [▶] cursor buttons and PARAMETER wheel to name the program.

*If you want to cancel the store operation, select CANCEL and press [ENTER].*

5. Press [ENTER] to store.

*The EQ program is stored.*

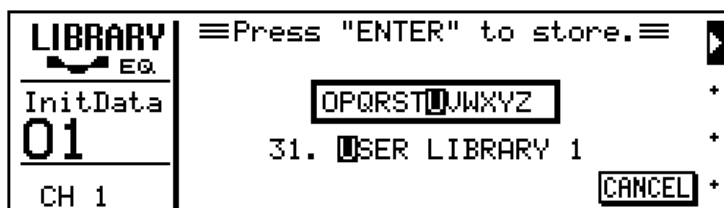
## EQ Library

The EQ library is used to store EQ settings. Settings are stored as EQ programs, and there are 30 preset programs (1–30) and 20 user programs (31–50) for you to store your own EQ settings. When STORE is selected on the LIBRARY LCD function, user program 31, the first user program, is selected automatically. You cannot select preset programs 1 through 30 while the STORE option is selected. User EQ programs can be named for easy identification.

Shown below is the LIBRARY LCD function. The response curve of the selected EQ program is shown to the right. Library programs are listed in the center and the name of the EQ program last recalled or stored is highlighted. Also there is an equal symbol (=) between the program's name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the program list. When another program is selected, its name flashes. If it is recalled, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



Shown below is the MEMORY NAME LCD function. The selected character in the name is highlighted. Available characters scroll through the box in the center. Use the cursor buttons to position the cursor in the name and the PARAMETER wheel to scroll through the characters.



EQ program names can be up to 15 characters long and the following characters are available.

```

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
(<)>[]{}<>#%&'()*+,-*/\=_|,.;:!"'`^~
0123456789
  
```

Spaces are available between the above character rows.

**!** The preset EQ programs provide a good starting point and reference for making adjustments.

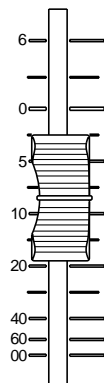
## EQ Presets

| Program # | Program Name | Description  |   | Parameter |        |        |
|-----------|--------------|--|---|-----------|--------|--------|
|           |              |  |   | Low       | Mid    | High   |
| 1         | RESET        | Reset the EQ (G = 0dB, F and Q = their initial values...same as mix scene 00).     | G | 0dB       | 0dB    | 0dB    |
|           |              |  | F | 80Hz      | 2.0kHz | 10kHz  |
|           |              |  | Q | SHELF     | 3/2oct | SHELF  |
| 2         | LOUDNESS     | Same as loudness function on a hi-fi amp. Improves listening at low volume levels. | G | +5dB      | +3dB   | 0dB    |
|           |              |  | F | 80Hz      | 200Hz  | 10kHz  |
|           |              |  | Q | SHELF     | 2oct   | SHELF  |
| 3         | EQ DISCO     | Low and high boost for disco and dance.  | G | +5dB      | -4dB   | +4dB   |
|           |              |  | F | 90Hz      | 700Hz  | 12kHz  |
|           |              |  | Q | 3oct      | 1/6oct | 3oct   |
| 4         | EQ POPS      | Mid and high range emphasis for pop music.   | G | 0dB       | +2dB   | +2dB   |
|           |              |  | F | 100Hz     | 2.8kHz | 10kHz  |
|           |              |  | Q | SHELF     | 3oct   | 3oct   |
| 5         | EQ ROCK      | Low and high range emphasis for rock music.  | G | +4dB      | +2dB   | +4dB   |
|           |              |  | F | 80Hz      | 2.5kHz | 12kHz  |
|           |              |  | Q | 1oct      | 1oct   | SHELF  |
| 6         | EQ LIVE      | Low, Mid, and high emphasis for a live sound.                                      | G | +3dB      | +1dB   | +2dB   |
|           |              |  | F | 125Hz     | 700Hz  | 12kHz  |
|           |              |  | Q | SHELF     | 2oct   | SHELF  |
| 7         | TIGHT DRUMS  | Tight EQ for pop music drums.  | G | +5dB      | -5dB   | +4dB   |
|           |              |  | F | 80Hz      | 400Hz  | 2.5kHz |
|           |              |  | Q | 3/4oct    | 1/3oct | 3/2oct |
| 8         | LOUD DRUMS   | Loud EQ for rock drums.  | G | +5dB      | +2dB   | +1dB   |
|           |              |  | F | 110Hz     | 2.0kHz | 12kHz  |
|           |              |  | Q | SHELF     | 3/2oct | 3oct   |
| 9         | KICK DRUM    | Kick drum EQ that emphasizes beater attack and drum shell echo.                    | G | +8dB      | -7dB   | +5dB   |
|           |              |  | F | 80Hz      | 400Hz  | 2.5kHz |
|           |              |  | Q | 3/4oct    | 1/6oct | 1/3oct |
| 10        | SNARE 1      | Tight and clean snare.   | G | +2dB      | +1dB   | +3dB   |
|           |              |  | F | 200Hz     | 1.4kHz | 5.6kHz |
|           |              |  | Q | SHELF     | 3/2oct | 3oct   |
| 11        | SNARE 2      | Big snare sound.   | G | +5dB      | -6dB   | +5dB   |
|           |              |  | F | 200Hz     | 700Hz  | 3.2kHz |
|           |              |  | Q | 3/4oct    | 1/6oct | 3oct   |
| 12        | CYMBALS      | Cymbal EQ that emphasizes stick hit and bell ride.                                 | G | +2dB      | 0dB    | +4dB   |
|           |              |  | F | 200Hz     | 2.0kHz | 12kHz  |
|           |              |  | Q | SHELF     | 3/2oct | SHELF  |
| 13        | HI-HATS      | Tight EQ for hi-hats.  | G | -3dB      | -2dB   | +3dB   |
|           |              |  | F | 80Hz      | 250Hz  | 8.0kHz |
|           |              |  | Q | SHELF     | 1/6oct | SHELF  |
| 14        | TOMS         | Tom-tom EQ that emphasizes echo and attack.  | G | +4dB      | -1dB   | +3dB   |
|           |              |  | F | 200Hz     | 900Hz  | 4.0kHz |
|           |              |  | Q | SHELF     | 3/2oct | 3oct   |
| 15        | E.BASS       | Electric bass EQ for a clear bottom end and a greater sense of pitch.              | G | +5dB      | -1dB   | +4dB   |
|           |              |  | F | 90Hz      | 450Hz  | 2.5kHz |
|           |              |  | Q | 1oct      | 1/4oct | 1oct   |

| Program # | Program Name     | Description  |   | Parameter |        |        |
|-----------|------------------|--|---|-----------|--------|--------|
|           |                  |  |   | Low       | Mid    | High   |
| 16        | WOOD BASS        | Wooden bass EQ with low range emphasis.                    | G | +2dB      | +1dB   | +2dB   |
|           |                  |  | F | 80Hz      | 315Hz  | 2.2kHz |
|           |                  |  | Q | 3oct      | 3/2oct | SHELF  |
| 17        | ACOUSTIC GUITAR  | Acoustic guitar EQ with high range emphasis.               | G | +2dB      | +3dB   | +4dB   |
|           |                  |  | F | 180Hz     | 4.0kHz | 7.0kHz |
|           |                  |  | Q | 2oct      | 2oct   | SHELF  |
| 18        | TRUMPET          | EQ for sustaining trumpet.                                 | G | +1dB      | +1dB   | +4dB   |
|           |                  |  | F | 360Hz     | 1.4kHz | 5.6kHz |
|           |                  |  | Q | 3oct      | 1oct   | 2oct   |
| 19        | SAXOPHONE        | EQ for sustaining saxophone.                               | G | +3dB      | +1dB   | +3dB   |
|           |                  |  | F | 315Hz     | 900Hz  | 3.6kHz |
|           |                  |  | Q | 2oct      | 1/4oct | SHELF  |
| 20        | PIANO            | EQ for a natural piano sound.                              | G | +2dB      | +1dB   | +1dB   |
|           |                  |  | F | 140Hz     | 2.0kHz | 5.0kHz |
|           |                  |  | Q | SHELF     | 2oct   | 3oct   |
| 21        | MALE VOCAL       | Male vocal EQ with low and mid range emphasis.             | G | +3dB      | +1dB   | +2dB   |
|           |                  |  | F | 280Hz     | 1.8kHz | 5.0kHz |
|           |                  |  | Q | 3oct      | 3/4oct | SHELF  |
| 22        | FEMALE VOCAL     | Female vocal EQ with mid and high emphasis.                | G | -1dB      | +1dB   | +2dB   |
|           |                  |  | F | 220Hz     | 2.0kHz | 7.0kHz |
|           |                  |  | Q | SHELF     | 3oct   | 3oct   |
| 23        | CHORUS           | EQ for male, female, or mixed chorus.                      | G | +1dB      | +2dB   | +5dB   |
|           |                  |  | F | 280Hz     | 1.4kHz | 5.6kHz |
|           |                  |  | Q | 3oct      | 3/2oct | SHELF  |
| 24        | MALE ANNOUNCER   | Male announcer EQ providing clarity.                       | G | -3dB      | +2dB   | -4dB   |
|           |                  |  | F | 100Hz     | 4.5kHz | 7.0kHz |
|           |                  |  | Q | 1oct      | 3oct   | SHELF  |
| 25        | FEMALE ANNOUNCER | Female announcer EQ with mid range emphasis.               | G | -3dB      | +3dB   | -1dB   |
|           |                  |  | F | 200Hz     | 2.0kHz | 8.0kHz |
|           |                  |  | Q | SHELF     | 1oct   | SHELF  |
| 26        | TELEPHONE VOICE  | Telephone voice EQ. Low and high range cut.                | G | -15dB     | +12dB  | -10dB  |
|           |                  |  | F | 500Hz     | 1.1kHz | 9.0kHz |
|           |                  |  | Q | SHELF     | 2oct   | 3/4oct |
| 27        | NOTCH 4kHz       | Notch filter tuned to 4kHz for reducing acoustic feedback. | G | 0dB       | 0dB    | -10dB  |
|           |                  |  | F | 80Hz      | 2.0kHz | 4.0kHz |
|           |                  |  | Q | SHELF     | 3/2oct | 1/6oct |
| 28        | HUM REDUCE 50Hz  | Notch filters for 50Hz mains-born hum reduction.           | G | -9dB      | -10dB  | 0dB    |
|           |                  |  | F | 50Hz      | 160Hz  | 10kHz  |
|           |                  |  | Q | 1/6oct    | 1/6oct | SHELF  |
| 29        | HUM REDUCE 60Hz  | Notch filters for 60Hz mains-born hum reduction.           | G | -9dB      | -10dB  | 0dB    |
|           |                  |  | F | 60Hz      | 180Hz  | 10kHz  |
|           |                  |  | Q | 1/6oct    | 1/6oct | SHELF  |
| 30        | W. NOISE REDUCE  | High range cut for reducing analog tape noise.             | G | 0dB       | 0dB    | -13dB  |
|           |                  |  | F | 80Hz      | 2.0kHz | 16kHz  |
|           |                  |  | Q | SHELF     | 3/2oct | SHELF  |



## Faders



ProMix 01 faders are motorized, which means that they can position themselves automatically. So all faders in a group or stereo pair move automatically when you move any fader in that group or stereo pair. Fader positions are stored in mix scenes, so when a mix scene is recalled the faders move automatically to their new positions. Fader positions are stored when ProMix 01 is powered OFF. So even if faders have been moved, they return automatically to their previous positions when ProMix 01 is powered ON again.

The faders are multifunction controls, which means they are used to control more than one signal. The signal controlled by a fader at any given time depends on the selected LCD function. The following table shows how it works. Essentially, faders work as conventional mixer faders unless the SEND1, SEND2, SEND3, or SEND4 LCD function is selected. In this case, they work as channel-to-send level controls. The current LCD function is shown in the FUNCTION area on the display. When a SEND LCD function is selected, a flashing fader icon appears. When there's no flashing fader icon, you know the faders are working as channel-to-mix level controls.

|                      | All LCD functions except—>          | SEND1                          | SEND2                          | SEND3                     | SEND4                     |
|----------------------|-------------------------------------|--------------------------------|--------------------------------|---------------------------|---------------------------|
| Channel 1 fader<br>} | Channel 1—Fader<br>}                | Channel 1—SEND1<br>}           | Channel 1—SEND2<br>}           | Channel 1—SEND3<br>}      | Channel 1—SEND4<br>}      |
| Channel 16 fader     | Channel 16—Fader                    | Channel 16—SEND1               | Channel 16—SEND2               | Channel 16—SEND3          | Channel 16—SEND4          |
| ST IN fader          | ST IN—Fader                         | ST IN—SEND1                    | ST IN—SEND2                    | ST IN—SEND3               | ST IN—SEND4               |
| RTN/SEND fader       | Selected RTN/SEND channel           | RTN1 (Internal Effect1 return) | RTN2 (Internal Effect2 return) | SEND3 (master send level) | SEND4 (master send level) |
| ST OUT fader         | Stereo Output (main stereo outputs) |                                |                                |                           |                           |

*Note: Fader travel is divided into 128 steps. If a fader is on the border between steps, it may, in rare circumstances, move one step on its own. Probably due to a temperature change. In this case, the EDIT indicator appears and the corresponding Control Change message is output.*

## ON Buttons



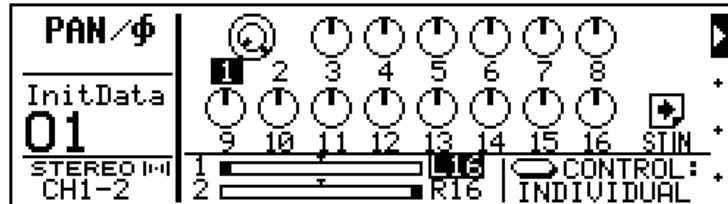
The [ON] buttons are used to turn channels ON and OFF. The input channel, stereo input channel, and stereo output [ON] buttons turn their respective channels ON and OFF. The RTN/SEND [ON] button, on the other hand, is used to turn RTN1, RTN2, SEND3, and SEND4 ON and OFF. Therefore, you must use the RTN/SEND [SEL] button to select the channel that you want to turn ON and OFF beforehand.

When a channel is turned ON, its [ON] button LED lights up. When it's turned off, the LED goes off. Stereo-pair channels are turned ON and OFF together.



## Stereo-Pair Pans

When input channels are paired, their pan controls appear as one dual-concentric control (i.e. one control inside the other), as shown below. Horizontal bars, at the bottom of the display, show the pan positions and values of the selected channel pair. When channels are paired using ST RESET, the odd channel is automatically panned hard-left and the even channel, hard-right. See “Pairing Channels” on page 58.



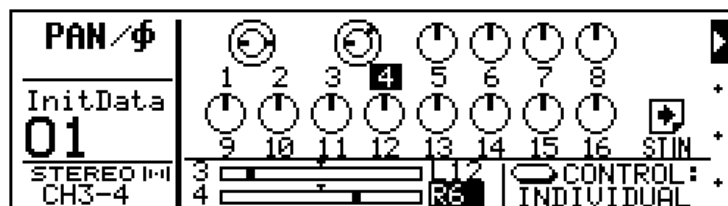
GANG and INDIVIDUAL modes provide simultaneous and individual pan adjustment, respectively. The current mode is shown at the bottom right of the display and can be set by pressing [ENTER]. It can also be set by selecting the GANG or INDIVIDUAL parameter with the cursor buttons and then using the PARAMETER wheel.

## Stereo Width

In INDIVIDUAL mode, the width of a stereo signal can be set. When the pan controls are set hard-left and hard-right, the stereo width is 100%. With both pans set to center the stereo width is 0%. Setting the controls to a position in between allows you to set the stereo width from 0% to 100%. To maintain a central balance, however, you must set both controls to the same left and right values. For example, L5-R5, or L10-R10.

Switching back to GANG mode allows you to reposition the stereo signal within the stereo field. Note that this is not stereo balance, which is the individual adjustment of the left and right signal levels.

The following display shows paired input channels 1 and 2 with a reduced stereo width. Input channels 3 and 4 also have a reduced stereo width and have been repositioned in the stereo field using GANG mode.





# 4

## Auxiliaries and Effects

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## About Auxiliaries

ProMix 01 has four auxiliary sends: SEND1, SEND2, SEND3, and SEND4. And two auxiliary returns: RTN1 and RTN2. Auxiliary sends can be configured pre-fader or post-fader. SEND1 and SEND2 are used to feed the internal effects processors: Effect1 and Effect2. RTN1 and RTN2 are used to return the processed signals.

SEND3 and SEND4 can be used to feed external effects processors, foldback amplifiers, or multitrack recording equipment. When SEND3 or SEND4 is used to feed an external effects processor, the processed signal can be returned via the stereo input channel or an unused input channel. SEND3 and SEND4 can also be used as a stereo pair. See “SEND3-4 Stereo Pair” on page 46 for more details.

## About Effects

ProMix 01 features two stereo internal multi-effects processors: Effect1 and Effect2. These are fed by SEND1 and SEND2, and the processed signals are returned via RTN1 and RTN2, respectively. Effects can be applied to input channels and the stereo input channel. Effects are organized into programs. There are 30 preset effects programs (1–30) and 10 user effects programs (31–40) for you to store your own settings.

## Preset Effects Programs

These are the preset effects programs.

|    |                    |    |                     |
|----|--------------------|----|---------------------|
| 1  | Reverb Hall 1      | 16 | Chorus->Delay L-C-R |
| 2  | Reverb Hall 2      | 17 | Delay->Chorus       |
| 3  | Reverb Room 1      | 18 | Karaoke Echo 1      |
| 4  | Reverb Room 2      | 19 | Karaoke Echo 2      |
| 5  | Reverb Stage       | 20 | Stereo Pitch Change |
| 6  | Reverb Plate       | 21 | Vocal Doubler       |
| 7  | Rev Ambience 1     | 22 | Funny Pitch         |
| 8  | Rev Ambience 2     | 23 | Chorus              |
| 9  | Rev Live Room 1    | 24 | Broad Chorus        |
| 10 | Rev Live Room 2    | 25 | Symphonic           |
| 11 | Reverb Vocal       | 26 | Flange              |
| 12 | Chorus->Reverb     | 27 | Super Flange        |
| 13 | Flange->Reverb     | 28 | Phasing             |
| 14 | Delay L-C-R        | 29 | Tremolo             |
| 15 | Mono Delay->Chorus | 30 | Auto Pan            |

See “Preset Effects Program Parameters” on page 37 for a detailed listing of the preset effects program parameters.

## Stereo Input Channel and Sends

Input channels 1 through 16 handle only a single signal. The stereo input channel, however, handles two signals: left and right. So before feeding the stereo input signal to the SEND1, SEND2, SEND3, and SEND4 send level controls, the left and right signals are summed to form a mono L+R mix.

When SEND3 and SEND4 are used as a stereo pair, however, only the stereo input signals feeding SEND1 and SEND2 are summed. For SEND3-4, the left signal is fed to SEND3 and the right signal is fed to SEND4. The stereo input-to-SEND3-4 left and right signals can be balanced using the ST IN balance control on the SEND3-4 pan display. See “SEND3-4 Stereo Pair” on page 46 for more details about the SEND3-4 stereo pair.

## Applying Effects

There are three steps to applying effects:

1. Send a channel signal via SEND1 or SEND2 (set the level).
2. Return the processed signal via RTN1 or RTN2 (EQ, level, pan).
3. Set up Effect1 or Effect2 (recall, edit, and store).

These steps are explained fully in the following sections.

1. Press [SEND1] or [SEND2].

*The SEND1 or SEND2 LCD function appears. If you didn't exit after your last effect edit, the EFFECTEDITLCD function appears instead.*

*The channel faders are now controlling channel-to-send levels and the RTN/SEND fader, the corresponding return (RTN1 or RTN2).*

2. Raise the channel fader.

*0dB is a good fader position to start with. You can always readjust later.*

*For post-fader sends you must set the normal fader too.*

*The LCD meters display the stereo effects return levels.*

3. Raise the RTN/SEND fader.

*The processed signal is fed back into the stereo mix.*

*Effects returns can be EQ'd and panned. See "Returning the Processed Signal" on page 33.*

## Sending a Channel Signal

Sending a channel signal via SEND1 or SEND2 is the first step to using effects. There are no master send level controls, so you only need to set the channel send levels.

Shown below is the SEND1 LCD function. The SEND2 LCD function is essentially the same. Level meters for the stereo effects return signals are on the right. Meter signals are sourced after the effects. Ideally the level should be set relatively high and it's OK to reach CLIP occasionally. If CLIP is reached often, however, reduce the send level a little, otherwise signal distortion may occur.



## SEND1 and SEND2 Pre or Post

SEND1 and SEND2 can be configured as pre-fader or post-fader, and the current setting is shown at the bottom right of the display. This setting affects all channels, so if SEND1 is set to PRE, all channel SEND1s are pre-fader. Initially, SEND1 and SEND2 are configured as post-fader, the usual setting for effects sends.

This setting can be changed by selecting the SEND: parameter and pressing [ENTER] to toggle between POST and PRE.

**POST** — the send signal is sourced after the channel fader. This means that the send signal is also affected by the normal channel fader. So you must have that fader raised as well. The idea being that the channel-to-mix and channel-to-effects signal levels can be controlled together. With the former supplying the dry, unaffected signal and the latter supplying the wet, affected signal. This is useful when, for example, you fade-out a channel, since the channel-to-mix and channel-to-effects signals are reduced together.

**PRE** — the send signal is sourced before the channel fader. This means that the send signal is unaffected by the normal channel fader and its level can be set independently.



## Returning the Processed Signal

Returning the processed signal via RTN1 or RTN2 is the second step to using effects. As explained in the “Sending a Channel Signal” procedure on page 32, the processed signal can be returned into the mix just by raising the RTN/SEND fader. However, RTN1 and RTN2 also feature the following functions.

**Meters** — See “Sending a Channel Signal” on page 32.

**Faders** — these are used to set the level of processed signal that is fed into the mix. When the SEND1 LCD function is selected, the RTN/SEND fader is automatically set to RTN1. Likewise, when the SEND2 LCD function is selected, it is automatically set to RTN2. The RTN/SEND [SEL] button can also be used to select RTN1 and RTN2.

**EQ** — RTN1 and RTN2 feature the same three-band parametric EQ as that of the input channels. The EQ Library can also be used. See “EQ” on page 21 and “EQ Library” on page 22.

**CUE** — RTN1 and RTN2 signals can be monitored in stereo (pre-ON/OFF switch) using CUE. See “CUE” on page 49 for more details.

**ON/OFF** — RTN1 and RTN2 signals can be turned ON and OFF using the RTN/SEND [ON] button. When the SEND1 LCD function is selected, the RTN/SEND [ON] button is automatically set to RTN1. Likewise, when the SEND2 LCD function is selected, it is automatically set to RTN2. The RTN/SEND [SEL] button can also be used to select RTN1 and RTN2. See “ON Buttons” on page 25 for more details.

**Pan** — RTN1 and RTN2 pan controls appear on the PAN LCD function. See “Pan and Balance” on page 26 for more details.

1. Press [SEND1] or [SEND2].  
*The SEND1 or SEND2 LCD function appears. If you didn't exit after your last effect edit, the EFFECTEDIT LCD function appears instead.*
2. Select RECALL.
3. Use the PARAMETER wheel to select a program.
4. Press [ENTER] to recall.  
*The effects program is recalled.*

## Recalling Effects Programs

There are 30 preset effects programs (1–30) and 10 user effects programs (31–40).

Shown below is the SEND1 LCD function. The SEND2 LCD function is essentially the same. The flashing fader icon in the FUNCTION area of the display indicates that the faders are now controlling channel-to-send levels. Effects programs are listed in the center and the name of the current effects program is highlighted. Also there is an equal symbol (=) between the program's name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the program list. When another program is selected, its name flashes. If it is recalled, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



**!** Remember that when a SEND button is pressed the faders control channel-to-send levels. To return the faders to normal operation, select an LCD function other than a SEND.

## Effects and Mix Scenes

Effects settings are stored in mix scenes, so you can instantly change effects just by recalling a mix scene. If you are using a controlling computer or MIDI sequencer, you can also record effects setting adjustments as MIDI Control Change messages. Your effects adjustments can then be replayed automatically. See “Control Change” on page 83 for more details. Note that mix scenes store only the current program names, numbers, and parameter settings for Effect1 and Effect2. They do not store the entire effects library of 40 programs.



## Storing Effects Programs

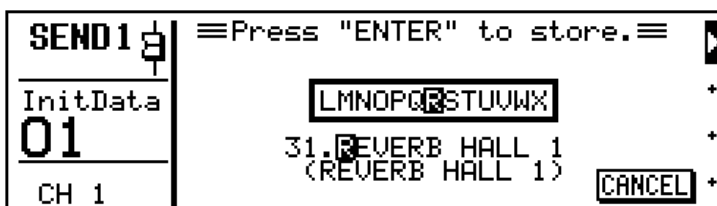
1. Press [SEND1] or [SEND2].  
*The SEND1 or SEND2 LCD function appears. If you didn't exit after your last effect edit, the EFFECTEDITLCD function appears instead.*
2. Select STORE and press [ENTER].  
*The PROGRAM NAME display appears.*
3. Use the [◀] [▶] cursor buttons and PARAMETER wheel to name the effects program.  
*If you want to cancel the store operation, select CANCEL and press [ENTER].*
4. Press [STORE] to store.  
*The effects program is stored.*

There are 10 user effects programs (31–40) for you to store your own effects settings. When STORE is selected on the SEND LCD function, user program 31, the first user location, is selected automatically. You cannot select preset programs 1 through 30 while the STORE option is selected. User programs can be named for easy identification.

Shown below is the SEND1 LCD function. The SEND2 LCD function is essentially the same. Effects programs are listed in the center and the name of the effects program last recalled or stored is highlighted. Also there is an equal symbol (=) between the program's name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the program list. When another program is selected, its name flashes. If it is stored, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



Shown below is the PROGRAM NAME LCD function that appears when [ENTER] is pressed in step 2. The type of effects used in the program is shown in parenthesis. The program name and number are shown above that. The selected character in the name is highlighted. Available characters scroll through the box in the center. Use the cursor buttons to position the cursor in the name, and the PARAMETER wheel to scroll through the characters.



**!** By recalling a program and storing it to another user location, you can copy and reorganize your effects programs.

Effects program names can be up to 15 characters long and the following characters are available.

```

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
()[]{}<>#%&@!/?+-*\/\=_|.,:;'"^_`
0123456789

```

Spaces are available between the above character rows.

## Preset Effects Program Parameters

### Program 1—REVERB HALL 1

Simulates the reverb of a large concert hall.

| Parameter  | Setting | Range                | Description  |
|------------|---------|----------------------|--|
| Rev.time   | 2.8s    | 0.3–30.0s            | Reverb time.   |
| High Ratio | 0.8     | 0.1–1.0              | High frequency decay ratio.  |
| Diffusion  | 6       | 0–10                 | Reverb diffusion.  |
| Ini.Dly    | 40.0ms  | 0.1–200.0ms          | Initial delay between the direct sound and early reverb reflections. |
| LPF        | 7.0kHz  | 1.0kHz–16.0kHz, THRU | Low pass filter cutoff frequency.                                    |
| HPF        | THRU    | THRU, 32Hz–8kHz      | High pass filter cutoff frequency.                                   |

### Program 2—REVERB HALL 2

This is a variation of program 1.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 3.2s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.7     |                   |                   |
| Diffusion  | 8       |                   |                   |
| Ini.Dly    | 38.0ms  |                   |                   |
| LPF        | 6.3kHz  |                   |                   |
| HPF        | THRU    |                   |                   |

### Program 3—REVERB ROOM 1

Simulates the reverb of a concrete-walled room that produces a lot of echo. Use it to add a live atmosphere to drum sounds.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 1.4s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.8     |                   |                   |
| Diffusion  | 7       |                   |                   |
| Ini.Dly    | 5.0ms   |                   |                   |
| LPF        | THRU    |                   |                   |
| HPF        | 280Hz   |                   |                   |

### Program 4—REVERB ROOM 2

This is a variation of program 3.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 1.8s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.6     |                   |                   |
| Diffusion  | 6       |                   |                   |
| Ini.Dly    | 17.0ms  |                   |                   |
| LPF        | 9.0kHz  |                   |                   |
| HPF        | 80Hz    |                   |                   |

## Program 5—REVERB STAGE

Similar to REVERB HALL, but brighter. You can create a live atmosphere by applying a little of this effect to the mix.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 3.4s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.9     |                   |                   |
| Diffusion  | 8       |                   |                   |
| Ini.Dly    | 45.0ms  |                   |                   |
| LPF        | THRU    |                   |                   |
| HPF        | 70Hz    |                   |                   |

## Program 6—REVERB PLATE

Simulates the reverb effect of a steel plate reverb system. Good with most sounds, especially vocals, drums, and percussion.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 2.4s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.7     |                   |                   |
| Diffusion  | 8       |                   |                   |
| Ini.Dly    | 16.0ms  |                   |                   |
| LPF        | 8.0kHz  |                   |                   |
| HPF        | THRU    |                   |                   |

## Program 7—REV AMBIENCE 1

Simulates the close ambient reverb of an instrument. Good with vocals, chorus, and percussion.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 1.2s    | Same as program 1 | Same as program 1 |
| High Ratio | 1.0     |                   |                   |
| Diffusion  | 8       |                   |                   |
| Ini.Dly    | 19.0ms  |                   |                   |
| LPF        | 9.0kHz  |                   |                   |
| HPF        | 45Hz    |                   |                   |

## Program 8—REV AMBIENCE 2

A variation of program 7.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 0.8s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.6     |                   |                   |
| Diffusion  | 8       |                   |                   |
| Ini.Dly    | 0.1ms   |                   |                   |
| LPF        | THRU    |                   |                   |
| HPF        | 56Hz    |                   |                   |

## Program 9—REV LIVE ROOM 1

Simulates the reverb of a live room. Reverb reflections are stronger than those of REVERB ROOM.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 2.4s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.8     |                   |                   |
| Diffusion  | 7       |                   |                   |
| Ini.Dly    | 0.1ms   |                   |                   |
| LPF        | 7.0kHz  |                   |                   |
| HPF        | THRU    |                   |                   |

## Program 10—REV LIVE ROOM 2

A variation of program 9.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 2.2s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.5     |                   |                   |
| Diffusion  | 6       |                   |                   |
| Ini.Dly    | 12.0ms  |                   |                   |
| LPF        | 4.0kHz  |                   |                   |
| HPF        | THRU    |                   |                   |

## Program 11—REVERB VOCAL

A reverb simulation ideal for vocals and chorus.

| Parameter  | Setting | Range             | Description       |
|------------|---------|-------------------|-------------------|
| Rev.time   | 1.9s    | Same as program 1 | Same as program 1 |
| High Ratio | 0.5     |                   |                   |
| Diffusion  | 6       |                   |                   |
| Ini.Dly    | 16.0ms  |                   |                   |
| LPF        | 12.0kHz |                   |                   |
| HPF        | 100Hz   |                   |                   |

## Program 12—CHORUS->REVERB

Stereo chorus followed by reverb.

| Parameter  | Setting | Range                | Description  |
|------------|---------|----------------------|--|
| Mod.Freq   | 0.8Hz   | 0.1–20.0Hz           | Modulation speed.  |
| Mod.Depth  | 40%     | 0–100%               | Modulation depth. The amount of modulation.                          |
| Mod.Dly    | 1.3ms   | 0.0–24.0ms           | Modulation delay. The delay time before modulation starts.           |
| Rev.time   | 2.4s    | 0.3–30.0s            | Reverb time.   |
| High Ratio | 0.7     | 0.1–1.0              | High-frequency decay ratio.  |
| Diffusion  | 7       | 0–10                 | Reverb diffusion.  |
| Ini.Dly    | 30.0ms  | 0.1–139.0ms          | Initial delay between the direct sound and early reverb reflections. |
| LPF        | 6.3kHz  | 1.0kHz–16.0kHz, THRU | Low pass filter cutoff frequency.                                    |
| HPF        | THRU    | THRU, 32Hz–8kHz      | High pass filter cutoff frequency.                                   |
| Rev.Depth  | 24%     | 0–100%               | Reverb depth. The amount of reverb.                                  |

## Program 13—FLANGE->REVERB

Stereo flange followed by reverb.

| Parameter | Setting | Range                | Description   |
|-----------|---------|----------------------|---|
| Mod.Freq  | 1.4Hz   | 0.1–20.0Hz           | Flange modulation speed.  |
| Mod.Depth | 22%     | 0–100%               | Flange modulation depth. The amount of modulation.                          |
| FB.Gain   | +45%    | –99...+99%           | Feedback gain. The amount of processed signal fed back into the flanger.    |
| Mod.Dly   | 13.0ms  | 0.0–15.5ms           | Flange modulation delay. The delay time before modulation starts.           |
| Rev.time  | 2.4s    | 0.3–30.0s            | Reverb time.  |
| Diffusion | 8       | 0–10                 | Reverb diffusion.   |
| Ini.Dly   | 26.0ms  | 0.1–160.0ms          | Reverb initial delay between the direct sound and early reverb reflections. |
| LPF       | 4.5kHz  | 1.0kHz–16.0kHz, THRU | Reverb low pass filter cutoff frequency.                                    |
| HPF       | 45Hz    | THRU, 32Hz–8kHz      | Reverb high pass filter cutoff frequency.                                   |
| Rev.Depth | 30%     | 0–100%               | Reverb depth. The amount of reverb.   |

## Program 14—DELAY L-C-R

A three-part delay with independent delay time parameters for left, right, and center.

| Parameter  | Setting | Range       | Description  |
|------------|---------|-------------|--|
| Dly(L)     | 250.0ms | 0.1–661.0ms | Left channel delay time.   |
| Dly(R)     | 500.0ms | 0.1–661.0ms | Right channel delay time.  |
| Dly(C)     | 125.0ms | 0.1–661.0ms | Center channel delay time.   |
| Level(C)   | 70      | 0–100       | Center delay volume level.   |
| FB.Dly     | 500.0ms | 0.1–661.0ms | Feedback delay. The delay time before feedback starts.               |
| FB.Gain    | +40%    | –99...+99%  | Feedback gain. The amount of delayed signal fed back into the delay. |
| High Ratio | 0.8     | 0.1–1.0     | Feedback high-frequency decay ratio.                                 |

## Program 15—MONODLY->CHORUS

Mono delay followed by stereo chorus.

| Parameter  | Setting | Range       | Description  |
|------------|---------|-------------|--|
| Delay      | 400.0ms | 0.1–618.0ms | Delay time.  |
| FB.Gain    | +32%    | –99...+99%  | Delay feedback gain. The amount of delayed signal fed back into the delay. |
| High Ratio | 0.6     | 0.1–1.0     | Delay feedback high-frequency decay ratio.                                 |
| Mod.Freq   | 0.4Hz   | 0.1–20.0Hz  | Chorus modulation speed.   |
| Mod.Depth  | 10%     | 0–100%      | Chorus modulation depth. The amount of modulation.                         |
| Mod.Dly    | 0.1ms   | 0.0–24.0ms  | Chorus modulation delay. The delay time before modulation starts.          |



## Program 16—CHORUS->DLY LCR

Stereo chorus followed by a three-part (L-C-R) delay with feedback.

| Parameter  | Setting | Range       | Description  |
|------------|---------|-------------|--|
| Mod.Freq   | 0.8Hz   | 0.1–20.0Hz  | Chorus modulation speed.   |
| Mod.Depth  | 24%     | 0–100%      | Chorus modulation depth. The amount of modulation.                   |
| Mod.Dly    | 5.9ms   | 0.0–24.0ms  | Chorus modulation delay. The delay time before modulation starts.    |
| Dly(L)     | 26.4ms  | 0.1–618.0ms | Left channel delay time.   |
| Dly(R)     | 33.2ms  | 0.1–618.0ms | Right channel delay time.  |
| Dly(C)     | 13.1ms  | 0.1–618.0ms | Center channel delay time.   |
| Level(C)   | 60      | 0–100       | Center delay volume level.   |
| FB.Dly     | 40.5ms  | 0.1–618.0ms | Feedback delay. The delay time before feedback starts.               |
| FB.Gain    | –48%    | –99...+99%  | Feedback gain. The amount of delayed signal fed back into the delay. |
| High Ratio | 0.1     | 0.1–1.0     | Feedback high-frequency decay ratio.                                 |

## Program 17—DELAY->CHORUS

Two-stage delay followed by stereo chorus.

| Parameter  | Setting | Range       | Description  |
|------------|---------|-------------|--|
| Dly(1)     | 250.0ms | 0.1–618.0ms | Delay 1 delay time.  |
| Dly(2)     | 500.0ms | 0.1–618.0ms | Delay 2 delay time.  |
| FB.Dly     | 500.0ms | 0.1–618.0ms | Feedback delay. The delay time before feedback starts.               |
| FB.Gain    | +33%    | –99...+99%  | Feedback gain. The amount of delayed signal fed back into the delay. |
| High Ratio | 0.7     | 0.1–1.0     | Feedback high-frequency decay ratio.                                 |
| Mod.Freq   | 1.2Hz   | 0.1–20.0Hz  | Chorus modulation speed.   |
| Mod.Depth  | 25%     | 0–100%      | Chorus modulation depth. The amount of modulation.                   |
| Mod.Dly    | 10.0ms  | 0.0–24.0ms  | Chorus modulation delay. The delay time before modulation starts.    |

## Program 18—KARAOKE ECHO 1

Typical karaoke type echo.

| Parameter  | Setting | Range       | Description   |
|------------|---------|-------------|---|
| Dly(L)     | 220.0ms | 0.1–322.0ms | Left channel delay.   |
| FB.Gain(L) | +40%    | –99...+99%  | Left channel feedback gain. The amount of delayed signal fed back.  |
| Dly(R)     | 223.0ms | 0.1–322.0ms | Right channel delay.  |
| FB.Gain(R) | +40%    | –99...+99%  | Right channel feedback gain. The amount of delayed signal fed back. |
| High Ratio | 0.4     | 0.1–1.0     | Feedback high-frequency decay ratio.                                |

## Program 19—KARAOKE ECHO 2

A variation of program 18.

| Parameter  | Setting | Range              | Description        |
|------------|---------|--------------------|--------------------|
| Dly(L)     | 220.0ms | Same as program 18 | Same as program 18 |
| FB.Gain(L) | +44%    |                    |                    |
| Dly(R)     | 180.0ms |                    |                    |
| FB.Gain(R) | –55%    |                    |                    |
| High Ratio | 0.2     |                    |                    |

## Program 20—ST.PITCH CHANGE

Two-part stereo pitch shifter. Each part has independent pan parameter for stereo effects.

| Parameter  | Setting | Range       | Description   |
|------------|---------|-------------|---|
| Pitch      | 0       | -12...+12   | Coarse pitch setting for pitch changers 1 and 2.                        |
| Fine(1)    | +10     | -50...+50   | Fine pitch for pitch changer 1.   |
| Fine(2)    | -10     | -50...+50   | Fine pitch for pitch changer 2.   |
| Out.Lvl(1) | +100    | -100...+100 | Output volume level for pitch changer 1.                                |
| Out.Lvl(2) | +100    | -100...+100 | Output volume level for pitch changer 2.                                |
| Pan(1)     | L100    | L100-R100   | Pitch changer 1 panpot.   |
| Pan(2)     | R100    | L100-R100   | Pitch changer 2 panpot.   |
| FB.Gain(1) | +28%    | -99...+99%  | Pitch changer 1 feedback gain. The amount of processed signal fed back. |
| FB.Gain(2) | -28%    | -99...+99%  | Pitch changer 2 feedback gain. The amount of processed signal fed back. |
| FB.Dly     | 25.0ms  | 0.1-223.0ms | Feedback delay. The delay time before feedback starts.                  |

## Program 21—VOCAL DOUBLER

Vocal-doubling pitch shift. Good with guitar glissando.

| Parameter  | Setting | Range              | Description        |
|------------|---------|--------------------|--------------------|
| Pitch      | 0       | Same as program 20 | Same as program 20 |
| Fine(1)    | +8      |                    |                    |
| Fine(2)    | -8      |                    |                    |
| Out.Lvl(1) | +100    |                    |                    |
| Out.Lvl(2) | +100    |                    |                    |
| Pan(1)     | L6      |                    |                    |
| Pan(2)     | R6      |                    |                    |
| FB.Gain(1) | +20%    |                    |                    |
| FB.Gain(2) | -20%    |                    |                    |
| FB.Dly     | 50.0ms  |                    |                    |

## Program 22—FUNNY PITCH

Funny voice pitch shift for weird sounds.

| Parameter  | Setting | Range              | Description        |
|------------|---------|--------------------|--------------------|
| Pitch      | -2      | Same as program 20 | Same as program 20 |
| Fine(1)    | +8      |                    |                    |
| Fine(2)    | -8      |                    |                    |
| Out.Lvl(1) | +100    |                    |                    |
| Out.Lvl(2) | +100    |                    |                    |
| Pan(1)     | L90     |                    |                    |
| Pan(2)     | R90     |                    |                    |
| FB.Gain(1) | +90%    |                    |                    |
| FB.Gain(2) | -90%    |                    |                    |
| FB.Dly     | 4.0ms   |                    |                    |

## Program 23—CHORUS

A stereo chorus. Produces a rich thickening effect. Good with guitar, bass, and strings.

| Parameter | Setting | Range      | Description   |
|-----------|---------|------------|---|
| Mod.Freq  | 0.6Hz   | 0.1–20.0Hz | Modulation speed.   |
| AM Depth  | 49%     | 0–100%     | Amplitude modulation depth. The amount of amplitude modulation. |
| PM Depth  | 35%     | 0–100%     | Pitch modulation depth. The amount of pitch modulation.         |
| Mod.Dly   | 12.1ms  | –99...+99% | Modulation delay. The delay time before modulation starts.      |

## Program 24—BROAD CHORUS

A variation of program 23 with a wider chorus effect.

| Parameter | Setting | Range              | Description        |
|-----------|---------|--------------------|--------------------|
| Mod.Freq  | 0.5Hz   | Same as program 23 | Same as program 23 |
| AM Depth  | 64%     |                    |                    |
| PM Depth  | 90%     |                    |                    |
| Mod.Dly   | 38.0ms  |                    |                    |

## Program 25—SYMPHONIC

Produces a rich and grand chorus effect, bigger than chorus alone.

| Parameter | Setting | Range      | Description  |
|-----------|---------|------------|--|
| Mod.Freq  | 0.6Hz   | 0.1–20.0Hz | Modulation speed.  |
| Mod.Depth | 8%      | 0–100%     | Modulation depth. The amount of modulation.                |
| Mod.Dly   | 2.4ms   | 0.0–40.0ms | Modulation delay. The delay time before modulation starts. |

## Program 26—FLANGE

Stereo flanger. Produces a *swishing, tunneling* effect. Good with guitar, bass, piano, cymbals, and other rich harmonic sounds.

| Parameter | Setting | Range      | Description  |
|-----------|---------|------------|--|
| Mod.Freq  | 1.2Hz   | 0.1–20.0Hz | Modulation speed.  |
| Mod.Depth | 25%     | 0–100%     | Modulation depth. The amount of modulation.                              |
| FB.Gain   | +45%    | –99...+99% | Feedback gain. The amount of processed signal fed back into the flanger. |
| Mod.Dly   | 14.6ms  | 0.0–15.0ms | Modulation delay. The delay time before modulation starts.               |

## Program 27—SUPER FLANGE

A variation of program 26 with extra flange.

| Parameter | Setting | Range              | Description        |
|-----------|---------|--------------------|--------------------|
| Mod.Freq  | 0.2Hz   | Same as program 26 | Same as program 26 |
| Mod.Depth | 80%     |                    |                    |
| FB.Gain   | +83%    |                    |                    |
| Mod.Dly   | 0.4ms   |                    |                    |

## Program 28—PHASING

Stereo phaser. Similar to flange, but different. Good with guitar, strings, and other rich harmonic sounds.

| Parameter  | Setting | Range      | Description   |
|------------|---------|------------|---|
| Mod.Freq   | 0.5Hz   | 0.1–20.0Hz | Modulation speed.   |
| Mod.Depth  | 58%     | 0–100%     | Modulation depth. The amount of modulation.                             |
| FB.Gain    | +47%    | –99...+99% | Feedback gain. The amount of processed signal fed back into the phaser. |
| Phase Ofst | 24      | 0–100      | Phase offset. The amount that the signal phase is offset.               |

## Program 29—TREMOLO

Stereo tremolo. Just like that of the classic guitar amps. Good with guitars.

| Parameter | Setting | Range      | Description   |
|-----------|---------|------------|---|
| Mod.Freq  | 2.8Hz   | 0.1–20.0Hz | Modulation speed.   |
| AM Depth  | 86%     | 0–100%     | Amplitude modulation depth. The amount of amplitude modulation. |
| PM Depth  | 0%      | 0–100%     | Pitch modulation depth. The amount of pitch modulation.         |

## Program 30—AUTO PAN

Auto pan. Automatic panning across the stereo image. Helps to maintain interest in repetitive phrases.

| Parameter | Setting | Range                | Description  |
|-----------|---------|----------------------|--|
| Mod.Freq  | 0.8Hz   | 0.1–20.0Hz           | Modulation speed.  |
| L/R Depth | 98%     | 0–100%               | Pan depth between the left and right channels.   |
| F/R Depth | 15%     | 0–100%               | Pan depth from front to rear.  |
| Direction | L←→R    | L←→R, Turn L, Turn R | Auto pan direction.<br>L←→R: from left to right, right to left, left to right, and so on.<br>Turn L: from left to right. Always turning direction at the left.<br>Turn R: from right to left. Always turning direction at the right. |

## SEND3 and SEND4

1. Press [SEND3] or [SEND4].

*The SEND3 or SEND4 LCD function appears.*

*The channel faders are now controlling channel-to-send levels and the RTN/SEND fader, the corresponding send (SEND3 or SEND4).*

2. Raise the channel fader.

*0dB is a good fader position to start with. You can always readjust later.*

*For post-fader sends you must set the normal fader too.*

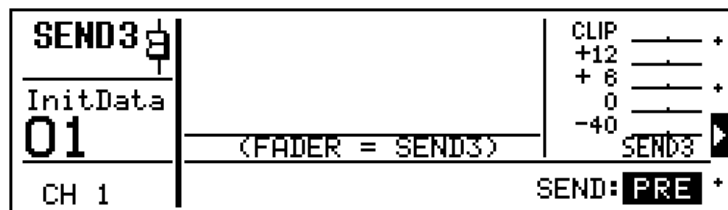
3. Raise the RTN/SEND fader.

*The send signal is output and its level is metered on the LCD.*

SEND3 and SEND4 can be used to feed external effects processors, foldback amplifiers, or multitrack recording equipment. When used to feed an external effects processor, the processed signal can be returned via the stereo input channel or an unused input channel. Input channel and stereo input channels signals can be fed to SEND3 and SEND4.

The master send level is set using the RTN/SEND fader. When the SEND3 LCD function is selected, the RTN/SEND fader is automatically set to SEND3. Likewise, when the SEND4 LCD function is selected, it is automatically set to SEND4. The RTN/SEND [SEL] button can also be used to select SEND3 and SEND4.

Shown below is the SEND3 LCD function. The SEND4 LCD function is essentially the same. A level meter for the send signal is on the right. The meter signal is sourced after the RTN/SEND fader. Ideally the level should be set relatively high and it's OK to reach CLIP occasionally. If CLIP is reached often, however, reduce the send level a little, otherwise signal distortion may occur.



## SEND3 and SEND4 Pre or Post

SEND3 and SEND4 can be configured pre-fader or post-fader, and the current setting is shown at the bottom right of the display. This setting affects all channels, so if SEND3 is set to PRE, all channel SEND3s are pre-fader. Initially, SEND3 and SEND4 are configured pre-fader, the usual setting for foldback sends.

This setting can be toggled between PRE and POST by pressing [ENTER] or turning the PARAMETER wheel.

**PRE** — the send signal is sourced before the channel fader. So it's unaffected by the normal channel fader. This means that the channel-to-mix and channel-to-foldback levels can be set independently.

**POST** — the send signal is sourced after the channel fader. This means that the send signal is also affected by the normal channel fader. So you must have that fader raised as well. This setting is used mainly for effects sends. See “SEND1 and SEND2 Pre or Post” on page 32 for more details.

## SEND3-4 Stereo Pair

1. Press [UTILITY].  
*The UTILITY menu appears.*
2. Select SEND3, 4 CONFIGURATION and press [ENTER].  
*The SEND3, 4 CONFIGURATION LCD function appears.*
3. To change the mode, press [ENTER] or use the PARAMETER wheel.
4. Select the SEND3-4 MODE parameter, then press [ENTER] or use the PARAMETER wheel to set it.
5. To exit this function and return to the UTILITY menu, select EXIT and press [ENTER], or just press [UTILITY].  
*The UTILITY menu reappears.*

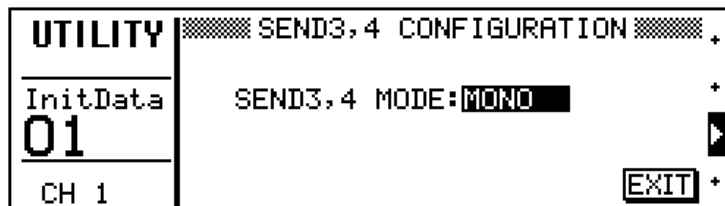
SEND3 and SEND4 can be linked for use as a stereo pair. In this way they can, essentially, be used as another pair of stereo outputs, allowing for another stereo mix to be set up. This is called SEND3-4 Stereo mode. Independent, or normal operation is called Mono mode.

In Stereo mode, the SEND3 and SEND4 LCD functions are combined into the SEND3-4 LCD function. This LCD function can be selected by pressing either [SEND3] or [SEND4]. When either button is pressed, the RTN/SEND fader is automatically set to SEND3-4.

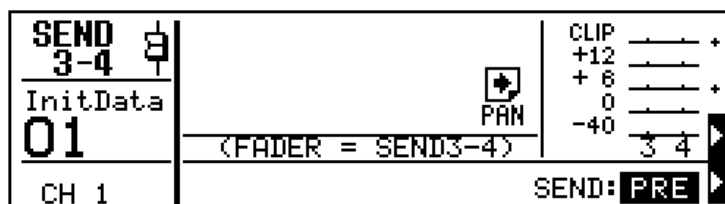
When set to Stereo, the following changes occur:

- For individual input channels, the SEND3 and SEND4 send level controls become a single send level control, and a SEND3-4 pan control appears (set to center) on the SEND3-4 PAN display.
- For stereo-pair input channels, the SEND3 and SEND4 send level controls become single send level controls, and a SEND3-4 pan control appears on the SEND3-4 PAN display. Odd channels are panned hard-left (i.e. to SEND3) and even channels are panned hard-right (i.e. to SEND4).
- For the stereo input channel, the left signal feeds SEND3 bus and the right signal feeds SEND4 bus. Levels are controlled together. A balance control appears on the SEND3-4 PAN display.
- SEND3 and SEND4 dynamics processor patches are cancelled.
- The SEND3-4 output comp patch point is set to the SEND3 setting.
- The SEND3-4 fader level is set to the SEND3 setting.
- SEND3-4 ON/OFF and PRE/POST are set to the SEND3 settings.

Shown below is the SEND3, 4 CONFIGURATION LCD function that is used to select the Stereo and Mono modes.

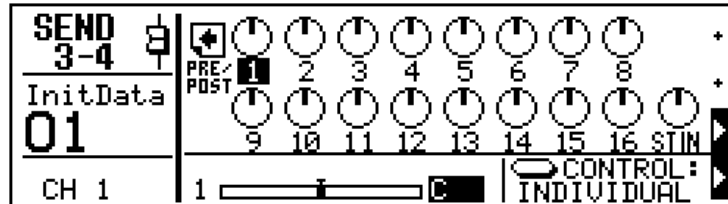


Shown below is the SEND3-4 LCD function. The right-arrow icon indicates that the SEND3-4 pan display is available to the right.



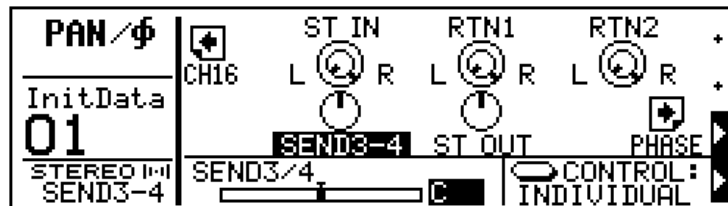
## SEND3-4 Channel Pans & Balance

In SEND3-4 Stereo mode, a SEND3-4 pan control is available on each input channel and a SEND3-4 balance control is available on the stereo input channel (ST IN). These controls appear on the SEND3-4 LCD function, shown below. After pressing either [SEND3] or [SEND4], press the [▶] cursor button to access the SEND3-4 pan display. Alternatively, press the [SEND3] or [SEND4] button again. See “Pan and Balance” on page 26 for operation details.



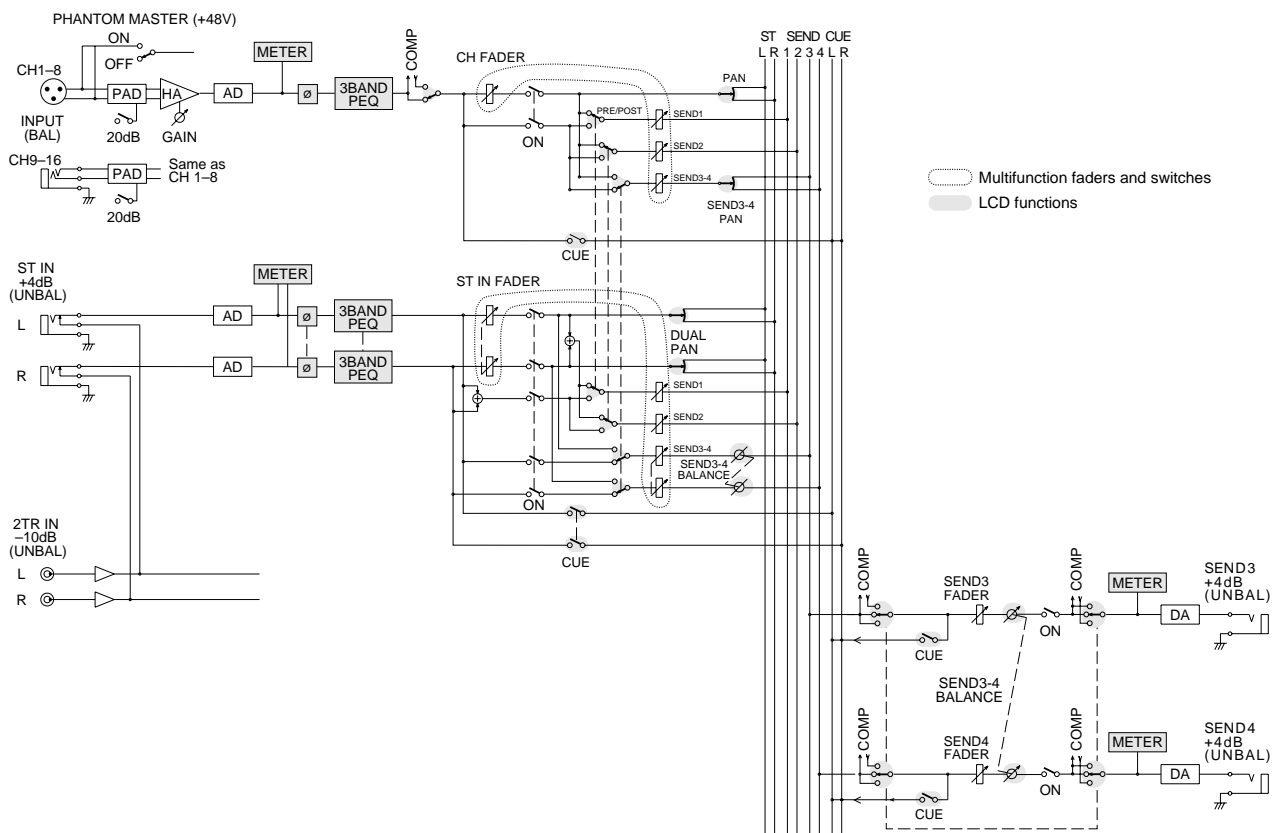
## SEND3-4 Output Balance

In Stereo mode, the stereo SEND3-4 output balance can be set. This control appears on the PAN LCD function, shown below. This balance control operates the same as the stereo output balance control. See “Stereo Output Balance” on page 26 for more details.



## SEND3-4 Block Diagram

This block diagram shows what happens when SEND3 and SEND4 are configured as a stereo pair: Input channel SEND3 and SEND4 controls become a single control, and a SEND3-4 pan control appears. On the stereo input channel, a SEND3-4 balance control appears. The left signal feeds SEND3 and the right signal feeds SEND4. Levels are controlled together. On the SEND3-4 outputs, a SEND3-4 output balance control appears. See “SEND3 and SEND4” on page 45 for more details.





# 5

## CUE

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## About CUE

ProMix 01 CUE provides comprehensive monitoring of virtually all inputs and outputs. The CUE signal is output to the MONITOR OUTPUT and PHONES. Output levels are controlled using the MONITOR OUT LEVEL control and PHONES LEVEL control, respectively.

## CUE Modes

There are three CUE modes: MIX, LAST CUE, and ST FIX. The following table shows how they work in relation to the LCD functions.

| CUE MODE | Selected LCD Function |       |          |
|----------|-----------------------|-------|----------|
|          | CUE                   | GROUP | Others   |
| MIX      | MIX                   | GROUP | LAST CUE |
| LAST CUE | LAST CUE              |       |          |
| ST FIX   | ST FIX                |       |          |

**MIX** — this mode can be used only when the CUE LCD function is selected. When this mode is selected, the message “Select a channel to CUE” appears and the selected channel’s [SEL] button LED goes OFF. The [SEL] buttons can then be used to add channels to the CUE mix. Stereo-pair channels are cued together. This mode is equivalent to the CUE function on a conventional mixer.

**LAST CUE** — in this mode, the currently selected channel is cued. Stereo-pair channels are cued together. This mode is active when LCD functions other than GROUP are selected.

**ST FIX** — in this mode, CUE follows the main stereo output (i.e. it’s fixed to ST OUT). It is not affected when either the CUE or GROUP LCD function is selected.

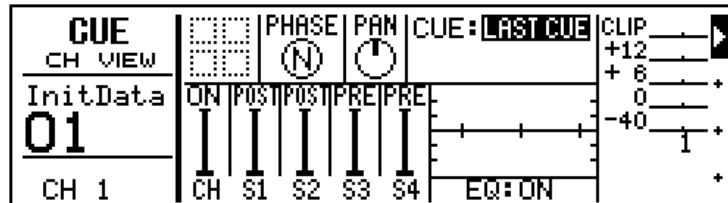
## Group CUE

When the GROUP LCD function is selected, you can listen to a post-fader mix of all channels in the selected group via CUE. This makes it easy to balance faders in a group. It works only when the CUE mode is set to MIX or LAST CUE, not when it’s set to ST FIX. When another LCD function is selected, CUE returns to normal operation.

## Setting the CUE Mode

1. Press [CUE].  
*The CUE LCD function appears.*
2. Use the PARAMETER wheel to select a CUE mode.  
*The name of the CUE mode appears highlighted.*
3. Press [ENTER] to activate the selected mode.  
*The name of the CUE mode appears highlighted.*

CUE modes are set on the CUE LCD function, shown below. The name of the current CUE mode is highlighted. The PARAMETER wheel is used to select modes. When another mode is selected, its name flashes. If it is activated by pressing [ENTER], it stops flashing, appears highlighted, and becomes the current CUE mode.



## CUE Signal Sources

The following table shows where the various CUE signals are sourced.

| Channels           | CUE Modes                | GROUP LCD Function                 |
|--------------------|--------------------------|------------------------------------|
|                    | MIX & LAST CUE           |                                    |
| CH1-16 mono        | Mono/pre-fader           | Mono/post-fader, pre-pan           |
| CH1-16 stereo pair | Mono/pre-fader (L+R mix) | Mono/post-fader, pre-pan (L+R mix) |
| Stereo input       | Stereo/pre-fader         | Stereo/post-fader, pre-pan         |
| RTN1, RTN2         | Stereo/pre-fader         | n/a                                |
| SEND3, SEND4       | Mono/pre-fader           | n/a                                |
| SEND3-4            | Stereo/pre-fader         | n/a                                |
| Stereo output      | Stereo/pre-fader         | n/a                                |

n/a: not applicable.

## CUE/2TR IN Switch

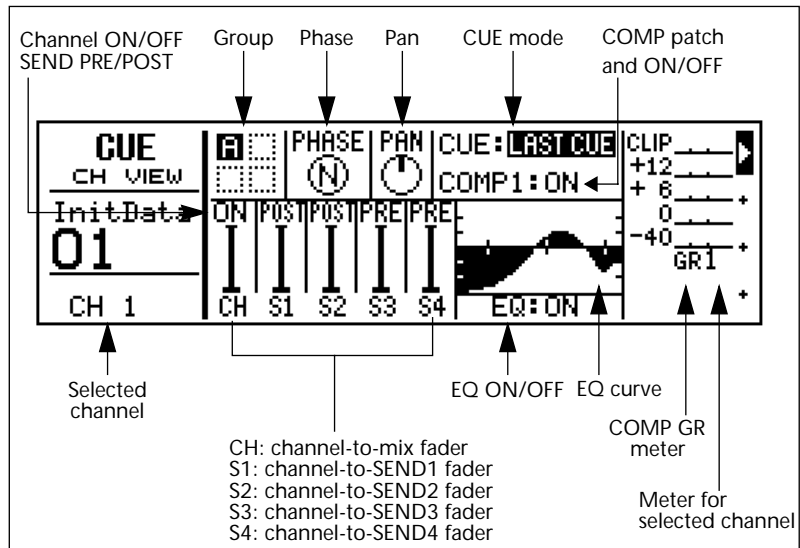
This switch determines the signal source for the monitor output and phones. CUE selects the CUE bus; 2TR IN selects the 2 TR IN inputs. CUE is used for normal mixing operations. 2TR IN, for 2-track playback and confidence monitoring.

## CUE LCD Function Info

As well as being used to set the CUE mode, the CUE LCD function displays various information about the currently selected channel. The exact information shown depends on the type of channel selected. CUE displays for each type of channel are shown below.

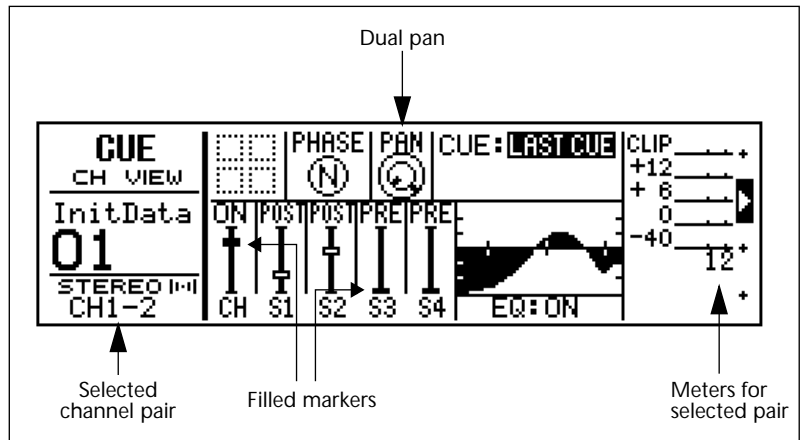
### Input Channel

This is the CUE LCD function when an input channel is selected.



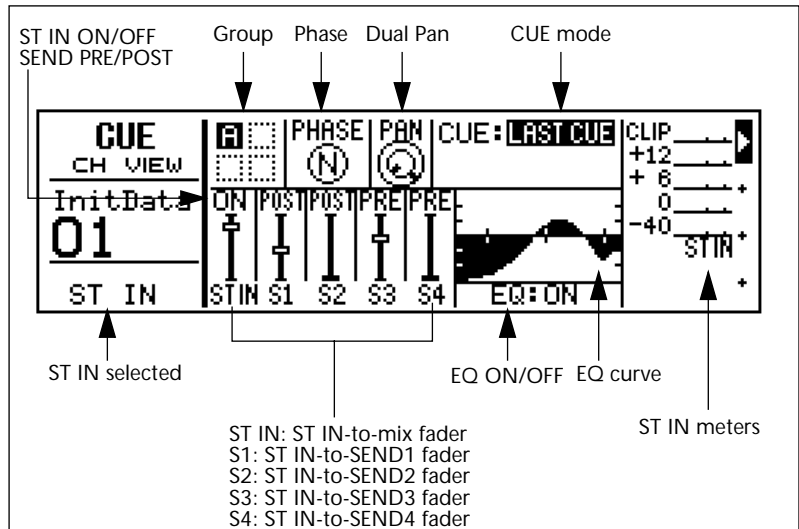
### Stereo-Pair Input Channels

This is the CUE LCD function when stereo-pair input channels are selected. It is, essentially, the same as the one above apart from the differences indicated. This example display also shows how the fader knob marker is filled when a fader is set at the 0dB position. Markers are also filled when faders are set at minimum ( $\infty$ ).



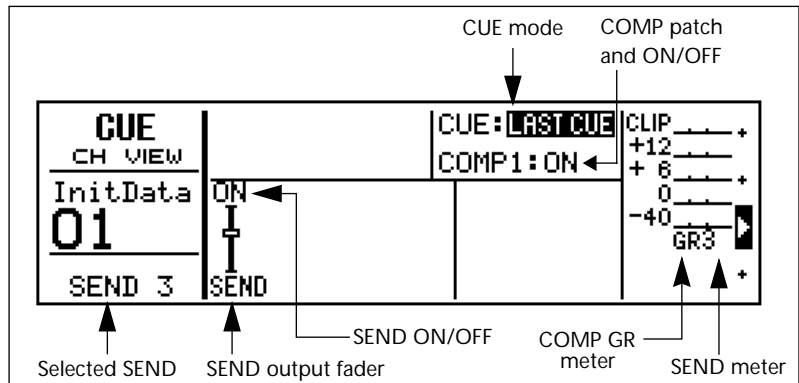
## Stereo Input Channel

This is the CUE LCD function for the stereo input channel.



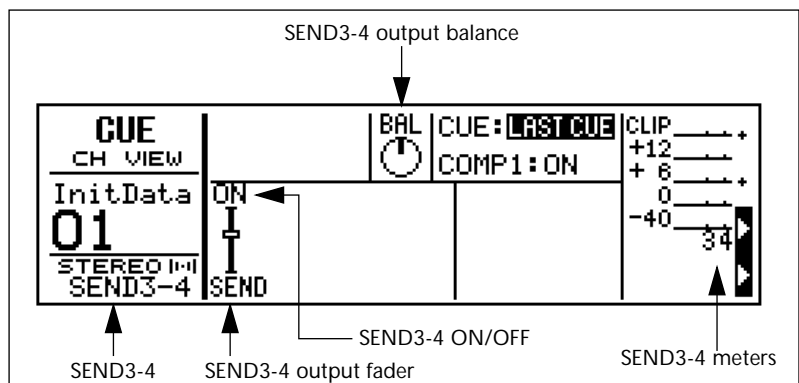
## SEND3, SEND4

This is the CUE LCD function for SEND3 and SEND4.



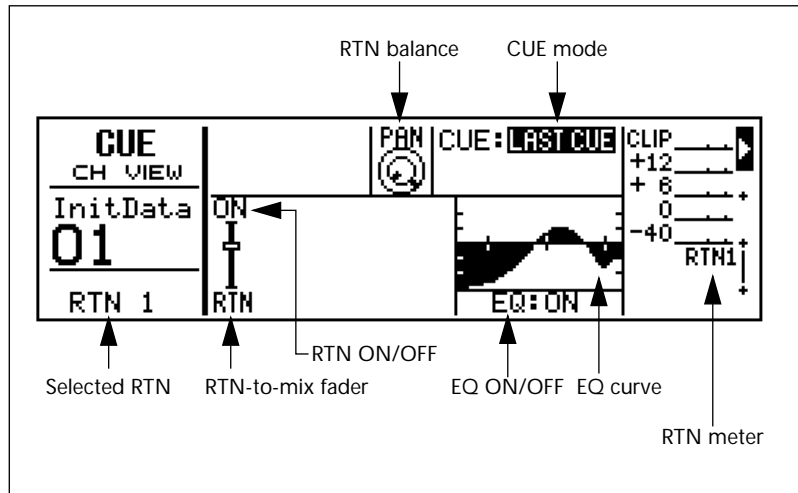
## SEND3-4 (Stereo Pair)

This is the CUE LCD function for SEND3-4 as a stereo pair.



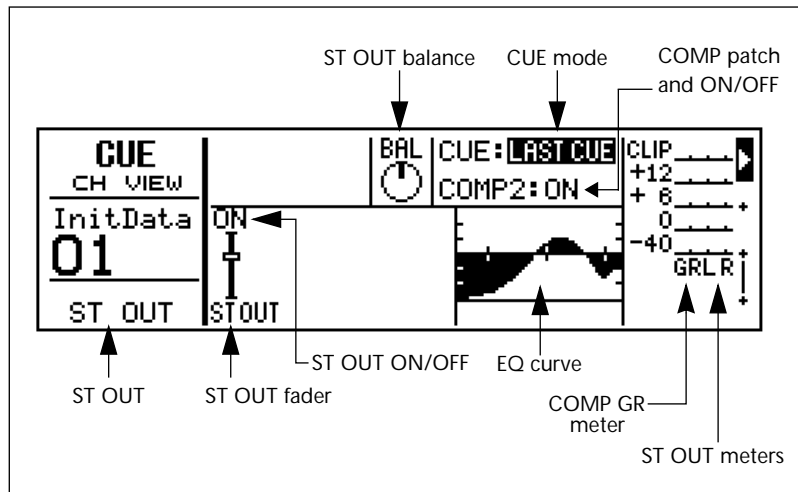
## RTN1, RTN2

This is the CUE LCD function for RTN1 and RTN2.



## Stereo Output

This is the CUE LCD function for the stereo output.



# 6

## Groups and Pairs

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1. Press [GROUP].

*The GROUP LCD function appears.*

2. Use the [▲] [▼] cursor buttons to select groups.

3. Use the [SEL] buttons to add and remove channels to and from groups.

*Stereo-pair channels are added and removed together.*

4. To adjust an individual fader in a group, press [ENTER] to turn BAL ADJ ON, adjust the fader, then press [ENTER] again.

*All faders move when one fader in a group is adjusted.*

! The quickest way to select groups is to repeatedly press the [GROUP] button.

## Grouping Faders

Faders can be grouped for multiple fader control using one fader. This makes it easy to control several faders simultaneously. The input channel and stereo input channel faders can be used in groups. There are four groups available: A, B, C, and D.

*Note: Only faders feeding the stereo bus are grouped. When faders are used to adjust channel-to-send levels, grouping is not active.*

Shown below is the FADER GROUP LCD function. Channel numbers are listed along the top, and group letters to the left side. The selected group is highlighted and its name is shown at the bottom of the display. A dot appears when a channel is added to a group and disappears when it is removed.

|              |                                   |            |
|--------------|-----------------------------------|------------|
| <b>GROUP</b> | GRP 1234 5678 9101112 13141516 S1 |            |
| <b>FADER</b> | [A] ●●●● ●●●● ●●●● ●●●●           | BAL ADJ: + |
| InitData     | B ●●●● ●●●● ●●●● ●●●●             | OFF +      |
| 01           | C ●●●● ●●●● ●●●● ●●●●             |            |
|              | D ●●●● ●●●● ●●●● ●●●●             |            |
| CH 4         | SEL = GROUP A +                   |            |

Move only one fader in a group at a time. If you try to adjust more, the first one adjusted should have priority, but you may upset their relative positions.

You can temporarily disable a group to make adjusts to individual faders using the Balance Adjust function. When disabled (i.e. the Balance Adjust function is ON), the [SEL] buttons of the channels in the group flash.

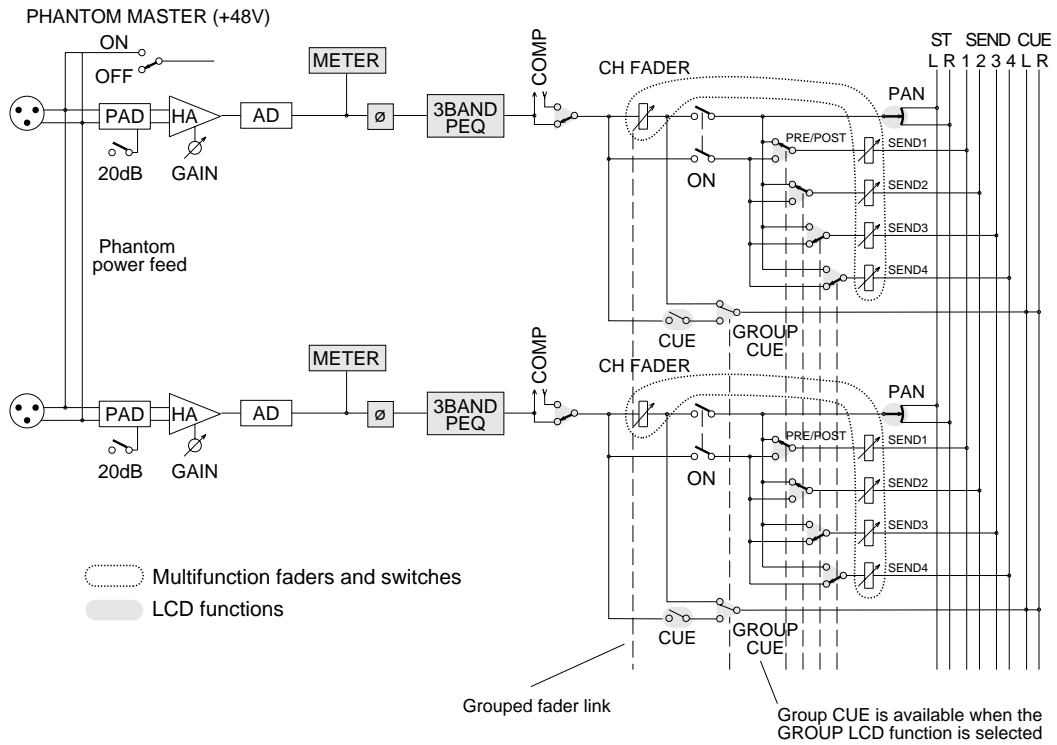
## Listening to Groups

When the GROUP LCD function is selected, you can listen to a post-fader mix of all channels in the selected group via CUE. This makes it easy to balance faders in a group. It works only when the CUE mode is set to MIX or LAST CUE, not when it's set to ST FIX. When another LCD function is selected, CUE returns to normal operation.



# Group Block Diagram

This block diagram shows what happens when channels are grouped. Faders are linked for simultaneous control and the group CUE function is active. See “Listening to Groups” on page 56 for details about group CUE. Note that fader grouping works only for channel-to-mix faders, not channel-to-send faders.



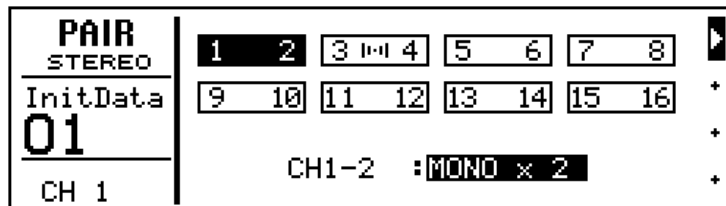
1. Press [PAIR].  
*The PAIR LCD function appears.*
2. Press a [SEL] button or use the cursor buttons to select a channel pair.
3. Use the PARAMETER wheel to select an option.
4. Press [ENTER] to activate.

## Pairing Channels

Adjacent input channels can be paired for stereo operation. This makes it easy to work with stereo input signals, because you only have to adjust one channel to control both left and right signals. Up to eight stereo pairs are available. The following parameters are linked:

PHASE, EQ, COMP patch, ON/OFF, fader, CUE, SEND1, SEND2, SEND3, and SEND4.

Shown below is the PAIR LCD function. The eight channel pairs are shown in boxes, and the selected pair is highlighted. When channels are paired, a stereo symbol appears in the corresponding box. The selected channels and available options are shown under the boxes. The currently set option is highlighted and the other options flash when selected.



For mono channels ( **1 2** ) the options are:

**MONO x 2** — this indicates that the channels are not paired.

**ST (1->2)** — this copies the settings of the odd input channel to the even input channel and sets them as a stereo pair.

**ST (2->1)** — this copies the settings of the even input channel to the odd input channel and sets them as a stereo pair.

**ST (RESET)** — this resets both channels and sets them as a stereo pair. Odd channels are panned hard-left and even channels, hard-right.

For stereo-pair channels ( **1 2** ) the options are:

**STEREO** — this indicates that the channels are paired.

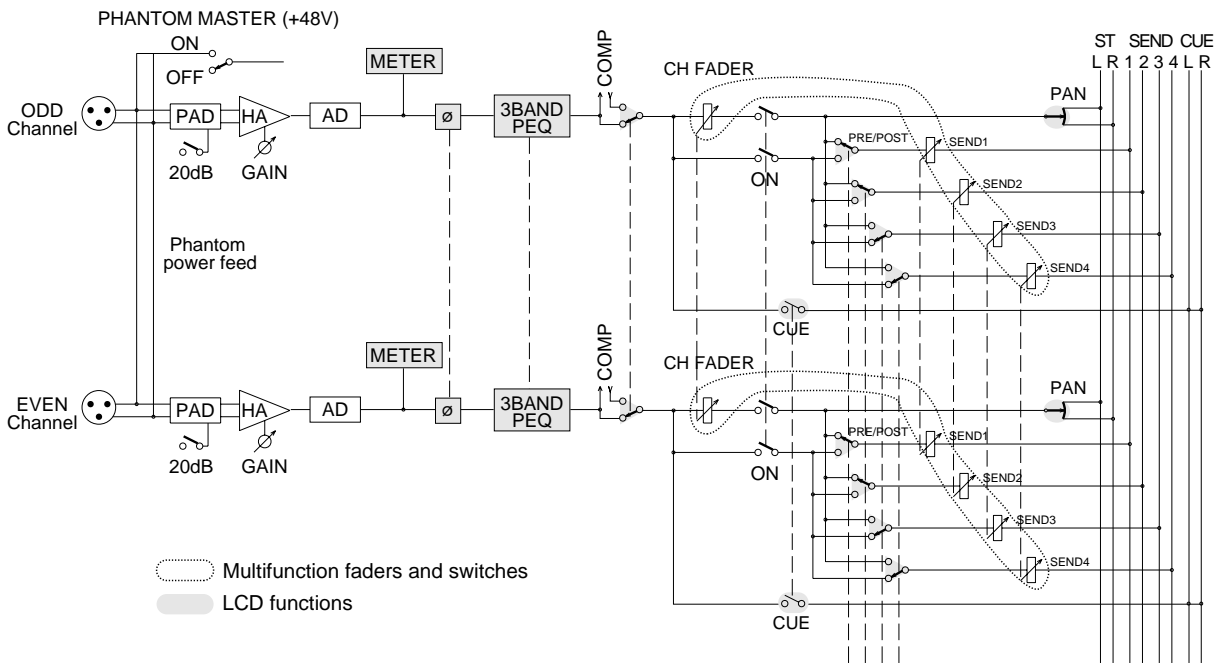
**ST (RESET)** — this option maintains the stereo pair, but resets both channels. Odd channels are panned hard-left and even channels, hard-right.

**MONO x 2** — this option cancels the stereo pair and leaves channel settings as they are.

*Note: When channels using a dynamics processor are paired, the patch is cancelled. A message appears to warn you of this. When grouped channels are paired, they are removed from the group.*

# Pair Block Diagram

This block diagram shows what happens when adjacent input channels are paired: PHASE, EQ, COMP patch, faders, ON/OFF, CUE, SEND1, SEND2, SEND3, and SEND4 are linked for simultaneous control. The dotted lines show which channel functions are linked. The send PRE/POST switches are always linked.





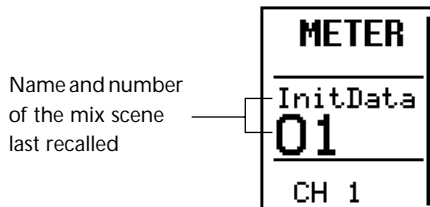
# 7

## Scene Memories

---

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## What are Scene Memories?

Scene memories are memory locations used to store mix scenes. A mix scene consists of all ProMix 01 mix settings. Up to 50 mix scenes can be stored and each can be named for easy identification. They can be stored and recalled manually using the [STORE] and [RECALL] buttons. They can be recalled using MIDI Program Changes from a computer, MIDI sequencer, or MIDI footswitch. See “Program Change” on page 82 for more details. Mix scenes can also be saved to a MIDI data file. See “Bulk Dump/Request” on page 85.

The name and number of the mix scene recalled last are always shown at the left side of the display.

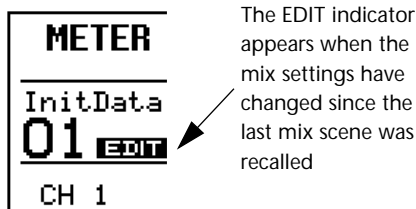
## What’s Stored in a Scene Memory?

Virtually all ProMix 01 mix settings are stored in a scene memory. For a full listing, see “Mix Scene Data” on page 98. Settings that are not stored consist mainly of analog controls and switches. They are: pad switches, gain controls, MONITOR OUT LEVEL control, PHONES LEVEL control, CUE/2TR IN switch, LCD contrast, and PHANTOM MASTER switch. MIDI setup and assignment table data is not stored.

## What is the Edit Buffer?

The Edit Buffer is an internal memory area that stores the current mix settings. When a mix scene is stored, the Edit Buffer mix settings are written to the selected scene memory. When a mix scene is recalled, the mix settings of the selected scene memory are written back to the Edit Buffer. The Edit Buffer mix settings can also be saved to a MIDI data recorder. See “Bulk Dump/Request” on page 85.

When a parameter is adjusted after a mix scene has been recalled, the EDIT indicator appears in the Memory area of the display. This indicates that the current mix settings (i.e. those in the Edit Buffer) do not match those of the mix scene recalled last.



## Mix Scene 00

Mix scene 00 is a little different to mix scenes 1 through 50. It is a read-only memory and contains the initial ProMix 01 settings. You can recall it, but you cannot store it. When you want to reset all mix settings to their initial values, recall mix scene 00.

## Storing Mix Scenes

1. Press [STORE].  
*The MEMORY STORE LCD function appears.*
2. Use the [INC+] [DEC-] buttons to select a mix scene.
3. Use the [◀] [▶] cursor buttons and PARAMETER wheel to name the mix scene.  
*If you want to cancel the store operation, select CANCEL and press [ENTER].*
4. Press [STORE].

*The mix scene is stored and its number appears in the MEMORY area of the display.*

There are 50 scene memories, so you can store up to 50 mix scenes. More can be saved to a MIDI data file. See “Bulk Dump/Request” on page 85. Mix scenes can be named for easy identification.

*Note: When a mix scene is stored, all data in the selected scene memory is overwritten. Be careful not to overwrite an important mix scene.*

Shown below is the MEMORY STORE LCD function. Mix scenes are listed in the center and the name of the mix scene last recalled or stored is highlighted. Also there is an equal symbol (=) between the program’s name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the list. When another mix scene is selected, its name flashes. If it is stored, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



Mix scene names can be up to eight characters long. The selected character in the name is highlighted. Available characters scroll through the box in the center. Use the cursor buttons to position the cursor in the name, and the PARAMETER wheel to scroll through the characters. The following characters are available.

```

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
()[]{}<>#%&!/?+*/\=_|,.;:;'"^~
0123456789
    
```

Spaces are available between the above character rows.

*Note: When storing mix scenes, make sure there are no mix settings in the Edit Buffer that you do not want to store. Maybe some settings have been adjusted accidentally or by someone else. If you are not sure about the Edit Buffer’s exact contents, first recall the last mix scene, make the adjustments that you really want, and then store. You may want to store the current mix settings to an unused scene memory, just in case.*

! By recalling a mix scene and then storing it to another location, you can copy and reorganize your mix scenes.

! When recalling mix scenes, be aware that volume levels may change suddenly as channels are switched ON and faders moved. Nobody likes sudden surprises or speaker damage!

## Recalling Mix Scenes

1. Press [RECALL].

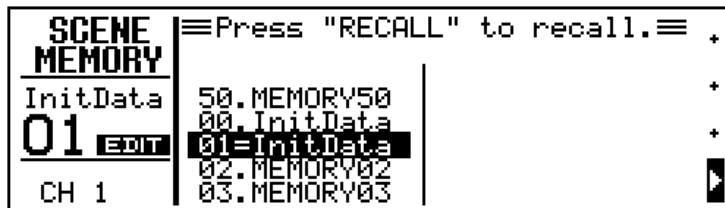
*The MEMORY RECALL LCD function appears. You can also go to the MEMORY LCD function by pressing the [INC+] [DEC-] buttons.*

2. Use the [INC+] [DEC-] buttons or the PARAMETER wheel to select a mix scene.
3. Press [RECALL] to recall.

*The mix scene is recalled and its name and number appear in the MEMORY area of the display.*

Mix scenes are recalled using the [RECALL] button. They can also be recalled using MIDI Program Changes. See “Program Change” on page 82.

Shown below is the MEMORY RECALL LCD function that appears when [RECALL] is pressed. Mix scenes are listed in the center and the name of the mix scene last recalled or stored is highlighted. Also there is an equal symbol (=) between the program’s name and number, not a period like the other programs. When another mix scene is selected, its name flashes. If it is recalled, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



*Note: When you recall a mix scene, all mix settings in the Edit Buffer (current mix scene) are overwritten. So you may want to store the Edit Buffer to an unused scene memory before recalling, just in case.*



## Protecting Scene Memories

1. Press [UTILITY].

*The UTILITY menu appears.*

2. Select MEMORY PROTECT and press [ENTER].

*The MEMORY PROTECT LCD function appears.*

3. Select Scene Memories 01–25 or 26–50, then press [ENTER] or use the PARAMETER wheel to turn protect ON and OFF.

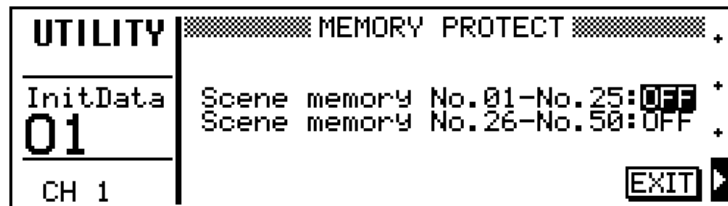
4. To exit this function and return to the UTILITY menu, select EXIT and press [ENTER], or just press [UTILITY].

*The UTILITY menu reappears.*

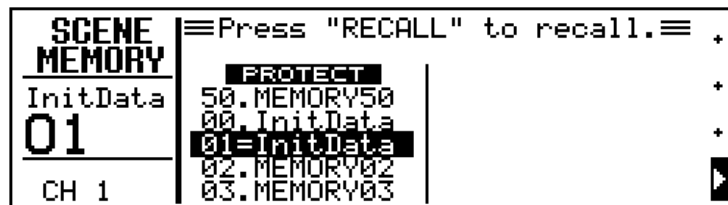
You can protect stored mix scenes against accidental overwriting using this Memory Protect function. This is useful when you've set up many mix scenes for repeated use, or when non-experienced users operate ProMix 01.

With Memory Protect set to ON, mix scenes cannot be stored using the [STORE] button. And mix scene data received as MIDI Bulk Dump is ignored. Scene memories are divided into two groups, 01–25 and 26–50, and protection can be set separately for each group.

Shown below is the MEMORY PROTECT LCD function.



When MEMORY PROTECT is set to ON, the word PROTECT appears on the MEMORY LCD function when a mix scene in the protected group is selected, as shown below.





# 8

## Dynamics Processors

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## ProMix 01 Dynamics Processors

ProMix 01 features three stereo dynamics processors, for compression, limiting, gating, and ducking. They can be patched into input channels, SEND3, SEND4, and the stereo outputs. Processor settings are organized as programs, and there are 10 preset programs (1–10) and 10 user programs (11–20) for you to store your own settings.

## Preset Dynamics Programs

These are the preset dynamics programs.

|   |             |    |             |
|---|-------------|----|-------------|
| 1 | Total Comp  | 6  | Comp Heavy2 |
| 2 | Radio Comp  | 7  | Gate Fast   |
| 3 | Comp Fast   | 8  | Gate Slow   |
| 4 | Comp Slow   | 9  | Ducking     |
| 5 | Comp Heavy1 | 10 | BGM Ducking |

See “Preset Dynamics Processor Parameters” on page 78 for a detailed listing of the preset dynamics program parameters.

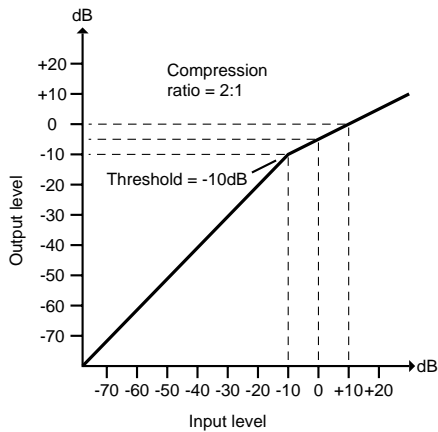
## Processor Types

Dynamics processors are generally used to correct or control signal levels. However, they can also be used creatively to shape a sound’s volume envelope. The four types of dynamics processor and their general applications are explained below.

### Compressor

Vocalists that tend to move toward and away from the microphone while singing produce fluctuating signal levels; sometimes loud, sometimes soft. Likewise, acoustic instruments with a large dynamic range produce sound levels from *pianissimo* (very soft) through to *fortissimo* (very loud). In these situations, it is often difficult to set an average fader level that will allow a voice or instrument to be heard clearly throughout a song or piece of music.

This is where the compressor comes in with automatic level control. By automatically reducing high levels, thus effectively reducing the dynamic range, the compressor makes it much easier to control signals and set appropriate fader levels. Reducing the dynamic range also means that recording levels can be set higher, therefore improving S/N performance. To provide a more consistent signal level and to squeeze more out of the dynamic range offered by AM and FM broadcasting, radio and TV stations often compress their audio output. Typical radio compressor settings are provided by preset program #2 (RADIO COMP).



Compressor parameters are:

**Threshold** (-40...+18dB) — This determines the level of input signal required to trigger the compressor. Signals at a level below the threshold pass through unaffected. Signals at and above the threshold level are compressed by the amount specified using the Ratio parameter. The trigger signal is sourced using the KEY IN parameter.

**Ratio** (1:1–∞:1) — This determines the amount of compression. That is, the change in output signal level relative to change in input signal level. For a 2:1 ratio, for example, a 10dB change in input level (above the threshold) results in a 5dB change in output level. For a 5:1 ratio, a 10dB change in input level (above the threshold) results in a 2dB change in output level.

Compression ratios commonly used for vocals, piano, and bass range from 2:1 to 6:1. A stereo mix maybe compressed 2:1 to add punch and provide a more consistent volume level.

**Attack** (0–120ms) This determines how soon the signal is compressed once the compressor has been triggered. With a fast attack time, the signal is compressed almost immediately. With a slow attack time, however, the initial transient of a sound passes through unaffected. Attack times from 1–5ms are a good place to start.

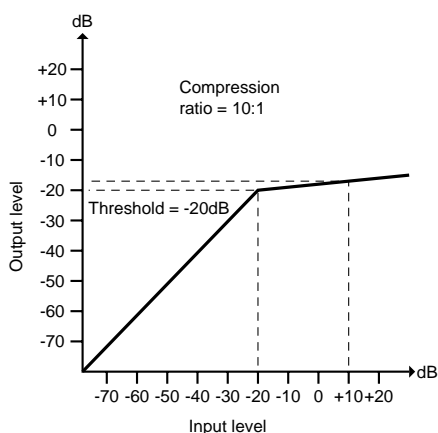
**Release** (0.1–6.0s) — This determines how soon the compressor returns to its normal gain once the trigger signal level drops below the threshold. If the release time is too short, the gain will recover too quickly causing level pumping (i.e. noticeable gain fluctuations). If it is set too long, the compressor may not have time to recover before the next high level signal appears, and it will be compressed incorrectly. Release times from 0.1–0.5s are a good place to start.

**Out Gain** (-18...+18dB) — This sets the compressor's output signal level. Compression tends to reduce the average signal level. Out Gain can be used to counter this level reduction and set an appropriate level for the next stage in the audio path.

## Limiter

A limiter is essentially a compressor with a high ratio setting. Compression ratios above 10:1 are considered to limit signals rather than compress them. When an input signal exceeds the specified threshold level, its level is automatically reduced to the threshold level. This means that the limiter's output level never actually exceeds the threshold level. Limiters are often used to prevent signals from overloading amplifiers and tape recorders. A limiter with a relatively high threshold, for example, could be patched into the stereo outputs to prevent amplifier and speaker overload.

Limiter parameters are the same as those for the compressor.



## Gate

A gate, or noise gate is essentially an audio switch used to mute signals below a set threshold level. It can be used to cut background noise picked up by open microphones, noise and hiss from guitar valve amps and effects pedals, and leakage between drum microphones. It also has many creative uses too. For example, gating a drum sound with a short decay time tightens up the sound. Also, patching a gate into a droning bass synth channel and then triggering it from the kick drum channel allows the bass synth through only when the kick drum is struck, adding extra wallop on the beat.

Gate parameters are:

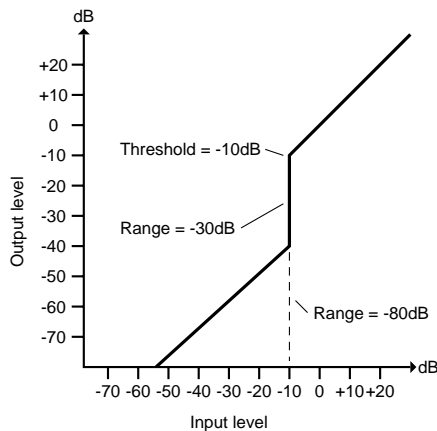
**Threshold** (–50...+10dB) — This determines the level at which the gate closes, cutting off the signal. Signals above the threshold level pass through unaffected. Signals at or below the threshold, however, cause the gate to close. The trigger signal is sourced using the KEY IN parameter.

**Attack** (0–120ms) — This determines how fast the gate opens when the signal exceeds the threshold level. Slow attack times can be used to remove the initial transient edge of percussive sounds. Too slow an attack time makes some sounds appear backwards.

**Hold** (3–341ms) — This determines how long the gate stays open once the trigger signal has fallen below the threshold level.

**Decay** (85ms–10.9s) — This determines how fast the gate closes once the hold time has expired. A longer decay time produces a more natural gating effect, allowing the natural decay of an instrument to pass through. With a maximum decay time of 10.9 seconds, you could even use this for fade-outs.

**Range** (–80dB...0dB) — This determines the level to which the gate closes. Think of it as a brick holding a garden gate open so that a certain amount of signal always flows through. For a setting of –80dB, the gate closes completely when the input signal falls below the threshold. For a setting of –30dB, however, the gate only closes so far. For a setting of 0dB, the gate has no effect. When signals are gated abruptly, the sudden disappearance can sometimes sound odd. This parameter causes the gate to reduce the signal level rather than cut it completely.



## Ducking

Ducking is commonly used for voice-over applications, where the background music level is reduced automatically when an announcer speaks. Ducking is achieved by triggering a compressor with a different sound source. For example, a ducker is patched into the background music channel, and the KEY IN signal is sourced from the announcer's microphone channel. When the announcer's microphone level exceeds the specified threshold, the background music level is reduced automatically, allowing the announcer to be heard clearly. The same technique can also be used for vocals in a mix. For example, ducking backing sounds such as rhythm guitar and synth pad during vocal phrases allows the vocals to be heard clearly. This can also be used to bring solo instruments up in a mix.

Ducking parameters are:

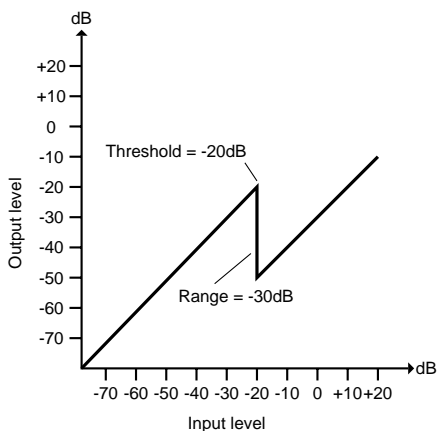
**Threshold** (-50...+10dB) — This determines the level of trigger signal (KEY IN) required to activate ducking. Trigger signal levels below the threshold do not activate ducking. Trigger signals at and above the threshold level, however, activate ducking, and the signal level is reduced to a level set by the Range parameter. The trigger signal is sourced using the KEY IN parameter.

**Attack** (0–120ms) — This determines how soon the signal is ducked once the ducker has been triggered. With a fast attack time, the signal is ducked almost immediately. With a slow attack time, however, ducking appears to fade the signal. Too fast an attack time may sound abrupt.

**Hold** (3–341ms) — This determines how long ducking remains active once the trigger signal has fallen below the threshold level.

**Decay** (85ms–10.9s) — This determines how soon the ducker returns to its normal gain once the trigger signal level drops below the threshold.

**Range** (-80...0dB) — This determines the level to which the signal is ducked. For a setting of -80dB, the signal is virtually cutoff. For a setting of -30dB, however, the signal is ducked by 30dB. For a setting of 0dB, the ducker has no effect.



1. Press [COMP] repeatedly to select a processor: 1, 2, or 3.

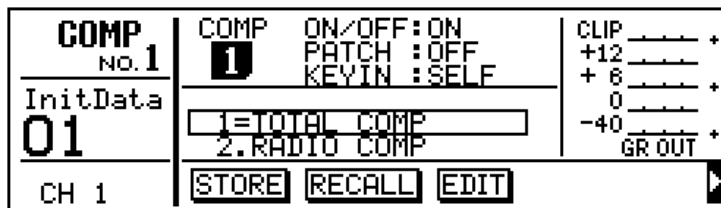
*The COMP LCD function appears. If you didn't exit after your last COMP edit, the COMP EDIT LCD function appears instead.*

2. Use the cursor buttons to select the ON/OFF, PATCH, and KEYIN parameters and the PARAMETER wheel to set them.
3. You must press [ENTER] to activate the PATCH and KEYIN parameters.

## Patching in a Processor

Dynamics processors can be patched into the input channels, SEND3, SEND4, and stereo output. The SEND3, SEND4, and stereo outputs patches can be configured to pre-fader or post-fader. See “Pre-Fader or Post-Fader Patches” on page 74. Although a stereo dynamics processor can be used in mono (i.e. on a single channel), it cannot be used as two independent mono processors.

Shown below is the COMP LCD function. Dynamics setup parameters appear in the top part of the display. Programs are listed in the center.



The parameters are:

**ON/OFF** — this is used to turn a dynamics processor ON and OFF.

**PATCH** — this is used to patch a dynamics processor into a channel. The current setting is highlighted. Other settings flash when selected. Settings are activated by pressing [ENTER]. Stereo-pair channels are patched together.

*Note: Patch points that are in use by the other dynamics processors are not available.*

The options are:

| PATCH    | Patch Point                          |   |
|----------|--------------------------------------|---|
| OFF      | No patch                             |   |
| CH1-CH16 | An input channel: post-EQ, pre-fader |   |
| SEND3    | SEND3                                | Can be pre-fader or post-fader. See “Pre-Fader or Post-Fader Patches” on page 74. |
| SEND4    | SEND4                                |   |
| STEREO   | Stereo output                        |   |



**KEY IN** — this is used to select the processor trigger source. (i.e. the signal that triggers, or activates the processor). The current setting is highlighted. Other settings flash when selected. Settings are activated by pressing [ENTER].

The options are:

| KEY IN   | Source                               |
|----------|--------------------------------------|
| SELF     | Same as PATCH                        |
| CH1-CH16 | An input channel: post-EQ, pre-fader |
| SEND3    | SEND3                                |
| SEND4    | SEND4                                |
| ST-L     | Stereo output left channel           |
| ST-R     | Stereo output right channel          |

Can be pre-fader or post-fader. See "Pre-Fader or Post-Fader Patches" on page 74.

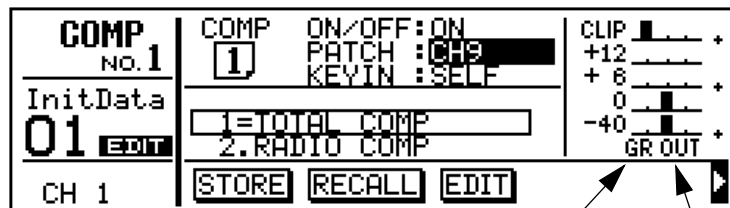
**IN** — this parameter appears only when PATCH is set to STEREO. It determines whether a dynamics processor is patched into just the left/odd channel (L), right/even channel (R), or both (BOTH).

*Note: The ON/OFF, PATCH, KEY IN, and IN parameters are not stored in dynamics programs. They are, however, stored in mix scenes.*

## Dynamics Processor Meters

The amount of processor gain reduction (GR) and the output signal levels are metered on the COMP LCD function, as shown below. Gain reduction is the amount by which a signal's level is reduced. The output signal levels work from bottom-to-top as conventional level meters. The GR level meter, however, works from top-to-bottom.

For compression, limiting, and ducking, the GR meter operates when the processor is active (i.e. has been triggered by the KEY IN signal) and it shows the amount of signal level reduction. For a gate, however, the processor is active when the input signal is below the threshold. So the GR meter operates when the input signal is below the threshold and also when there is no input signal.



Gain reduction

Output levels

1. Press [UTILITY].

*The UTILITY menu appears.*

2. Select OUTPUT COMP PATCH POINT and press [ENTER].

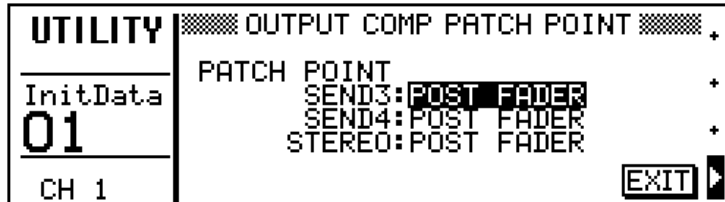
*The OUTPUT COMP PATCH POINT LCD function appears.*

3. Use the cursor buttons to select parameters and the [ENTER] button or PARAMETER wheel to set them.
4. To exit this function and return to the UTILITY menu, select EXIT and press [ENTER], or just press [UTILITY].

*The UTILITY menu reappears.*

## Pre-Fader or Post-Fader Patches

SEND3, SEND4, and stereo output dynamics processor patch points can be configured pre-fader or post-fader. These settings are made on the OUTPUT COMP PATCH POINT LCD function, shown below. Initially, they are all configured post-fader.



## Recalling a Dynamics Program

1. Press [COMP] repeatedly to select a processor: 1, 2, or 3.

*The COMP LCD function appears. If you didn't exit after your last COMP edit, the COMP EDIT LCD function appears instead.*

2. Select RECALL.
3. Use the PARAMETER wheel to select a program.
4. Press [ENTER] to recall.

*The program is recalled.*

There are 10 preset programs (1–10) and 10 user programs (11–20). Shown below is the COMP LCD function. Setup parameters appear in the top part of the display. Programs are listed in the center and the name of the program last recalled or stored is highlighted. Also there is an equal symbol (=) between the program's name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the program list. When another program is selected, its name flashes. If it is recalled, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



## Dynamics Processors and Mix Scenes

Dynamics processor settings are stored in mix scenes, so you can instantly change processors just by recalling a mix scene. If you are using a controlling computer or MIDI sequencer, you can also record processor setting adjustments as MIDI Control Change messages. Your adjustments can then be replayed automatically. See “Control Change” on page 83 for more details. Note that mix scenes store only the current program names, numbers, and parameter settings for COMP1, COMP2, and COMP3. They do not store the entire dynamics processor library of 20 programs.

1. Press [COMP] repeatedly to select a processor: 1, 2, or 3.

*The COMP LCD function appears. If you didn't exit after your last COMP edit, the COMP EDIT LCD function appears instead.*

2. Select EDIT and press [ENTER].

*The COMP EDIT LCD function appears.*

3. Use the [▲] [▼] cursor buttons to select parameters and the PARAMETER wheel to set them.

*You can go to another LCD function and return to the COMP EDIT LCD function at any time.*

4. When you've finished editing, select EXIT and press [ENTER], or simply press [ENTER] twice.

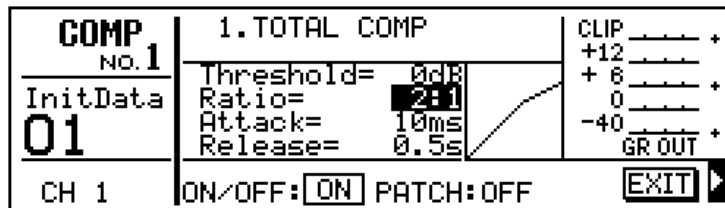
*To name and store the program, see "Storing a Dynamics Program" on page 77.*

## Editing a Dynamics Program

You can edit all dynamics programs, however, you can store only to user locations. So if you edit a preset program, you must store it as a user program.

A typical edit display is shown below. The name and number of the program are shown at the top, and the dynamics parameters are shown in the center. The cursor buttons are used to scroll through the parameters and the PARAMETER wheel is used to set them. The gain graph to the right of the parameter list shows how the output signal level (vertical) changes relative to the input signal level (horizontal). This is affected by the Threshold, Ratio, and Range parameters.

The ON/OFF parameter at the bottom of the display allows you to turn the selected dynamics processor ON and OFF. This parameter is the same as the ON/OFF parameter that appears on the COMP LCD function. The PATCH parameter indicates which channel the selected dynamics processor is patched to. This parameter is set on the COMP LCD function.



See "Preset Dynamics Processor Parameters" on page 78 for a detailed listing of dynamics parameters, their ranges, and the preset program settings.

## Storing a Dynamics Program

1. Press [COMP] repeatedly to select a processor: 1, 2, or 3.

*The COMP LCD function appears. If you didn't exit after your last COMP edit, the COMP EDIT LCD function appears instead.*

2. Select STORE.
3. Use the PARAMETER wheel to select a program and press [ENTER].

*The COMP NAME LCD function appears.*

4. Use the [◀] [▶] cursor buttons and PARAMETER wheel to name the program.

*If you want to cancel the store operation, select CANCEL and press [ENTER].*

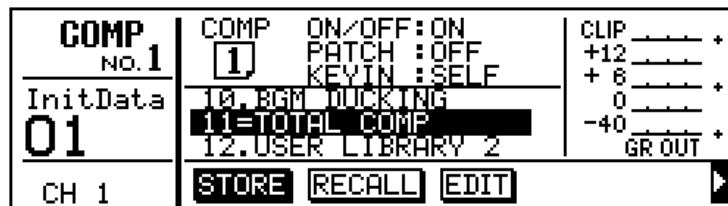
5. Press [STORE] to store.

*The program is stored.*

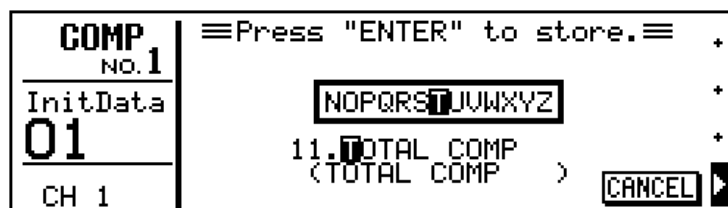
! By recalling a program and then storing it to another location, you can copy and reorganize your dynamics programs.

There are 10 user dynamics programs (11–20) for you to store your own settings. When STORE is selected on the COMP LCD function, user program 11, the first user program, is selected automatically. You cannot select preset programs 1 through 10 while the STORE option is selected. User programs can be named for easy identification.

Shown below is the COMP LCD function. Dynamics setup parameters appear in the top part of the display. Programs are listed in the center and the name of the program last recalled or stored is highlighted. Also there is an equal symbol (=) between the program's name and number, not a period like the other programs. The PARAMETER wheel is used to scroll through the program list. When another program is selected, its name flashes. If it is stored, it stops flashing, appears highlighted, and the period between its name and number changes to an equal symbol (=).



Shown below is the COMP NAME LCD function that appears when [ENTER] is pressed in step 2. The type of dynamics processor used in the program is shown in parenthesis. The program name and number are shown above that. The selected character in the name is highlighted. Available characters scroll through the box in the center. Use the cursor buttons to position the cursor in the name, and the PARAMETER wheel to scroll through the characters.



Dynamics program names can be up to 15 characters long and the following characters are available.

```

ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
()[]{}<>#%&@!/?+~*^/_=|;:~!~"~'~`~^
0123456789

```

Spaces are available between the above character rows.

## Preset Dynamics Processor Parameters

| Type | Program # | Program Name | Description  | Parameters  |         |         |            |             |
|------|-----------|--------------|--|-------------|---------|---------|------------|-------------|
|      |           |              |  | Threshold   | Ratio   | Attack  | Release    | Out Gain    |
|      |           |              |  | -40...+18dB | 1:1-∞:1 | 0-120ms | 0.1-6.0s   | -18...+18dB |
| Comp | 1         | TOTAL COMP   | Typical mix compression for adding punch and definition.                       | 0dB         | 2:1     | 50ms    | 3.0s       | +1dB        |
|      | 2         | RADIO COMP   | Typical FM radio compression.  | +6dB        | 4:1     | 18ms    | 5.0s       | +3dB        |
|      | 3         | COMP FAST    | Fast attack compression to catch all signal transients.                        | +2dB        | 4:1     | 5ms     | 2.5s       | +3dB        |
|      | 4         | COMP SLOW    | Slow attack compression to allow signal transients to pass through unaffected. | -2dB        | 4:1     | 70ms    | 5.0s       | +1dB        |
|      | 5         | COMP HEAVY1  | Strong signal limiting.  | -3dB        | 10:1    | 14ms    | 0.5s       | +2dB        |
|      | 6         | COMP HEAVY2  | Medium signal limiting.  | 0dB         | 6:1     | 18ms    | 1.5s       | +3dB        |
|      |           |              |  | Threshold   | Attack  | Hold    | Decay      | Range       |
|      |           |              |  | -50...+10dB | 0-120ms | 3-341ms | 85ms-10.9s | 0...-80dB   |
| Gate | 7         | GATE FAST    | Quick close noise gate.  | -6dB        | 1ms     | 101ms   | 1.3s       | -20dB       |
|      | 8         | GATE SLOW    | Slow close noise gate.   | -2dB        | 5ms     | 315ms   | 8.2s       | -25dB       |
|      |           |              |  | Threshold   | Attack  | Hold    | Decay      | Range       |
|      |           |              |  | -50...+10dB | 0-120ms | 3-341ms | 85ms-10.9s | 0...-80dB   |
| Duck | 9         | DUCKING      | Typical signal ducking   | -8dB        | 9ms     | 296ms   | 6.5s       | -9dB        |
|      | 10        | BGM DUCKING  | Ducking for background music voice-overs.                                      | -18dB       | 9ms     | 341ms   | 10.9s      | -14dB       |

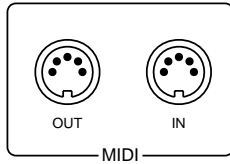
# 9

## MIDI

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## MIDI and ProMix 01

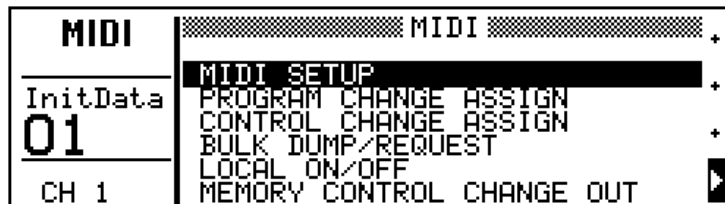
The true power of ProMix 01 can be realized with MIDI. Used in conjunction with a controlling computer or MIDI sequencer, mix scenes can be recalled automatically, providing *snapshot* mix automation. In addition, all mix parameters can be controlled in real time, providing *dynamic* mix automation. Various data, including mix scenes and the Edit Buffer, can be stored to a computer or MIDI data file. ProMix 01 uses the following MIDI messages:

- Program Change — to recall mix scenes.
- Control Change — to control mix parameters in real time.
- Bulk Dump (System Exclusive) — to store data.

MIDI connections are made using standard MIDI IN and OUT type connectors. Although there is no dedicated MIDI THRU connection, the same result can be achieved using the ECHO function, which appears on the MIDI SETUP LCD function. When set to ON, Program Change and Control Change messages received at MIDI IN are fed directly through to MIDI OUT.

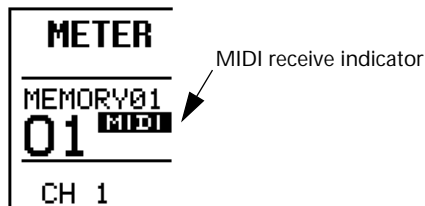
### MIDI Menu

MIDI LCD functions are accessed through the MIDI menu, shown below. The MIDI menu appears when the [MIDI] button is pressed. There are six MIDI related LCD functions available. These are explained in the following sections.



### MIDI Indicator

When ProMix 01 is receiving MIDI data, the MIDI indicator appears in the Memory area of the display.





## MIDI Setup

1. Press [MIDI].

*The MIDI menu appears.*

2. Select MIDI SETUP and press [ENTER].

*The MIDI SETUP LCD function appears.*

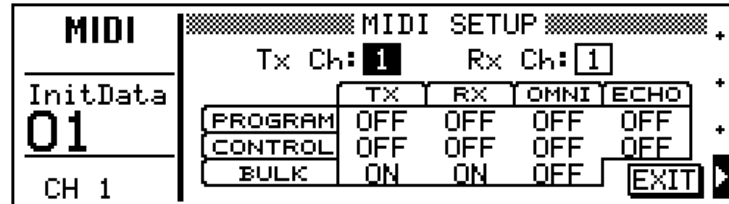
3. Use the cursor buttons to select parameters and the PARAMETER wheel to set them.

*Tx, Rx, OMNI, and ECHO parameters can also be set using [ENTER].*

4. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].

*The MIDI menu reappears.*

The MIDI SETUP LCD function shown below is used to set basic MIDI parameters.



The parameters are:

**Tx Ch** — this determines which MIDI Channel ProMix 01 uses to transmit Program Change, Control Change, and Bulk Dump messages. MIDI Channels 1 through 16 can be selected.

**Rx Ch** — this determines which MIDI Channel ProMix 01 uses to receive Program Change, Control Change, and Bulk Dump messages. MIDI Channels 1 through 16 can be selected.

*Note: In Channel mode, Control Changes are transmitted and received on several MIDI Channels. See “Control Change” on page 83.*

The following parameters can be set independently for Program Change (PROGRAM), Control Change (CONTROL), and Bulk Dump (BULK).

**Tx** — this determines whether ProMix 01 transmits MIDI data. When set to ON, MIDI data is transmitted as normal. When set to OFF, no MIDI data is transmitted.

**Rx** — this determines whether ProMix 01 receives MIDI data. When set to ON, MIDI data is received as normal. When set to OFF, received MIDI data is ignored.

**OMNI** — this determines whether ProMix 01 receives MIDI data on all MIDI Channels. When set to OFF, MIDI data is received on the MIDI Channels specified using Rx Ch. When set to ON, however, MIDI data is received on all MIDI Channels, regardless of Rx Ch settings.

**ECHO** — this determines whether MIDI data received at MIDI IN is echoed through to MIDI OUT. When set to OFF, data is not echoed. When set to ON, it is echoed.

## Program Change

1. Press [MIDI].  
*The MIDI menu appears.*
2. Select PROGRAM CHANGE ASSIGN and press [ENTER].  
*The PROGRAM CHANGE ASSIGN LCD function appears.*
3. Use the cursor buttons to select Program Changes (PGM) and the PARAMETER wheel to assign mix scenes (MEM).
4. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].  
*The MIDI menu reappears.*

! Remember to set the relevant parameters on the MIDI SETUP LCD function before trying to transmit or receive Program Changes.

MIDI Program Change messages are used to recall ProMix 01 mix scenes, providing *snapshot* mix automation. When a mix scene is recalled using the [RECALL] button, a Program Change message is output. This allows for simultaneous mix scene recall on multiple ProMix 01s. It can also be used to recall data on other MIDI devices. Such as an effects program on an external effects processor, or a voice on a synthesizer. Recalling mix scene #10, for example, could be used to recall voice #10 on a synthesizer. Mix scenes can also be recalled by transmitting Program Change messages from other MIDI devices. For example, most synthesizers are set to transmit a Program Change message when a voice is selected. This could be used to recall the corresponding mix scene on ProMix 01. So with just one button press, your mixer, synthesizer, and other MIDI devices are instantly ready for the next song. You can also use a MIDI footswitch.

Program Change messages really come into their own when used with a controlling computer or MIDI sequencer. For example, with your MIDI sequencer in record, [RECALL] button presses are recorded along with your song data. During playback, mix scenes are then recalled automatically. You can also edit and enter Program Changes in songs using your sequencer's edit functions.

Initially, mix scenes 1 through 50 are assigned to Program Changes 1 through 50. Mix scene 00 is assigned to Program Change 128. You can, however, change these assignments using the PROGRAM CHANGE ASSIGN LCD function. A Mix scene to Program Change Assignment table is provided in the Additions section of this *User's Guide*.

Shown below is the PROGRAM CHANGE ASSIGN LCD function. Program Changes are listed in three columns. The mix scene (MEM) assigned to the selected Program Change (PGM) is highlighted. "--" means no assign.

| MIDI     |  | PROGRAM CHANGE ASSIGN |     |     |     |     |     |     |     |       |      |
|----------|--|-----------------------|-----|-----|-----|-----|-----|-----|-----|-------|------|
| InitData |  | PGM                   | MEM | PGM | MEM | PGM | MEM | PGM | MEM | PGM   | MEM  |
| 01       |  | 1 =                   | 01  | 2 = | 02  | 3 = | 03  | 4 = | 04  | 5 =   | [05] |
| CH 1     |  | 7 =                   | 07  | 8 = | 08  | 9 = | 09  |     |     |       |      |
|          |  |                       |     |     |     |     |     |     |     | RESET | EXIT |

To reset these assignments to their initial values, select RESET and press [ENTER]. An "Are you sure" message appears. Select YES to reset, NO to cancel, then press [ENTER] again.

Mix scene to Program Change assignments can be stored using MIDI Bulk Dump. See "Bulk Dump/Request" on page 85.

## Control Change

1. Press [MIDI].  
*The MIDI menu appears.*
2. Select CONTROL CHANGE ASSIGN and press [ENTER].  
*The CONTROL CHANGE ASSIGN LCD function appears.*
3. With the cursor in the No./NAME column, use the PARAMETER wheel to scroll through the ProMix 01 parameters.
4. Use the cursor buttons to select the Bank and Control Change (No.) columns and the PARAMETER wheel to set them.
5. When the Bank or Control Change (No.) column is selected, the [▲][▼] cursor buttons can be used to select ProMix 01 parameters.
6. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].  
*The MIDI menu reappears.*

In conjunction with a controlling computer or MIDI sequencer, MIDI Control Change messages are used to control ProMix 01 mix parameters in real time, providing *dynamic* mix automation. When a ProMix 01 mix setting is adjusted, a Control Change message is output. If this message is recorded to computer or MIDI sequencer, during playback your mix adjustments can be replayed automatically.

ProMix 01 mix settings can also be controlled by transmitting Control Changes from other MIDI devices, using, for example, the assignable sliders on a synthesizer. This allows you to control ProMix 01 from your synthesizer, or any other device that transmits Control Changes.

There are 531 controllable mix parameters, 0 through 530, and 1,536 Control Changes, divided into 16 banks of 96. All parameters are initially assigned to Control Changes. However, you can change these using the CONTROL CHANGE ASSIGN LCD function. The Control Change to Parameter Assignment table in the Additions section of this *User's Guide* lists the initial assignments.

Shown below is the CONTROL CHANGE ASSIGN LCD function. The PARAMETER wheel is used to scroll through the parameters, and the selected parameter is highlighted. In the Control Change Bank and No. columns, "--" means no assign.

| MIDI     |               | CONTROL CHANGE ASSIGN |       |      |  |
|----------|---------------|-----------------------|-------|------|--|
| NO.      | NAME          | BANK                  | NO.   |      |  |
| InitData | 0 CH 1 Level  | 0                     | 0     |      |  |
| 01       | 1 CH 2 Level  | [ 0 ]                 | [ 1 ] |      |  |
|          | 2 CH 3 Level  | 0                     | 2     |      |  |
| CH 1     | MODE: CHANNEL |                       | RESET | EXIT |  |

The MODE option sets the mode: Channel or Register.

**Channel** — each bank of Control Changes uses a separate MIDI Channel. The MIDI Channel used depends on the Tx Ch parameter on the MIDI SETUP LCD function and is determined as follows:

$$\text{MIDI Channel} = \text{Tx Ch} + \text{bank number}$$

! Remember to set the relevant parameters on the MIDI SETUP LCD function before trying to transmit or receive Control Changes.

So, for example, when Tx Ch is set to 1, bank 0 data uses MIDI Channel 1 (1 + 0 = 1) and bank 5 data uses MIDI Channel 6 (5 + 1 = 6). When Tx Ch is set to 7, bank 0 data uses MIDI Channel 7 (7 + 0 = 7) and bank 5 data uses MIDI Channel 12 (5 + 7 = 12). If the result is higher than 16, start again from 1. For example, a value of 19 is MIDI Channel 3.

The Control Change (CONTROL) OMNI parameter on the MIDI SETUP LCD function is ignored in Channel mode.

**Register** — all Control Changes use the Tx Ch MIDI Channel, and Control Change #98 (Non-Registered Parameter LSB) is used to specify banks.

To reset the Control Change assignments to their initial values, select RESET and press [ENTER]. An “Are your sure” message appears. Select YES to reset, NO to cancel, then press [ENTER] again.

If several parameters are assigned to the same Control Change in the same bank, the lowest numbered parameter is controlled when that Control Change is received. When any one of the parameters is adjusted, the assigned Control Change is output as normal.

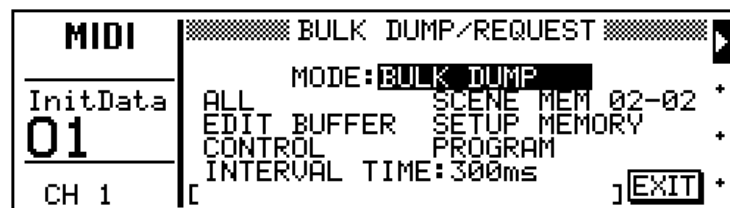
## Bulk Dump/Request

1. Press [MIDI].  
*The MIDI menu appears.*
2. Select BULK DUMP REQUEST and press [ENTER].  
*The BULK DUMP REQUEST LCD function appears.*
3. Select MODE and press [ENTER] or use the PARAMETER wheel to select BULK DUMP or BULK REQUEST.
4. Use the cursor buttons to select a data type. Use the PARAMETER wheel to select mix scenes.
5. Press [ENTER] to execute the dump or request.  
*A message appears showing dump or request status.*
6. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].  
*The MIDI menu reappears.*

! Remember to set the relevant BULK parameters on the MIDI SETUP LCD function before trying to transmit or receive Bulk Dump data.

The BULK DUMP/REQUEST LCD function has two operating modes: Bulk Dump and Bulk Request. Bulk Dump outputs the selected data as MIDI Bulk Dump data. This is used to store ProMix 01 data to a controlling computer, MIDI sequencer, or MIDI data filer. Bulk Request, on the other hand, outputs a Bulk Request message requesting the selected data. The controlling computer that receives this message responds by transmitting the requested data. The Dump and Request functions can also be used to exchange data between ProMix 01s in a multiple system.

Shown below is the BULK DUMP/REQUEST LCD function.



The parameters are:

**MODE** — this determines the mode: Bulk Dump or Bulk Request. When Bulk Dump is selected, the selected data is output as MIDI Bulk Dump. When Bulk Request is selected, a Bulk Request message requesting the selected data is output.

**ALL** — this is all ProMix 01 data.

**SCENE** — this is mix scene data. You can select all mix scenes (01–50), just one (10–10), or a range (05–15).

**EDIT BUFFER** — this is the Edit Buffer data. For more details about this and other data types, see “Data Types” on page 98.

**SETUP MEMORY** — this is the Setup Memory data.

**CONTROL** — this is the Control Change to Parameter Assignment table data.

**PROGRAM** — this is the Mix Scene to Program Change Assignment table data.

**INTERVAL TIME** — this determines the interval between MIDI data blocks. MIDI devices with a relatively small MIDI buffer sometimes require longer intervals. Refer to your MIDI device’s user manuals to see what interval is recommended. For data transfer between ProMix 01s, use the 300ms setting.

While Bulk Dump or Bulk Request is in progress, the name of the data being output or requested is shown at the bottom of the display.

To cancel Bulk Dump, press a cursor button or select another LCD function.

1. Press [MIDI].  
*The MIDI menu appears.*
2. Select LOCAL ON/OFF and press [ENTER].  
*The LOCAL ON/OFF LCD function appears.*
3. Press [ENTER] or use the PARAMETER wheel to turn LOCAL ON/OFF ON and OFF.
4. Use the cursor buttons to select the LOCAL ON/OFF parameter and the [ENTER] button to set it.
5. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].

*The MIDI menu reappears.*

**!** Make sure that PROGRAM Tx and CONTROL Tx are set to ON. Otherwise, Control Change and Program Change messages are not output. Go to the MIDI SETUP LCD function.

## Local ON/OFF

The LOCAL ON/OFF LCD function allows you to use the ProMix 01 faders and CH1–16 [SEL] buttons to control another ProMix 01, or a MIDI device that responds to MIDI Control Change and Program Change messages. This is similar to the Local ON/OFF function of a synthesizer, where the keyboard is disconnected from the tone generator so that both parts can be used independently. Using the ProMix 01 faders you could, for example, control parameters on a synthesizer or effects processor. The ProMix 01 [SEL] buttons could be used to select voices, programs, patches, etc., on a MIDI device.

Shown below is the LOCAL ON/OFF LCD function. Faders are listed in two boxed rows. Each box contains the fader's number and its current position, specified as a hexadecimal MIDI value.

| MIDI     |  | LOCAL ON/OFF     |    |    |    |    |    |    |    |
|----------|--|------------------|----|----|----|----|----|----|----|
| InitData |  | LOCAL ON/OFF: ON |    |    |    |    |    |    |    |
| 01       |  | 1                | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
|          |  | 00               | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| CH 1     |  | 9                | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|          |  | 00               | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
|          |  | EXIT             |    |    |    |    |    |    |    |

**LOCAL ON/OFF** — this turns the Local function ON and OFF. When set to ON, the faders and [SEL] buttons control the ProMix 01 as normal. When set to OFF, the faders and [SEL] buttons do not control the ProMix 01 (i.e. Edit Buffer). When a fader is moved, a Control Change message is output, and when a CH1–16 [SEL] button is pressed, a Program Change message is output. The message “Program Change Transmitted” appears when a [SEL] button is pressed. The ST IN, RTN/SEND, and ST OUT faders are set to minimum automatically.

When Local is set to OFF, ProMix 01 can still be controlled by another device using Control Change messages. The Control Change to Parameter Assignment table in the Additions section of this *User's Guide* lists the initial parameter assignments.

**Note:** Local OFF is effective only when the MIDI LOCAL ON/OFF LCD function is selected. When another LCD function is selected, the faders and [SEL] buttons control the ProMix 01 as normal.

Once the LOCAL ON/OFF parameter has been set to OFF, you can toggle between Local Off mode and normal operation very quickly. Simply press a function button to go to another LCD function. Then, to return to Local Off mode, just press the [MIDI] button.

When ProMix 01 is powered ON, Local ON/OFF is set to ON automatically.

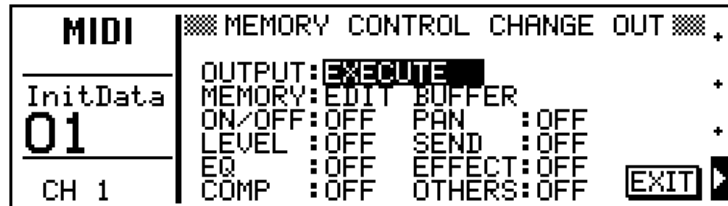
## Memory Control Change Out

1. Press [MIDI].  
*The MIDI menu appears.*
2. Select MEMORY CONTROL CHANGE OUT and press [ENTER].  
*The MEMORY CONTROL CHANGE OUT LCD function appears.*
3. Use the cursor buttons to select parameters and the PARAMETER wheel and [ENTER] button to set them.
4. Select OUTPUT:EXECUTE and press [ENTER].  
*The selected data is output and the message "EXECUTING" appears. The message changes to "...DONE" when finished.*
5. To exit this function and return to the MIDI menu, select EXIT and press [ENTER], or just press [MIDI].  
*The MIDI menu reappears.*

**!** Make sure that Control Tx is set to ON before trying to output mix scene data. Go to the MIDI SETUP LCD function.

The MEMORY CONTROL CHANGE OUT LCD function allows you to selectively output mix scene data as MIDI Control Change messages. This can be used to selectively update mix scene data on another ProMix 01 or a controlling computer.

Shown below is the MEMORY CONTROL CHANGE OUT LCD function.



OUTPUT: EXECUTE — this executes Control Change Out.

The following data types can be selected:

|        |  |
|--------|--|
| MEMORY | This selects the mix scene whose data is output. You can also select the Edit Buffer (i.e. current mix settings).  |
| ON/OFF | CH1-16, ST IN, RTN1, RTN2, SEND3, SEND4, ST OUT ON/OFF (# 22-43).  |
| LEVEL  | CH1-16, ST IN, RTN1, RTN2, SEND3, SEND4, ST OUT level (#0-21).   |
| EQ     | CH1-16, ST IN, RTN1, RTN2, ST OUT EQ ON/OFF (#196-215).<br>CH1-16, ST IN, RTN1, RTN2, ST OUT EQ F/G/Q (#216-395).  |
| COMP   | COMP1-3 ON/OFF (#458-460).<br>COMP1-3 # (#446-448).<br>COMP1-3 PATCH Channel (#449-451).<br>COMP1-3 KEYIN Channel (#452-454).<br>COMP1-3 KEYIN Mode (#455-457).<br>COMP1-3 Parameter 1-(5) (#461-475). The number of parameters depends on the program selected. |
| PAN    | CH1-16, ST IN L-R, RTN1 L-R, RTN2 L-R, SEND3, SEND4, ST OUT Pan, Balance (# 44-67).<br>CH1-16, ST IN SEND3-4 Pan, Balance (# 140-156).   |
| SEND   | SEND1, SEND2, SEND3, SEND4 Pre/Post (# 136-139).<br>CH1-16, ST IN, SEND1, SEND2, SEND3, SEND4 Level (# 68-135).  |
| EFFECT | Effect1, Effect2 Type (# 404-405).<br>Effect1, Effect2 Parameter 1-(10) (# 406-445). The number of parameters depends on the program selected.   |
| OTHERS | CH1-16, ST IN Phase Normal/Reverse (# 179-195).<br>CH1-16, ST IN Group (# 484-500).  |

The following data is output with each of the above data types: CH1-16 Stereo Pair Flag (# 396-406) and SEND3, 4 Configuration Flag (# 476).





# 10

## Other Functions

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## Using the Oscillator

1. Press [UTILITY].  
*The UTILITY menu appears.*
2. Select OSCILLATOR and press [ENTER].  
*The OSCILLATOR LCD function appears.*
3. Assign the oscillator.
4. Turn the OSC ON.
5. Set the frequency (FREQ).
6. Set the level.
7. To exit this function and return to the UTILITY menu, select EXIT and press [ENTER], or just press [UTILITY].  
*The UTILITY menu reappears.*

ProMix 01 features a useful sine wave oscillator that can be assigned to SEND3, SEND4, and the stereo output. Since it's digital, it is highly accurate and produces a very clean sine wave. It can also produce pink noise. You can use it when setting recording levels on multitrack, two track, cassette, and DAT recorders. It's also useful for system troubleshooting and other studio tasks.

*Note: Before turning the oscillator ON, it's a good idea to set the SEND3, SEND4, or ST OUT faders to a minimal level. This will prevent any sudden tone burst surprises in your monitors or foldback headphones.*

Shown below is the OSCILLATOR LCD function. Oscillator parameters appear to the left of the LEVEL fader, and level meters for SEND3, SEND4, and ST OUT to the right.



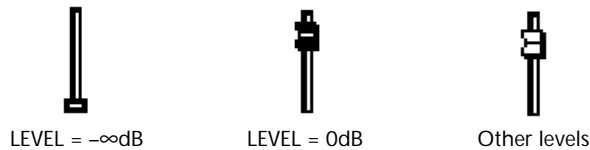
The parameters are:

**ASSIGN** — use these parameters to assign the oscillator to SEND3, SEND4, and the stereo output (ST OUT).

**OSC** — use this parameter to turn the oscillator ON and OFF. This is automatically set to OFF when another LCD function is selected.

**FREQ** — use this parameter to select a sine wave frequency: 100Hz, 1kHz, 10kHz, or PINK noise.

**LEVEL** — use this parameter to set the oscillator level. The fader graphic indicates the level setting. The fader knob changes, too.



## Checking the Battery

1. Press [UTILITY].

*The UTILITY menu appears.*

2. Select BATTERY CHECK and press [ENTER].

*The BATTERY CHECK LCD function appears.*

3. To exit this function and return to the UTILITY menu, select EXIT and press [ENTER], or just press [UTILITY].

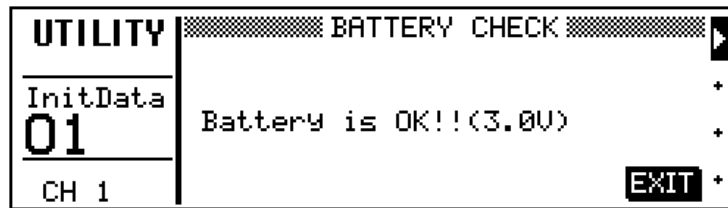
*The UTILITY menu reappears.*

ProMix 01 uses a long-life battery to backup its RAM memory. The battery should last for up to five years, and you can check its condition using the BATTERY CHECK function.

If the BATTERY CHECK function indicates that the battery needs replacing, please contact your Yamaha dealer.

**Important:** *Do not try to replace the battery yourself.*

Shown below is the BATTERY CHECK LCD function.



Possible messages are:

**Battery is OK!!** — battery is OK.

**Warning! Low battery** — battery power is getting low. Ask your Yamaha dealer to install a new battery.

**Warning! No battery** — no battery is installed. Ask your Yamaha dealer to install a new battery.

1. Power OFF ProMix 01.
2. Press and hold down [STORE] and [INC+].
3. Power ON ProMix 01.  
*The message “Initializing Memory” appears.*
4. When the “Initializing Memory” message disappears, release the buttons.  
*When the faders return to their minimum positions, initialization is complete.*

## ProMix 01 Initialization

This function allows you to reset all ProMix 01 mix settings, mix scenes, user effects programs, user EQ programs, and user dynamics programs to their initial settings (i.e. their factory settings).

**Note:** *If you want to reset just the mix settings, recall mix scene 00 instead. See “Mix Scene 00” on page 62.*

Initialization consists of:

- Clearing all user RAM areas: mix scenes, user effects programs, user EQ programs, and user dynamics programs.
- Initializing the Edit Buffer (i.e. all mix settings).
- Initializing the Mix Scene to Program Change table.
- Initializing the Control Change to Parameter Assignment table.
- Copying mix scene 00 to mix scenes 1 through 50.
- Initializing the I/O ports.
- Calibrating the faders (don’t worry about the noise).
- Refreshing the LCD.
- Resetting.

## Fader Calibration

If ProMix 01 is not used for some time, is moved to a new location, or the faders are obstructed in some way, fader movements may become irregular. In this case the faders need calibrating. This calculates the torque required by each fader motor to drive its fader accurately and smoothly. Fader calibration takes about 30 seconds, and the message “Calibrating Faders” is shown while it’s in progress.

**Note:** *Do not touch or obstruct the faders while calibration is in progress. If you do so accidentally, calibrate the faders again.*

1. Power OFF ProMix 01.
2. Press and hold down [ENTER].
3. Power ON ProMix 01.  
*The faders are calibrated.*  
*When the faders return to their previous positions, calibration is complete.*

# Troubleshooting

| Trouble   | Remedy   |
|---|--|
| ProMix 01 cannot be powered ON.   | Make sure that the ProMix 01 power cable is connected to an AC receptacle of the type marked on the rear panel.  |
|   | Make sure that the POWER switch is in the ON position.   |
|   | If installed, check the mains plug fuse.   |
| The signal phase sounds odd.  | Make sure that the PHASE LCD function is set correctly.  |
|   | Make sure that your balanced cables are wired correctly.   |
| The input signal sounds distorted but the level looks OK on the METER LCD function. | For signals at a relatively high level, applying a lot of EQ boost may cause signal distortion. Since the METER LCD function meters signals before the EQ, the signal level will still look OK. To remedy this, back off the GAIN control a little or reduce the amount of EQ boost. |
| Configured a stereo pair, but it sounds like it's in mono.                          | Make sure that the odd channel is panned hard-left and the even channel hard-right. When setting up the stereo pair, use the ST RESET option to set the pans automatically.  |
| Cannot control the channel-to-mix level using the faders.                           | Probably because one of the SEND LCD functions is selected. Select another LCD function to return the faders to their normal mode.   |
| On the display it says that a fader group is ON, yet it doesn't seem to work.       | This is because ON indicates that the Balance Adjust function in ON (i.e. the fader group is disabled temporarily). Switch the Balance Adjust function OFF.  |
| The signals connected to the 2TR IN inputs appear on the stereo input channel.      | This is normal when no plugs are inserted into the ST IN phone jacks. The 2TR IN signal is fed to the stereo input channel. When plugs are inserted into the ST IN phone jack inputs, however, this connection is broken.  |
| Cannot select preset effects programs 1 through 30.                                 | Probably because the STORE option is currently selected.   |
| Cannot select preset EQ programs 1 through 30.                                      | Probably because the STORE option is currently selected.   |
| The stereo outputs are clipping even though the CLIP LED is not lighting.           | When unbalanced connectors are connected to the STEREO OUT XLRs, their maximum output level is reduced by 6dB. This means that the STEREO OUT signal actually clips when the 12dB LED lights up. This is 8dB before the CLIP LED.  |
| Cannot patch a dynamics processor into a channel.                                   | Possibly because a dynamics processor is already patched into that channel.  |
| Cannot monitor via CUE.   | Make sure that the CUE/2TR IN switch is set to CUE, not 2TR IN.  |
| Cannot recall mix scenes using MIDI Program Changes.                                | Make sure that ProMix 01 is set to receive on the correct MIDI Channel and that Program Change receive is set to ON. Go to the MIDI SETUP LCD function.  |
|   | Make sure that the Mix Scene to Program Change assignments are correct.  |
| Cannot control mix settings using MIDI Control Changes.                             | Make sure that the correct mode is selected (i.e. Register or Channel) and that Control Change receive is set to ON. Go to the CONTROL CHANGE ASSIGN and MIDI SETUP LCD functions.   |
|   | Make sure that the Control Change to Parameter assignments are correct.  |
| Fader operation seems odd.  | Calibrate the faders.  |
| Fader movement is not smooth.   | Initially the faders may not move very smoothly. They will, however, get smoother as they are used. This is because they have an ageing, or run-in period. This does not affect the internal data, so ProMix 01 sonic performance is not affected.                                   |



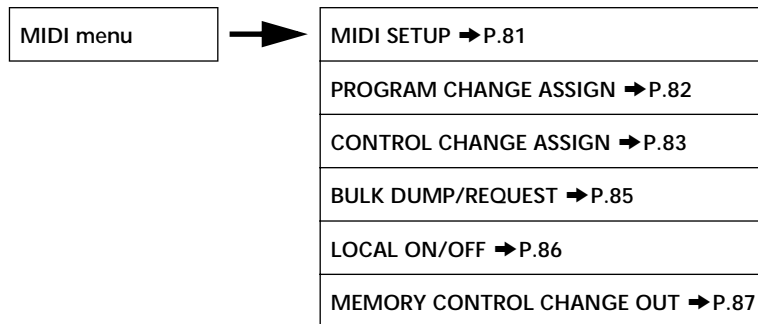
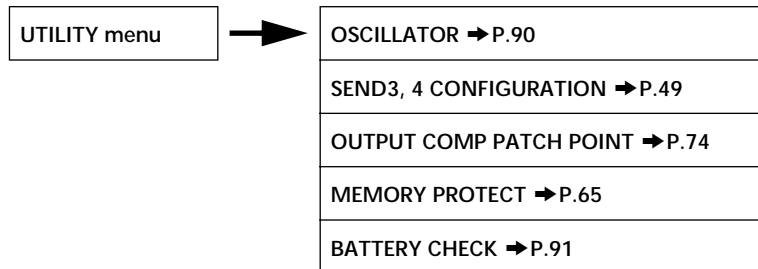
# Appendix

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## LCD Function Map

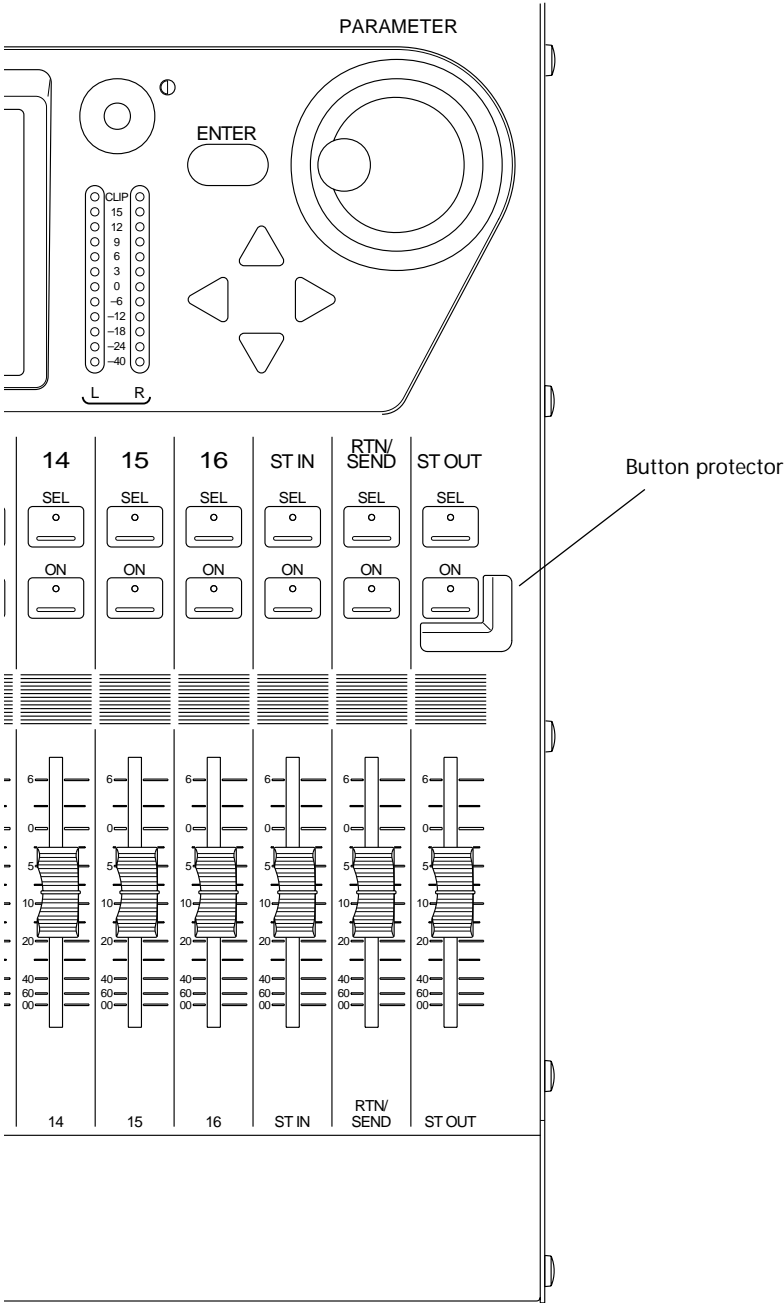


|                |
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# Button Protector

If you find that your hand accidentally presses the ST OUT [ON] button when operating the PARAMETER wheel, affix the self-adhesive Button Protector as shown below.



## Data Types

### Mix Scene Data

| Data                                     | Source   | Details   |
|--|--|---|
| Mix scene name                           |  | Eight characters  |
| ON/OFF buttons                           | CH1–16, ST IN, SEND3, SEND4, RTN1, RTN2, ST OUT                      | ON/OFF  |
| Phase settings                           | CH1–16, ST IN  | Normal/reverse  |
| EQ                                       | CH1–16, ST IN, RTN1, RTN2, ST OUT                                    | ON/OFF, frequency, gain, Q/shelf  |
| Pan                                      | CH1–16, ST IN, RTN1, RTN2. In SEND3-4 stereo mode: CH1–16-to-SEND3-4 | 33-position   |
| Balance                                  | ST OUT.<br>In SEND3-4 stereo mode: SEND3-4 output, ST IN-to-SEND3-4  | 33-position   |
| Fader                                    | CH1–16, ST IN, SEND3, SEND4, RTN1, RTN2, ST OUT                      | 128-position resolution   |
| SEND faders                              | CH1–16 and ST IN to SEND1, SEND2, SEND3, SEND4                       | 128-position resolution   |
| SEND Pre/Post                            | CH1–16, ST IN (all set together)                                     | Pre/post  |
| Channel pairs                            | CH1–16   | ON/OFF  |
| Group data                               | A, B, C, D   | CH1–16, ST IN   |
| Effects parameters                       | Effect1, Effect2   | Program numbers and 10 effects parameters from Effect1 and Effect2 (20 in total)      |
| Dynamics parameters                      | COMP1, COMP2, COMP3  | Patch point, ON/OFF, KEYIN, program numbers, and 5 parameters from each (15 in total) |
| SEND3, 4 config                          |  | Stereo/mono   |
| SEND3, SEND4 and STEREO COMP PATCH POINT |  | Post-fader/pre-fader  |

### Edit Buffer Data

Same as Mix Scene data.

### Control Data

This is the MIDI Control Change to ProMix 01 Parameter Assignment Table. See the Additions section at the end of this *User's Guide*.

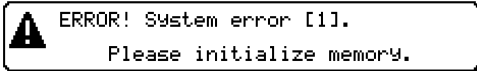
### Program Data

This is the ProMix 01 Mix Scene to MIDI Program Change Assignment Table. See the Additions section at the end of this *User's Guide*.

## Setup Memory Data

| MIDI Data                            | Details  |
|--------------------------------------|--|
| Tx channel                           | 1-16   |
| Rx channel                           | 1-16   |
| Control Change mode                  | Channel/register   |
| Control Change Tx                    | ON/OFF   |
| Control Change Rx                    | ON/OFF   |
| Control Change OMNI                  | ON/OFF   |
| Control Change ECHO                  | ON/OFF   |
| Program Change Tx                    | ON/OFF   |
| Program Change Rx                    | ON/OFF   |
| Program Change OMNI                  | ON/OFF   |
| Program Change ECHO                  | ON/OFF   |
| Bulk Tx                              | ON/OFF   |
| Bulk Rx                              | ON/OFF   |
| Bulk OMNI                            | ON/OFF   |
| MIDI Tx interval                     | 0-1sec (100ms steps)                                       |
| MIDI Local ON/OFF                    | ON/OFF   |
| MIDI Local fader levels              | CH1-16 fader positions                                     |
| Memory Control Change Out parameters | Memory, ON/OFF, Pan, Level, Send, EQ, Effect, Comp, Others |

## Error Messages



### ERROR! System Error[1]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

### ERROR! System Error[2]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

### ERROR! System Error[3]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

### ERROR! System Error[4]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

### ERROR! System Error[5]

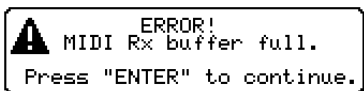
A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

### ERROR! System Error[6]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.

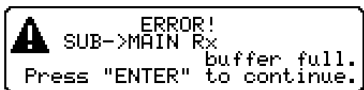
### ERROR! System Error[7]

A fatal error has occurred. Initialize ProMix 01. See “ProMix 01 Initialization” on page 92.



### MIDI Rx Buffer Full Error

A MIDI receive error has occurred. Reduce the transmission data.



### SUB->MAIN CPU Receive Buffer Full Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
MIDI Rx Parity error.
Press "ENTER" to continue.

```

### MIDI Parity Error

A MIDI receive error has occurred. Check the transmission data and connecting cable.

```

ERROR!
MIDI Rx framing error.
Press "ENTER" to continue.

```

### MIDI Framing Error

A MIDI receive error has occurred. Check the transmission data and connecting cable.

```

ERROR!
MIDI Rx over run.
Press "ENTER" to continue.

```

### MIDI Over Run Error

A MIDI receive error has occurred. Reduce the transmission data.

```

ERROR!
SUB->MAIN Rx
Parity error.
Press "ENTER" to continue.

```

### SUB->MAIN CPU Parity Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
SUB->MAIN Rx
framing error.
Press "ENTER" to continue.

```

### SUB->MAIN CPU Framing Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
SUB->MAIN Rx over run.
Press "ENTER" to continue.

```

### SUB->MAIN Over Run Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
MIDI Tx buffer full.
Press "ENTER" to continue.

```

### MIDI Transmit Buffer Full Error

A MIDI receive error has occurred. Reduce the transmission data.

```

ERROR!
MAIN->SUB Tx
buffer full.
Press "ENTER" to continue.

```

### MAIN->SUB CPU Transmit Buffer Full Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
MAIN->SUB Rx
buffer full.
Press "ENTER" to continue.

```

### MAIN->SUB CPU Receive Buffer Full Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
SUB->MAIN Tx
buffer full.
Press "ENTER" to continue.

```

### SUB->MAIN CPU Transmit Buffer Full Error

An error has occurred while receiving fader data from the CPU.

```

ERROR!
MAIN->SUB Rx
Parity error.
Press "ENTER" to continue.

```

### MAIN->SUB PUT Parity Error

An error has occurred while receiving fader data from the CPU.

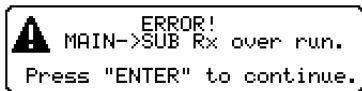
```

ERROR!
MAIN->SUB Rx
framing error.
Press "ENTER" to continue.

```

### MAIN->SUB Framing Error

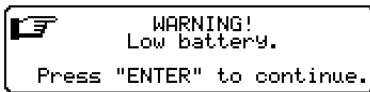
An error has occurred while receiving fader data from the CPU.

**MAIN->SUB Over Run Error**

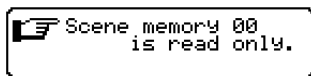
An error has occurred while receiving fader data from the CPU.

**WARNING! No battery.**

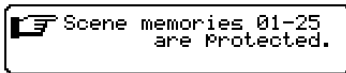
No battery is installed. Ask your Yamaha dealer to install one.

**WARNING! Low battery.**

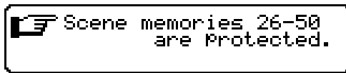
Battery power is getting low. Ask your Yamaha dealer to install a new battery.

**Scene memory 00 is read only.**

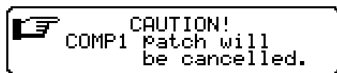
Mix scene 00 is read only. Select another mix scene.

**Scene memories 01-25 are protected.**

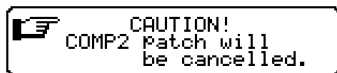
Scene memories 1 through 25 are protected. To store, first turn OFF the protection on the MEMORY PROTECT LCD function.

**Scene memories 26-50 are protected.**

Scene memories 26 through 50 are protected. To store, first turn OFF the protection on the MEMORY PROTECT LCD function.

**CAUTION! COMP1 patch will be cancelled.**

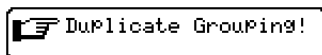
Due to a channel mode change, the COMP1 patch has been cancelled. Re-patch COMP1 when the channel mode has been set.

**CAUTION! COMP2 patch will be cancelled.**


Due to a channel mode change, the COMP2 patch has been cancelled. Re-patch COMP2 when the channel mode has been set.

**CAUTION! COMP3 patch will be cancelled.**


Due to a channel mode change, the COMP3 patch has been cancelled. Re-patch COMP3 when the channel mode has been set.

**Duplicate Grouping!**


This channel is already assigned to a group. To make a new group, first cancel that group.

 BULK Transmit(TX) OFF!**BULK Transmit(TX) OFF!**


Set BULK TX to ON on the MIDI SETUP LCD function, then try again.

 Control Change  
Transmit(TX) OFF!**Control Change Transmit(TX) OFF!**

Set CONTROL TX to ON on the MIDI SETUP LCD function, then try again.

 Parameter not assigned.**Parameter not assigned.**

A parameter not assigned to a Control Change was found when trying to transmit mix scene data. Assign the parameter to a Control change, then try again.

 This COMP is  
still in use.**This COMP is still in use.**

A COMP is patched into the selected channel. Cancel the COMP patch, then try again.

 BULK transmission will  
be cancelled.**BULK transmission will be cancelled.**

Bulk Dump transmission has been cancelled.

## ProMix 01 Compatible Products

### MFC1 MIDI Foot Controller

The MFC1 is a MIDI foot controller that can transmit MIDI Program Change messages. This could be used with ProMix 01 for recalling mix scenes. With the addition of an optional FC7 Foot Controller and footswitch, the MFC1 can also transmit MIDI Control Change messages, which could be used for real-time ProMix 01 parameter control.

### QX3 MIDI Sequencer

The QX3 is a dedicated 16-track MIDI sequencer. As well as recording MIDI data from musical instruments, it can be used to record ProMix 01 Program Change and Control Change messages for automated mixdowns.

### MDF2 MIDI Data Filer

The MDF2 MIDI Data Filer provides convenient MIDI data storage for ProMix 01. Data can be bulk dumped from the ProMix 01 to the MDF2 for storage, and recalled at anytime. The MDF2 also provides real-time MIDI recording and playback.

### MIDI Boxes (YME8, YMM2, YMC10)

The YME8 is a 1-in, 8-out MIDI expander box. It can also be used as a 2-in, 4-out expander. This type of MIDI distribution box minimizes MIDI delays, which can occur when MIDI devices' MIDI THRU connections are used. The YMM2 is a 2-in MIDI merge box. It can, for example, be used to merge the MIDI data from two MIDI controllers for connection to a MIDI sequencer with only one MIDI input. The YMC10 is an FSK to MIDI converter box. It provides an FSK type code for tape striping. During playback it converts that code into MIDI clock pulses for a MIDI sequencer or drum machine to sync to.

### DMC1000

The DMC1000 is an 8-input, 8-bus, 8-monitor digital mixing console, with 28-bit internal processing and full automation. The ProMix 01 can be used as a sub mixer to expand the number of DMC1000 channels. ProMix 01 can be connected directly to one of the DMC1000's CD/DAT format digital inputs.



## General Specifications

|  |                       |  |
|--|-----------------------|--|
| Frequency Response   |                       | 20 Hz–20 kHz +1, –3 dB (@ +4 dB into 600 Ω)  |
| THD  |                       | Less than 0.1% (20 Hz–20 kHz @ +14 dB into 600 Ω)                                  |
| Dynamic Range  |                       | 105dB typ. (ST IN to ST OUT AD/DA converters)                                      |
| Hum & Noise (20Hz–20kHz)*<br>Rs = 150 ohms. Input gain max.<br>Input pad = 0dB. Input sensitivity = –60dB. |                       | –128dB Equivalent Input Noise  |
|  |                       | –88dB residual stereo output noise (ST OUT = OFF)                                  |
|  |                       | –88dB (92dB S/N) stereo output (ST OUT fader nominal, CH faders min.)              |
|  |                       | –64dB (68dB S/N) (ST OUT fader nominal, 1 channel fader at nominal)                |
| Maximum Voltage Gain   |                       | 76dB input channel to stereo output  |
|  |                       | 76dB input channel to sends 3 & 4 (pre-fader)                                      |
|  |                       | 12dB stereo input to stereo output   |
|  |                       | 76dB input channel to monitor output (via ST bus)                                  |
| Crosstalk (@1kHz)  |                       | –70dB adjacent input channels  |
|  |                       | –70dB input to output  |
| Sampling Frequency   |                       | 48 kHz   |
| A/D Converter  |                       | 20-bit linear 64-times oversampling  |
| D/A Converter  | Stereo Out            | 20-bit linear 8-times oversampling   |
|  | Monitor out, SEND3, 4 | 18-bit linear 8-times oversampling   |
| Processing   | Internal              | 24-bit linear  |
|  | EQ                    | 36-bit linear  |
| Signal Delay   |                       | Less than 3.5ms (input channel to stereo output)                                   |
| GAIN control   |                       | 44dB (–60...–16dB) continuously variable   |
| PAD  |                       | 0/20dB attenuation   |
| PAN  |                       | 33-position  |
| Parametric EQ  | Low                   | F= 32 Hz–1 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, shelving   |
|  | Mid                   | F= 32 Hz–18 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct            |
|  | High                  | F= 1 kHz–18 kHz; G= ±15 dB; Q=1/6, 1/4, 1/3, 1/2, 3/4, 1, 3/2, 2, 3 oct, shelving  |
| Effects Types  |                       | Reverb, delay, chorus, symphonic, flange, pitch change, phasing, tremolo, auto pan |
| Compressor Types   |                       | Compressor, Gate, Ducking  |
| Faders   | Type                  | 60 mm motorized  |
|  | Resolution            | +6dB...–66dB, –∞dB (128 position)  |
| Memories   | Scenes                | 50   |
|  | Internal Effects      | 30 preset, 10 user   |
|  | EQ Presets            | 30 preset, 20 user   |
|  | COMP                  | 10 preset, 10 user   |
| LCD display  |                       | 240 x 64 dot backlit graphic LCD display   |
| Meters   |                       | 2 x 12-segment LED bars  |
| Power require-ments  | US & Canada model     | 120V AC, 60Hz  |
|  | General model         | 230V AC, 50Hz  |
|  | British model         | 240V AC, 50Hz  |
| Power Consumption  |                       | 70 W   |
| Weight   |                       | 12.5 kg (27.6 lb)  |
| Dimensions (W x H x D)   |                       | 435 x 124.7 x 487.4 mm (17.1" x 5" x 19.2")  |
| Free-air operating temperature range   |                       | 10°C–35°C (50°F–95°F)  |
| Supplied Accessories   |                       | Button protector   |
| Optional Extras  |                       | Rack-Mount kit (RK01)  |
|  |                       | Wooden side panels (W01SP)   |
|  |                       | Carrying case  |
|  |                       | Color fader knob set (FK8R, G, B, W, Y)  |

\* Hum & noise measured with a 6dB/octave 12.7kHz LPF, equivalent to a 20kHz filter with infinite dB/octave attenuation.

## Input Specifications

| Input connection     | PAD *4 | GAIN | Actual load impedance | For use with nominal                            | Input level            |                        |                   | Mixer connector        |
|----------------------|--------|------|-----------------------|---|------------------------|------------------------|-------------------|------------------------|
|                      |        |      |                       |   | Sensitivity *1         | Nominal                | Max. before clip  |                        |
| CH INPUT<br>CH1-CH8  | 0      | -60  | 3k $\Omega$           | 50-600 $\Omega$<br>mics &<br>600 $\Omega$ lines | -72dB<br>(194 $\mu$ V) | -60dB<br>(775 $\mu$ V) | -40dB<br>(7.75mV) | XLR-3-31 type *2       |
|                      | 0      | -16  |                       |   | -28dB<br>(30.9mV)      | -16dB<br>(123mV)       | +4dB<br>(1.23V)   |                        |
|                      | 20     |      |                       |   | -8dB<br>(309mV)        | +4dB<br>(1.23V)        | +24dB<br>(12.3V)  |                        |
| CH INPUT<br>CH9-CH16 | 0      | -60  | 10k $\Omega$          | 50-600 $\Omega$<br>mics &<br>600 $\Omega$ lines | -72dB<br>(194 $\mu$ V) | -60dB<br>(775 $\mu$ V) | -40dB<br>(7.75mV) | Phone jack (TRS)<br>*3 |
|                      | 0      | -16  |                       |   | -28dB<br>(30.9mV)      | -16dB<br>(123mV)       | +4dB<br>(1.23V)   |                        |
|                      | 20     |      |                       |   | -8dB<br>(309mV)        | +4dB<br>(1.23V)        | +24dB<br>(12.3V)  |                        |
| STEREO IN [L, R]     | —      | —    | 10k $\Omega$          | 600 $\Omega$ lines                              | -8dB<br>(309mV)        | +4dB<br>(1.23V)        | +24dB<br>(12.3V)  | Phone jack *4          |
| 2TR IN [L, R]        | —      | —    | 10k $\Omega$          | 600 $\Omega$ lines                              | -10dB<br>(245mV)       | -10dB<br>(245mV)       | +6dB<br>(1.55V)   | RCA/phono *5           |

\*1. Sensitivity is the lowest input level that will produce an output of +4dB (1.23V), the nominal output level when ProMix 01 is set to maximum gain (all level controls and faders set to maximum).

\*2. XLR-type connectors are balanced (1=GND, 2=HOT, 3=COLD).

\*3. MIC INPUT phone jacks are balanced (Tip=HOT, Ring=COLD, Sleeve=GND).

\*4. STEREO IN phone jacks are unbalanced.

\*5. 2TR IN RCA/phono jacks are unbalanced.

\*6. In these specifications, dB represents specific voltages. 0dB is referenced to 0.775 volts RMS.

## Output Specifications

| Output connection  | Actual source impedance | For use with nominal | Output level  |                  | Mixer connector      |
|--------------------|-------------------------|----------------------|---------------|------------------|----------------------|
|                    |                         |                      | Nominal       | Max. before clip |                      |
| ST OUT (L, R)      | 150 $\Omega$            | 600 $\Omega$ lines   | +4dB (1.23V)  | +24dB (12.3V)    | XLR-3-32 type *1     |
| REC OUT (L, R)     | 600 $\Omega$            | 10k $\Omega$ lines   | -10dB (245mV) | +10dB (2.45V)    | RCA/phono *2         |
| MONITOR OUT (L, R) | 600 $\Omega$            | 10k $\Omega$ lines   | +4dB (1.23V)  | +20dB (7.75V)    | Phone jack *2        |
| AUX SEND (3, 4)    | 600 $\Omega$            | 10k $\Omega$ lines   | +4dB (1.23V)  | +20dB (7.75V)    | Phone jack *2        |
| PHONES             | 100 $\Omega$            | 8 $\Omega$ phones    | 1 mW          | 25 mW            | Stereo phone jack *2 |
|                    |                         | 40 $\Omega$ phones   | 3 mW          | 110 mW           |                      |

\*1. Balanced connection (1=GND, 2=HOT, 3=COLD).

\*2. Unbalanced connection.

\* In these specifications, dB represents specific voltages. 0dB is referenced to 0.775 volts RMS.

## Digital OUT & MIDI Specifications

| Output connection     | Format | Level                 | Mixer connector |
|-----------------------|--------|-----------------------|-----------------|
| DIGITAL OUT (COAXIAL) | S/PDIF | 0.5Vpk-pk/75 $\Omega$ | RCA/phono       |
| MIDI IN               | MIDI   | —                     | 5-pin DIN       |
| MIDI OUT              | MIDI   | —                     | 5-pin DIN       |

## Digital Out Channel Status

|                |                        |
|----------------|------------------------|
| Format         | Consumer               |
| Category       | AD converter           |
| Copy Prohibit  | No                     |
| Emphasis       | No                     |
| Type           | 2 Channel audio signal |
| Clock Accuracy | Level 2 (300 ppm)      |

All specifications subject to change without notice.



# Glossary

---

**A/D converter** — An electronic device that converts analog signals into digital signals.

**Aliasing** — A type of signal distortion that occurs during A/D conversion if the sampling frequency is less than twice that of the highest audio frequency. A/D converters employ aliasing filters to filter out audio frequencies higher than half the sampling frequency. *See also* Nyquist Sampling Theorem.

**BGM (Background Music)** — Music played in the background as a backdrop to a main event. Can be used as an accompaniment, or to create a mood.

**Bulk Dump** — A ProMix 01 MIDI function that allows data transfer between ProMix 01s. Data is transmitted as MIDI System Exclusive.

**Bus** — In an audio mixer, a common conductor used to collect and distribute signals. The ProMix 01 has the following buses: SEND1, SEND2, SEND3, SEND4, ST, and CUE.

**IEC958 (Consumer)** — A digital interface format that is used to transfer digital audio data between consumer type digital audio equipment such as CD players, consumer DAT recorders, DCC, and Mini Disc recorders. Two channels of digital audio (left & right) are carried in one connection, usually a phono/RCA jack type connection. This format is often called S/PDIF (Sony/Phillips Digital Interface Format). ProMix 01 DIGITAL REC OUT uses this format.

**Channel mode** — The mode in which each bank of MIDI Control Change messages used to control ProMix 01 parameters are transmitted on individual MIDI channels.

**Confidence monitoring** — Monitoring directly from a recording medium to make sure that program material is being recorded correctly. On an analog tape recorder, signals are picked up by the playback head immediately after being recorded to tape by the record head. This allows for confidence monitoring. It is not possible on a tape recorder with combined record and play heads. A DAT must have 4 heads (inside one drum) for confidence monitoring.

**Control Change** — A type of MIDI message that offers real-time control. Typical Control Changes include Modulation, Volume, Pan, and Portamento. All ProMix 01 mix parameters can be controlled using MIDI Control Change messages

**D/A converter** — An electronic device that converts digital signals into analog signals.

**DSP (Digital Signal Processor)** — A chip designed specifically for processing large amounts of data at high speed in real time. This type of processor is ideal for handling digital audio data.

**Dynamic mix automation** — Mixdown automation where mix settings are adjusted in real time.

**Dynamic range** — The difference between the loudest and quietest signal levels in a system. In an audio device, usually the difference between the maximum output level and the residual noise floor. In a digital system, the available dynamic range is determined by the data resolution, about 6dB per digital bit. Hence, a 16-bit system theoretically provides a 96dB dynamic range.

**Edit Buffer** — The internal RAM area that stores the current ProMix 01 mix settings (i.e. the current mix scene). When a mix scene is stored, the Edit Buffer data is copied to the selected scene memory. When a mix scene is recalled, the data of the selected scene memory is copied back to the Edit Buffer.

**LCD function** — A ProMix 01 function that does not have dedicated hardware controls. LCD function parameters are selected on the LCD display and set using the PARAMETER wheel.

**LED (Light Emitting Diode)** — An electronic component that lights up when an electric current is applied. ProMix 01 [SEL] and [ON] buttons and stereo output meters use LEDs.

**MIDI** — An acronym for Musical Instrument Digital Interface. An internationally agreed standard that allows electronic musical instruments to communicate with each other.

**Mix scene** — A set of mixer settings at a particular point in a song. Just like a play, a piece of music consists of various scenes, each requiring different mixer settings. Mix scenes are stored in scene memories, and can be recalled using front panel buttons or MIDI Program Changes. These messages can be sent from a computer, MIDI foot-switch, keyboard, or sequencer. *See also* Scene Memory.

**Modulation** — in general audio, using an LFO (low frequency oscillator) to control a signal's frequency (pitch) or amplitude (level). The LFO frequency is set using modulation frequency parameters and the amount of LFO control is set using modulation depth parameters. Delay time and auto-pan speed parameters are also modulated.

**Nyquist Sampling Theorem** — This theorem states that the sampling frequency of a digital audio system must be at least twice that of the highest audio frequency, otherwise waveform distortion called aliasing will occur. *See also* Aliasing.

**Oversampling** — Sampling an audio signal at a rate higher than the normal sampling frequency. The net effect is that noise from quantization errors is reduced.

**PAM** — An abbreviation for Pulse Amplitude Modulation. In the first part of the A/D conversion, pulses occurring at the sampling frequency are modulated by an analog audio signal. *See also* PCM.

**Peaking** — A type of EQ circuit used to cut and boost a band of frequencies. It produces a mountain-peak type response curve. The width of the frequency band is controlled by the Q parameter. Mid-band EQ is usually of the peaking type. *Compare with* Shelving.

**PCM** — An abbreviation for Pulse Code Modulation. In the second part of the A/D conversion, the pulses derived using PAM are converted into binary data words using PCM. *See also* PAM.

**Q** — The unit used to measure an EQ circuit's selectivity. For high values the frequency band is narrow. For low values, it is wide. ProMix 01 Q is stated in musically intuitive octaves.

**Quantization** — The PCM process where PAM pulses are approximated to the nearest binary value available. In the ProMix 01 20-bit system, pulses can be approximated to any one of 1,048,576 binary values. That's four times more than a 16-bit CD system. These approximations can result in quantization errors (i.e. noise). However, this is reduced by oversampling, as featured on ProMix 01.

**Pink noise** — A type of random noise that contains an equal amount of energy per *octave*. The bands 100–200, 800–1600, and 3000–6000 all contain the same amount of energy. White noise, on the other hand, has an equal amount of energy per *frequency band*. That is, 100–200, 800–900, and 3000–3100.

**Program Change** — A type of MIDI message that is used to recall programs and patches. On the ProMix 01 they recall mix scenes.

**RAM (Random Access Read & Write Memory)** — A type of memory chip that stores data that can be edited, but requires a continuous electrical charge. ProMix 01 mix settings and mix scenes are stored in RAM. An internal backup battery provides the continuous charge. *Contrast with* ROM.

**Register mode** — The mode in which all MIDI Control Change messages used to control ProMix 01 parameters are transmitted on the same MIDI channel and MIDI Control Change 98 (Non Registered Parameter LSB) is used to identify banks.

**ROM (Read Only Memory)** — A type of memory chip that stores data that cannot be edited, but does not require a continuous electrical charge. The ProMix 01 operating system is stored in ROM. *Contrast with* RAM.

**Sampling frequency** — The number of times per second that an analog audio signal is sampled (measured) during A/D conversion. The value of each sample is stored as a data word. Once in the digital domain, the data usually remains at the same sampling frequency until final D/A conversion.

**Scene memory** — A ProMix 01 memory location used to store a mix scene. *See also* Mix scene.

**Shelving** — A type of EQ circuit used to cut and boost frequencies above or below a set frequency. It produces a shelf-looking response curve. High and low EQs are usually of the shelving type. ProMix 01 high and lows, however, can also be configured as peaking types.

*Compare with Peaking.*

**Snapshot** — *See* Mix scene.

**S/N (Signal to Noise ratio)** — In an audio system, the difference between the nominal signal level and the residual noise floor, usually expressed as a ratio in decibels.

**System Exclusive** — A type of MIDI message that is used to transmit data between MIDI devices exclusively. The ProMix 01 uses System Exclusive messages to transmit mix scene and setup data between ProMix 01s. *See also* Bulk Dump.

## Further Reading

If you want to know more about ProMix 01 related subjects, here are a few suggested books.

- *Practical Recording Techniques*, Bruce and Jenny Bartlett, Sams, 1992. A step-by-step guide to modern recording techniques.
- *Introducing Digital Audio*, Ian R Sinclair, second edition, PC Publishing, 1992. A good all-around introduction to digital audio for experienced analog users. Second edition explains oversampling and bitstream techniques.
- *Principles of Digital Audio*, Ken C. Pohlmann, Howard W.Sams & Co, 1989. Covering all aspects of digital audio, this book is ideal for the newcomer who wants to know the basics — plus a bit more.
- *The Art of digital Audio*, John Watkinson, Focal Press (Butterworth Group), 1990. An essential read for digital audio professionals — but only for the serious!
- *The MIDI Ins, Outs & Thrus*, Jeff Rona, Hal Leonard Publishing, 1992. An excellent introduction to MIDI with many illustrations for easy understanding.
- *MIDI Systems & Control*, Francis Rumsey, second edition, Focal Press, 1994. Covers all MIDI topics in detail and looks at how MIDI can be used to control systems (i.e. digital mixers, synths).
- *Yamaha Sound Reinforcement Handbook*, Gary Davis and Ralph Jones, second edition, Hal Leonard Publishing Corporation, 1990. Although primarily concerned with sound reinforcement, many of the subjects covered also apply to ProMix 01 applications. The second edition also includes a comprehensive section on MIDI.



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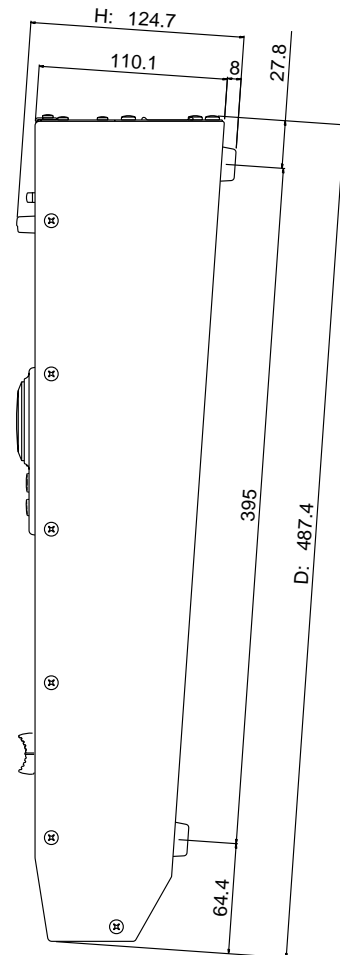
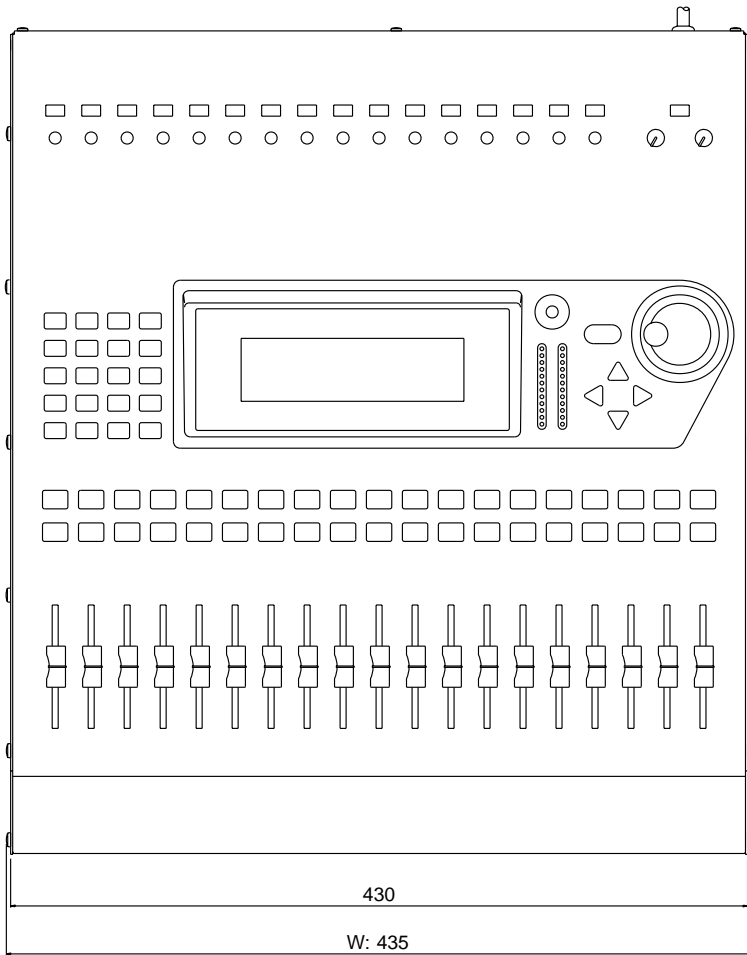
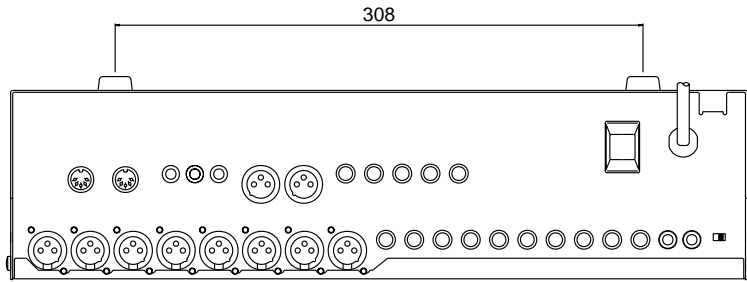
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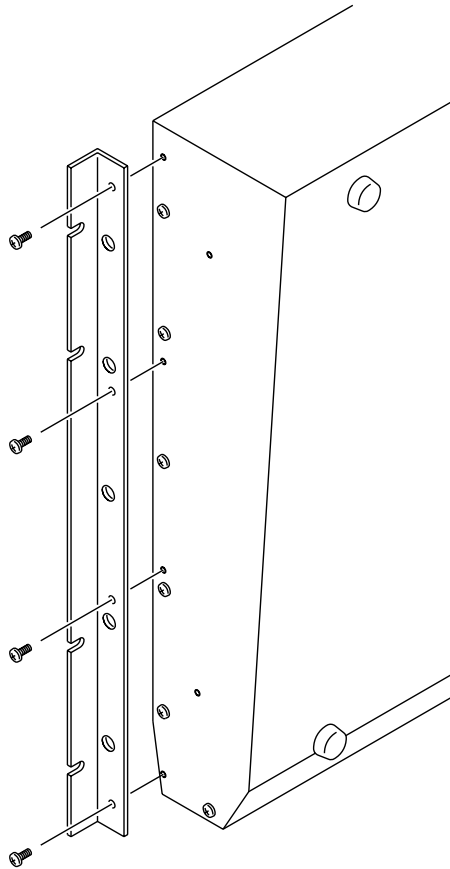
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   XLR INPUT 6  
   XLR STEREO OUT 7



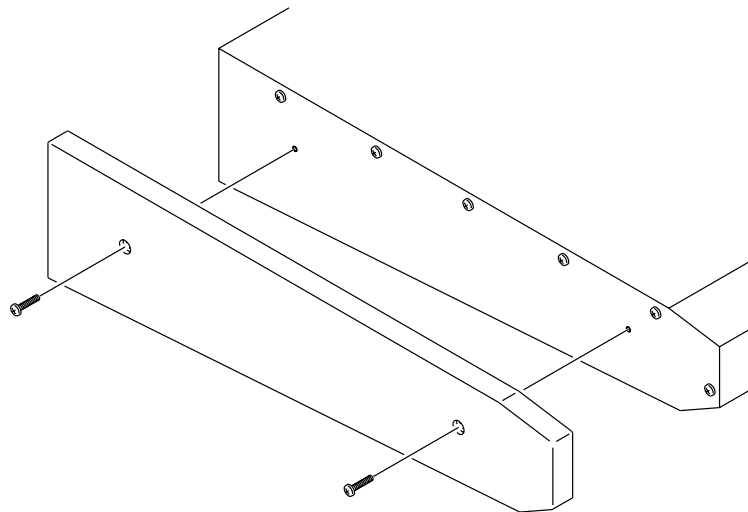
# ProMix 01 Dimensions



## Optional Rack-Mount Ears



## Optional Wooden Side Panels



Use only the screws supplied  
Utilisez uniquement les vis fournies.  
Verwenden Sie ausschließlich die beiliegenden Schrauben.  
Use solamente los tornillos proporcionados.

## Mix Scene to Program Change Assignment Table

| Program Change # | Initial Mix Scene # | User Mix Scene # |
|------------------|---------------------|------------------|
| 1                | 1                   |                  |
| 2                | 2                   |                  |
| 3                | 3                   |                  |
| 4                | 4                   |                  |
| 5                | 5                   |                  |
| 6                | 6                   |                  |
| 7                | 7                   |                  |
| 8                | 8                   |                  |
| 9                | 9                   |                  |
| 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 Mix Scene # | User Mix Scene # |
|------------------|---------------------|------------------|
| 44               | 44                  |                  |
| 45               | 45                  |                  |
| 46               | 46                  |                  |
| 47               | 47                  |                  |
| 48               | 48                  |                  |
| 49               | 49                  |                  |
| 50               | 50                  |                  |
| 51               | —                   |                  |
| 52               | —                   |                  |
| 53               | —                   |                  |
| 54               | —                   |                  |
| 55               | —                   |                  |
| 56               | —                   |                  |
| 57               | —                   |                  |
| 58               | —                   |                  |
| 59               | —                   |                  |
| 60               | —                   |                  |
| 61               | —                   |                  |
| 62               | —                   |                  |
| 63               | —                   |                  |
| 64               | —                   |                  |
| 65               | —                   |                  |
| 66               | —                   |                  |
| 67               | —                   |                  |
| 68               | —                   |                  |
| 69               | —                   |                  |
| 70               | —                   |                  |
| 71               | —                   |                  |
| 72               | —                   |                  |
| 73               | —                   |                  |
| 74               | —                   |                  |
| 75               | —                   |                  |
| 76               | —                   |                  |
| 77               | —                   |                  |
| 78               | —                   |                  |
| 79               | —                   |                  |
| 80               | —                   |                  |
| 81               | —                   |                  |
| 82               | —                   |                  |
| 83               | —                   |                  |
| 84               | —                   |                  |
| 85               | —                   |                  |
| 86               | —                   |                  |

| Program Change # | Initial Mix Scene # | User Mix Scene # |
|------------------|---------------------|------------------|
| 87               | —                   |                  |
| 88               | —                   |                  |
| 89               | —                   |                  |
| 90               | —                   |                  |
| 91               | —                   |                  |
| 92               | —                   |                  |
| 93               | —                   |                  |
| 94               | —                   |                  |
| 95               | —                   |                  |
| 96               | —                   |                  |
| 97               | —                   |                  |
| 98               | —                   |                  |
| 99               | —                   |                  |
| 100              | —                   |                  |
| 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              | 0                   |                  |

## Control Change to Parameter Assignment Table

| Param # | Initial Setup    |                        | ProMix 01 Parameter     | Data Value | User Setup       |      |  |
|---------|------------------|------------------------|-------------------------|------------|------------------|------|--|
|         | Control Change # | Bank                   |                         |            | Control Change # | Bank |  |
| 0       | 0                | 0                      | Channel Input 1 Level   | 128        |                  |      |  |
| 1       | 1                |                        | Channel Input 2 Level   |            |                  |      |  |
| 2       | 2                |                        | Channel Input 3 Level   |            |                  |      |  |
| 3       | 3                |                        | Channel Input 4 Level   |            |                  |      |  |
| 4       | 4                |                        | Channel Input 5 Level   |            |                  |      |  |
| 5       | 5                |                        | Channel Input 6 Level   |            |                  |      |  |
| 6       | 6                |                        | Channel Input 7 Level   |            |                  |      |  |
| 7       | 7                |                        | Channel Input 8 Level   |            |                  |      |  |
| 8       | 8                |                        | Channel Input 9 Level   |            |                  |      |  |
| 9       | 9                |                        | Channel Input 10 Level  |            |                  |      |  |
| 10      | 10               |                        | Channel Input 11 Level  |            |                  |      |  |
| 11      | 11               |                        | Channel Input 12 Level  |            |                  |      |  |
| 12      | 12               |                        | Channel Input 13 Level  |            |                  |      |  |
| 13      | 13               |                        | Channel Input 14 Level  |            |                  |      |  |
| 14      | 14               |                        | Channel Input 15 Level  |            |                  |      |  |
| 15      | 15               |                        | Channel Input 16 Level  |            |                  |      |  |
| 16      | 16               |                        | Stereo Input Level      |            |                  |      |  |
| 17      | 17               |                        | Effect Return 1 Level   |            |                  |      |  |
| 18      | 18               |                        | Effect Return 2 Level   |            |                  |      |  |
| 19      | 19               |                        | Send 3 Level            |            |                  |      |  |
| 20      | 20               |                        | Send 4 Level            |            |                  |      |  |
| 21      | 21               |                        | Stereo Output Level     |            |                  |      |  |
| 22      | 22               |                        | Channel Input 1 On/Off  | 2          |                  |      |  |
| 23      | 23               |                        | Channel Input 2 On/Off  |            |                  |      |  |
| 24      | 24               |                        | Channel Input 3 On/Off  |            |                  |      |  |
| 25      | 25               |                        | Channel Input 4 On/Off  |            |                  |      |  |
| 26      | 26               |                        | Channel Input 5 On/Off  |            |                  |      |  |
| 27      | 27               |                        | Channel Input 6 On/Off  |            |                  |      |  |
| 28      | 28               |                        | Channel Input 7 On/Off  |            |                  |      |  |
| 29      | 29               |                        | Channel Input 8 On/Off  |            |                  |      |  |
| 30      | 30               |                        | Channel Input 9 On/Off  |            |                  |      |  |
| 31      | 31               |                        | Channel Input 10 On/Off |            |                  |      |  |
| 32      | 32               |                        | Channel Input 11 On/Off |            |                  |      |  |
| 33      | 33               |                        | Channel Input 12 On/Off |            |                  |      |  |
| 34      | 34               |                        | Channel Input 13 On/Off |            |                  |      |  |
| 35      | 35               |                        | Channel Input 14 On/Off |            |                  |      |  |
| 36      | 36               |                        | Channel Input 15 On/Off |            |                  |      |  |
| 37      | 37               |                        | Channel Input 16 On/Off |            |                  |      |  |
| 38      | 38               |                        | Stereo Input On/Off     |            |                  |      |  |
| 39      | 39               |                        | Effect Return 1 On/Off  |            |                  |      |  |
| 40      | 40               |                        | Effect Return 2 On/Off  |            |                  |      |  |
| 41      | 41               |                        | Send 3 On/Off           |            |                  |      |  |
| 42      | 42               |                        | Send 4 On/Off           |            |                  |      |  |
| 43      | 43               |                        | Stereo Output On/Off    |            |                  |      |  |
| 44      | 44               |                        | Channel Input 1 Panpot  |            | 33               |      |  |
| 45      | 45               |                        | Channel Input 2 Panpot  |            |                  |      |  |
| 46      | 46               | Channel Input 3 Panpot |                         |            |                  |      |  |



# Add-6

| Param # | Initial Setup    |   | ProMix 01 Parameter                             | Data Value | User Setup       |      |  |
|---------|------------------|---|---|------------|------------------|------|--|
|         | Control Change # | Bank                                    |   |            | Control Change # | Bank |  |
| 47      | 47               | 0                                       | Channel Input 4 Panpot                          | 33         |                  |      |  |
| 48      | 48               |   | Channel Input 5 Panpot                          |            |                  |      |  |
| 49      | 49               |   | Channel Input 6 Panpot                          |            |                  |      |  |
| 50      | 50               |   | Channel Input 7 Panpot                          |            |                  |      |  |
| 51      | 51               |   | Channel Input 8 Panpot                          |            |                  |      |  |
| 52      | 52               |   | Channel Input 9 Panpot                          |            |                  |      |  |
| 53      | 53               |   | Channel Input 10 Panpot                         |            |                  |      |  |
| 54      | 54               |   | Channel Input 11 Panpot                         |            |                  |      |  |
| 55      | 55               |   | Channel Input 12 Panpot                         |            |                  |      |  |
| 56      | 56               |   | Channel Input 13 Panpot                         |            |                  |      |  |
| 57      | 57               |   | Channel Input 14 Panpot                         |            |                  |      |  |
| 58      | 58               |   | Channel Input 15 Panpot                         |            |                  |      |  |
| 59      | 59               |   | Channel Input 16 Panpot                         |            |                  |      |  |
| 60      | 60               |   | Stereo Input Lch Panpot                         |            |                  |      |  |
| 61      | 61               |   | Stereo Input Rch Panpot                         |            |                  |      |  |
| 62      | 62               |   | Effect Return 1 Lch Panpot                      |            |                  |      |  |
| 63      | 63               |   | Effect Return 1 Rch Panpot                      |            |                  |      |  |
| 64      | 64               |   | Effect Return 2 Lch Panpot                      |            |                  |      |  |
| 65      | 65               |   | Effect Return 2 Rch Panpot                      |            |                  |      |  |
| 66      | 66               |   | Send 3/4 Balance(Send 3/4 Configuration=Stereo) |            |                  |      |  |
| 67      | 67               |   | Stereo Output Balance                           |            |                  |      |  |
| 68      | 68               |   | Channel Input 1 to Effect Send 1 Level          |            | 128              |      |  |
| 69      | 69               |   | Channel Input 2 to Effect Send 1 Level          |            |                  |      |  |
| 70      | 70               |   | Channel Input 3 to Effect Send 1 Level          |            |                  |      |  |
| 71      | 71               |   | Channel Input 4 to Effect Send 1 Level          |            |                  |      |  |
| 72      | 72               |   | Channel Input 5 to Effect Send 1 Level          |            |                  |      |  |
| 73      | 73               |   | Channel Input 6 to Effect Send 1 Level          |            |                  |      |  |
| 74      | 74               |   | Channel Input 7 to Effect Send 1 Level          |            |                  |      |  |
| 75      | 75               |   | Channel Input 8 to Effect Send 1 Level          |            |                  |      |  |
| 76      | 76               |   | Channel Input 9 to Effect Send 1 Level          |            |                  |      |  |
| 77      | 77               |   | Channel Input 10 to Effect Send 1 Level         |            |                  |      |  |
| 78      | 78               |   | Channel Input 11 to Effect Send 1 Level         |            |                  |      |  |
| 79      | 79               |   | Channel Input 12 to Effect Send 1 Level         |            |                  |      |  |
| 80      | 80               | Channel Input 13 to Effect Send 1 Level |   |            |                  |      |  |
| 81      | 81               | Channel Input 14 to Effect Send 1 Level |   |            |                  |      |  |
| 82      | 82               | Channel Input 15 to Effect Send 1 Level |   |            |                  |      |  |
| 83      | 83               | Channel Input 16 to Effect Send 1 Level |   |            |                  |      |  |
| 84      | 84               | Stereo Input to Effect Send 1 Level     |   |            |                  |      |  |
| 85      | 85               | Channel Input 1 to Effect Send 2 Level  |   |            |                  |      |  |
| 86      | 86               | Channel Input 2 to Effect Send 2 Level  |   |            |                  |      |  |
| 87      | 87               | Channel Input 3 to Effect Send 2 Level  |   |            |                  |      |  |
| 88      | 88               | Channel Input 4 to Effect Send 2 Level  |   |            |                  |      |  |
| 89      | 89               | Channel Input 5 to Effect Send 2 Level  |   |            |                  |      |  |
| 90      | 90               | Channel Input 6 to Effect Send 2 Level  |   |            |                  |      |  |
| 91      | 91               | Channel Input 7 to Effect Send 2 Level  |   |            |                  |      |  |
| 92      | 92               | Channel Input 8 to Effect Send 2 Level  |   |            |                  |      |  |
| 93      | 93               | Channel Input 9 to Effect Send 2 Level  |   |            |                  |      |  |
| 94      | 94               | Channel Input 10 to Effect Send 2 Level |   |            |                  |      |  |
| 95      | 95               | Channel Input 11 to Effect Send 2 Level |   |            |                  |      |  |

| Param # | Initial Setup    |   | ProMix 01 Parameter                                     | Data Value | User Setup       |      |
|---------|------------------|---|---|------------|------------------|------|
|         | Control Change # | Bank  |   |            | Control Change # | Bank |
| 96      | 0                | 1   | Channel Input 12 to Effect Send 2 Level                 | 128        |                  |      |
| 97      | 1                |   | Channel Input 13 to Effect Send 2 Level                 |            |                  |      |
| 98      | 2                |   | Channel Input 14 to Effect Send 2 Level                 |            |                  |      |
| 99      | 3                |   | Channel Input 15 to Effect Send 2 Level                 |            |                  |      |
| 100     | 4                |   | Channel Input 16 to Effect Send 2 Level                 |            |                  |      |
| 101     | 5                |   | Stereo Input to Effect Send 2 Level                     |            |                  |      |
| 102     | 6                |   | Channel Input 1 to Send 3 Level                         |            |                  |      |
| 103     | 7                |   | Channel Input 2 to Send 3 Level                         |            |                  |      |
| 104     | 8                |   | Channel Input 3 to Send 3 Level                         |            |                  |      |
| 105     | 9                |   | Channel Input 4 to Send 3 Level                         |            |                  |      |
| 106     | 10               |   | Channel Input 5 to Send 3 Level                         |            |                  |      |
| 107     | 11               |   | Channel Input 6 to Send 3 Level                         |            |                  |      |
| 108     | 12               |   | Channel Input 7 to Send 3 Level                         |            |                  |      |
| 109     | 13               |   | Channel Input 8 to Send 3 Level                         |            |                  |      |
| 110     | 14               |   | Channel Input 9 to Send 3 Level                         |            |                  |      |
| 111     | 15               |   | Channel Input 10 to Send 3 Level                        |            |                  |      |
| 112     | 16               |   | Channel Input 11 to Send 3 Level                        |            |                  |      |
| 113     | 17               |   | Channel Input 12 to Send 3 Level                        |            |                  |      |
| 114     | 18               |   | Channel Input 13 to Send 3 Level                        |            |                  |      |
| 115     | 19               |   | Channel Input 14 to Send 3 Level                        |            |                  |      |
| 116     | 20               |   | Channel Input 15 to Send 3 Level                        |            |                  |      |
| 117     | 21               |   | Channel Input 16 to Send 3 Level                        |            |                  |      |
| 118     | 22               |   | Stereo Input to Send 3 Level                            |            |                  |      |
| 119     | 23               |   | Channel Input 1 to Send 4 Level                         |            |                  |      |
| 120     | 24               |   | Channel Input 2 to Send 4 Level                         |            |                  |      |
| 121     | 25               |   | Channel Input 3 to Send 4 Level                         |            |                  |      |
| 122     | 26               |   | Channel Input 4 to Send 4 Level                         |            |                  |      |
| 123     | 27               |   | Channel Input 5 to Send 4 Level                         |            |                  |      |
| 124     | 28               |   | Channel Input 6 to Send 4 Level                         |            |                  |      |
| 125     | 29               |   | Channel Input 7 to Send 4 Level                         |            |                  |      |
| 126     | 30               |   | Channel Input 8 to Send 4 Level                         |            |                  |      |
| 127     | 31               |   | Channel Input 9 to Send 4 Level                         |            |                  |      |
| 128     | 32               |   | Channel Input 10 to Send 4 Level                        |            |                  |      |
| 129     | 33               |   | Channel Input 11 to Send 4 Level                        |            |                  |      |
| 130     | 34               |   | Channel Input 12 to Send 4 Level                        |            |                  |      |
| 131     | 35               |   | Channel Input 13 to Send 4 Level                        |            |                  |      |
| 132     | 36               |   | Channel Input 14 to Send 4 Level                        |            |                  |      |
| 133     | 37               |   | Channel Input 15 to Send 4 Level                        |            |                  |      |
| 134     | 38               |   | Channel Input 16 to Send 4 Level                        |            |                  |      |
| 135     | 39               |   | Stereo Input to Send 4 Level                            |            |                  |      |
| 136     | 40               |   | Effect Send 1 Pre/Post                                  | 2          |                  |      |
| 137     | 41               |   | Effect Send 2 Pre/Post                                  |            |                  |      |
| 138     | 42               |   | Send 3 Pre/Post   |            |                  |      |
| 139     | 43               |   | Send 4 Pre/Post   |            |                  |      |
| 140     | 44               |   | Channel Input 1 to Send3/4 Panpot(Configuration=Stereo) | 33         |                  |      |
| 141     | 45               |   | Channel Input 2 to Send3/4 Panpot(Configuration=Stereo) |            |                  |      |
| 142     | 46               |   | Channel Input 3 to Send3/4 Panpot(Configuration=Stereo) |            |                  |      |
| 143     | 47               | Channel Input 4 to Send3/4 Panpot(Configuration=Stereo) |   |            |                  |      |

# Add-8

| Param # | Initial Setup    |                                | ProMix 01 Parameter                                      | Data Value | User Setup                    |      |
|---------|------------------|--------------------------------|--|------------|-------------------------------|------|
|         | Control Change # | Bank                           |  |            | Control Change #              | Bank |
| 144     | 48               | 1                              | Channel Input 5 to Send3/4 Panpot(Configuration=Stereo)  | 33         |                               |      |
| 145     | 49               |                                | Channel Input 6 to Send3/4 Panpot(Configuration=Stereo)  |            |                               |      |
| 146     | 50               |                                | Channel Input 7 to Send3/4 Panpot(Configuration=Stereo)  |            |                               |      |
| 147     | 51               |                                | Channel Input 8 to Send3/4 Panpot(Configuration=Stereo)  |            |                               |      |
| 148     | 52               |                                | Channel Input 9 to Send3/4 Panpot(Configuration=Stereo)  |            |                               |      |
| 149     | 53               |                                | Channel Input 10 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 150     | 54               |                                | Channel Input 11 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 151     | 55               |                                | Channel Input 12 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 152     | 56               |                                | Channel Input 13 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 153     | 57               |                                | Channel Input 14 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 154     | 58               |                                | Channel Input 15 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 155     | 59               |                                | Channel Input 16 to Send3/4 Panpot(Configuration=Stereo) |            |                               |      |
| 156     | 60               |                                | Stereo Input to Send3/4 Balance(Configuration=Stereo)    |            |                               |      |
| 157     | --               |                                | --   |            | Channel Input 1 to Cue On/Off | 2    |
| 158     | --               | Channel Input 2 to Cue On/Off  |  |            |                               |      |
| 159     | --               | Channel Input 3 to Cue On/Off  |  |            |                               |      |
| 160     | --               | Channel Input 4 to Cue On/Off  |  |            |                               |      |
| 161     | --               | Channel Input 5 to Cue On/Off  |  |            |                               |      |
| 162     | --               | Channel Input 6 to Cue On/Off  |  |            |                               |      |
| 163     | --               | Channel Input 7 to Cue On/Off  |  |            |                               |      |
| 164     | --               | Channel Input 8 to Cue On/Off  |  |            |                               |      |
| 165     | --               | Channel Input 9 to Cue On/Off  |  |            |                               |      |
| 166     | --               | Channel Input 10 to Cue On/Off |  |            |                               |      |
| 167     | --               | Channel Input 11 to Cue On/Off |  |            |                               |      |
| 168     | --               | Channel Input 12 to Cue On/Off |  |            |                               |      |
| 169     | --               | Channel Input 13 to Cue On/Off |  |            |                               |      |
| 170     | --               | Channel Input 14 to Cue On/Off |  |            |                               |      |
| 171     | --               | Channel Input 15 to Cue On/Off |  |            |                               |      |
| 172     | --               | Channel Input 16 to Cue On/Off |  |            |                               |      |
| 173     | --               | Stereo Input to Cue On/Off     |  |            |                               |      |
| 174     | --               | Effect Return 1 to Cue On/Off  |  |            |                               |      |
| 175     | --               | Effect Return 2 to Cue On/Off  |  |            |                               |      |
| 176     | --               | Send 3 to Cue On/Off           |  |            |                               |      |
| 177     | --               | Send 4 to Cue On/Off           |  |            |                               |      |
| 178     | --               | Stereo Output to Cue On/Off    |  |            |                               |      |
| 179     | 83               | 1                              | Channel Input 1 Phase                                    |            |                               |      |
| 180     | 84               |                                | Channel Input 2 Phase                                    |            |                               |      |
| 181     | 85               |                                | Channel Input 3 Phase                                    |            |                               |      |
| 182     | 86               |                                | Channel Input 4 Phase                                    |            |                               |      |
| 183     | 87               |                                | Channel Input 5 Phase                                    |            |                               |      |
| 184     | 88               |                                | Channel Input 6 Phase                                    |            |                               |      |
| 185     | 89               |                                | Channel Input 7 Phase                                    |            |                               |      |
| 186     | 90               |                                | Channel Input 8 Phase                                    |            |                               |      |
| 187     | 91               |                                | Channel Input 9 Phase                                    |            |                               |      |
| 188     | 92               |                                | Channel Input 10 Phase                                   |            |                               |      |
| 189     | 93               |                                | Channel Input 11 Phase                                   |            |                               |      |
| 190     | 94               |                                | Channel Input 12 Phase                                   |            |                               |      |
| 191     | 95               |                                | Channel Input 13 Phase                                   |            |                               |      |

| Param # | Initial Setup    |  | ProMix 01 Parameter                     | Data Value | User Setup       |      |
|---------|------------------|--|---|------------|------------------|------|
|         | Control Change # | Bank                                     |   |            | Control Change # | Bank |
| 192     | 0                | 2  | Channel Input 14 Phase                  | 2          |                  |      |
| 193     | 1                |  | Channel Input 15 Phase                  |            |                  |      |
| 194     | 2                |  | Channel Input 16 Phase                  |            |                  |      |
| 195     | 3                |  | Stereo Input Phase                      |            |                  |      |
| 196     | 4                |  | Channel Input 1 Equalizer On/Off        |            |                  |      |
| 197     | 5                |  | Channel Input 2 Equalizer On/Off        |            |                  |      |
| 198     | 6                |  | Channel Input 3 Equalizer On/Off        |            |                  |      |
| 199     | 7                |  | Channel Input 4 Equalizer On/Off        |            |                  |      |
| 200     | 8                |  | Channel Input 5 Equalizer On/Off        |            |                  |      |
| 201     | 9                |  | Channel Input 6 Equalizer On/Off        |            |                  |      |
| 202     | 10               |  | Channel Input 7 Equalizer On/Off        |            |                  |      |
| 203     | 11               |  | Channel Input 8 Equalizer On/Off        |            |                  |      |
| 204     | 12               |  | Channel Input 9 Equalizer On/Off        |            |                  |      |
| 205     | 13               |  | Channel Input 10 Equalizer On/Off       |            |                  |      |
| 206     | 14               |  | Channel Input 11 Equalizer On/Off       |            |                  |      |
| 207     | 15               |  | Channel Input 12 Equalizer On/Off       |            |                  |      |
| 208     | 16               |  | Channel Input 13 Equalizer On/Off       |            |                  |      |
| 209     | 17               |  | Channel Input 14 Equalizer On/Off       |            |                  |      |
| 210     | 18               |  | Channel Input 15 Equalizer On/Off       |            |                  |      |
| 211     | 19               |  | Channel Input 16 Equalizer On/Off       |            |                  |      |
| 212     | 20               |  | Stereo Input Equalizer On/Off           |            |                  |      |
| 213     | 21               |  | Effect Return 1 Equalizer On/Off        |            |                  |      |
| 214     | 22               |  | Effect Return 2 Equalizer On/Off        |            |                  |      |
| 215     | 23               |  | Stereo Output Equalizer On/Off          |            |                  |      |
| 216     | 24               |  | Channel Input 1 Low Equalizer Frequency | 31         |                  |      |
| 217     | 25               |  | Channel Input 2 Low Equalizer Frequency |            |                  |      |
| 218     | 26               |  | Channel Input 3 Low Equalizer Frequency |            |                  |      |
| 219     | 27               |  | Channel Input 4 Low Equalizer Frequency |            |                  |      |
| 220     | 28               |  | Channel Input 5 Low Equalizer Frequency |            |                  |      |
| 221     | 29               |  | Channel Input 6 Low Equalizer Frequency |            |                  |      |
| 222     | 30               |  | Channel Input 7 Low Equalizer Frequency |            |                  |      |
| 223     | 31               | Channel Input 8 Low Equalizer Frequency  |   |            |                  |      |
| 224     | 32               | Channel Input 9 Low Equalizer Frequency  |   |            |                  |      |
| 225     | 33               | Channel Input 10 Low Equalizer Frequency |   |            |                  |      |
| 226     | 34               | Channel Input 11 Low Equalizer Frequency |   |            |                  |      |
| 227     | 35               | Channel Input 12 Low Equalizer Frequency |   |            |                  |      |
| 228     | 36               | Channel Input 13 Low Equalizer Frequency |   |            |                  |      |
| 229     | 37               | Channel Input 14 Low Equalizer Frequency |   |            |                  |      |
| 230     | 38               | Channel Input 15 Low Equalizer Frequency |   |            |                  |      |
| 231     | 39               | Channel Input 16 Low Equalizer Frequency |   |            |                  |      |
| 232     | 40               | Stereo Input Low Equalizer Frequency     |   |            |                  |      |
| 233     | 41               | Effect Return 1 Low Equalizer Frequency  |   |            |                  |      |
| 234     | 42               | Effect Return 2 Low Equalizer Frequency  |   |            |                  |      |
| 235     | 43               | Stereo Output Low Equalizer Frequency    |   |            |                  |      |
| 236     | 44               | Channel Input 1 Low Equalizer Gain       |   |            |                  |      |
| 237     | 45               | Channel Input 2 Low Equalizer Gain       |   |            |                  |      |
| 238     | 46               | Channel Input 3 Low Equalizer Gain       |   |            |                  |      |
| 239     | 47               | Channel Input 4 Low Equalizer Gain       |   |            |                  |      |

# Add-10

| Param # | Initial Setup    |  | ProMix 01 Parameter                    | Data Value | User Setup       |      |  |
|---------|------------------|--|--|------------|------------------|------|--|
|         | Control Change # | Bank                                     |  |            | Control Change # | Bank |  |
| 240     | 48               | 2  | Channel Input 5 Low Equalizer Gain     | 31         |                  |      |  |
| 241     | 49               |  | Channel Input 6 Low Equalizer Gain     |            |                  |      |  |
| 242     | 50               |  | Channel Input 7 Low Equalizer Gain     |            |                  |      |  |
| 243     | 51               |  | Channel Input 8 Low Equalizer Gain     |            |                  |      |  |
| 244     | 52               |  | Channel Input 9 Low Equalizer Gain     |            |                  |      |  |
| 245     | 53               |  | Channel Input 10 Low Equalizer Gain    |            |                  |      |  |
| 246     | 54               |  | Channel Input 11 Low Equalizer Gain    |            |                  |      |  |
| 247     | 55               |  | Channel Input 12 Low Equalizer Gain    |            |                  |      |  |
| 248     | 56               |  | Channel Input 13 Low Equalizer Gain    |            |                  |      |  |
| 249     | 57               |  | Channel Input 14 Low Equalizer Gain    |            |                  |      |  |
| 250     | 58               |  | Channel Input 15 Low Equalizer Gain    |            |                  |      |  |
| 251     | 59               |  | Channel Input 16 Low Equalizer Gain    |            |                  |      |  |
| 252     | 60               |  | Stereo Input Low Equalizer Gain        |            |                  |      |  |
| 253     | 61               |  | Effect Return 1 Low Equalizer Gain     |            |                  |      |  |
| 254     | 62               |  | Effect Return 2 Low Equalizer Gain     |            |                  |      |  |
| 255     | 63               |  | Stereo Output Low Equalizer Gain       |            |                  |      |  |
| 256     | 64               |  | Channel Input 1 Low Equalizer Q/Shelf  |            | 10               |      |  |
| 257     | 65               |  | Channel Input 2 Low Equalizer Q/Shelf  |            |                  |      |  |
| 258     | 66               |  | Channel Input 3 Low Equalizer Q/Shelf  |            |                  |      |  |
| 259     | 67               |  | Channel Input 4 Low Equalizer Q/Shelf  |            |                  |      |  |
| 260     | 68               |  | Channel Input 5 Low Equalizer Q/Shelf  |            |                  |      |  |
| 261     | 69               |  | Channel Input 6 Low Equalizer Q/Shelf  |            |                  |      |  |
| 262     | 70               |  | Channel Input 7 Low Equalizer Q/Shelf  |            |                  |      |  |
| 263     | 71               |  | Channel Input 8 Low Equalizer Q/Shelf  |            |                  |      |  |
| 264     | 72               |  | Channel Input 9 Low Equalizer Q/Shelf  |            |                  |      |  |
| 265     | 73               |  | Channel Input 10 Low Equalizer Q/Shelf |            |                  |      |  |
| 266     | 74               |  | Channel Input 11 Low Equalizer Q/Shelf |            |                  |      |  |
| 267     | 75               |  | Channel Input 12 Low Equalizer Q/Shelf |            |                  |      |  |
| 268     | 76               |  | Channel Input 13 Low Equalizer Q/Shelf |            |                  |      |  |
| 269     | 77               |  | Channel Input 14 Low Equalizer Q/Shelf |            |                  |      |  |
| 270     | 78               |  | Channel Input 15 Low Equalizer Q/Shelf |            |                  |      |  |
| 271     | 79               | Channel Input 16 Low Equalizer Q/Shelf   |  |            |                  |      |  |
| 272     | 80               | Stereo Input Low Equalizer Q/Shelf       |  |            |                  |      |  |
| 273     | 81               | Effect Return 1 Low Equalizer Q/Shelf    |  |            |                  |      |  |
| 274     | 82               | Effect Return 2 Low Equalizer Q/Shelf    |  |            |                  |      |  |
| 275     | 83               | Stereo Output Low Equalizer Q/Shelf      |  |            |                  |      |  |
| 276     | 84               | Channel Input 1 Mid Equalizer Frequency  | 56                                     |            |                  |      |  |
| 277     | 85               | Channel Input 2 Mid Equalizer Frequency  |  |            |                  |      |  |
| 278     | 86               | Channel Input 3 Mid Equalizer Frequency  |  |            |                  |      |  |
| 279     | 87               | Channel Input 4 Mid Equalizer Frequency  |  |            |                  |      |  |
| 280     | 88               | Channel Input 5 Mid Equalizer Frequency  |  |            |                  |      |  |
| 281     | 89               | Channel Input 6 Mid Equalizer Frequency  |  |            |                  |      |  |
| 282     | 90               | Channel Input 7 Mid Equalizer Frequency  |  |            |                  |      |  |
| 283     | 91               | Channel Input 8 Mid Equalizer Frequency  |  |            |                  |      |  |
| 284     | 92               | Channel Input 9 Mid Equalizer Frequency  |  |            |                  |      |  |
| 285     | 93               | Channel Input 10 Mid Equalizer Frequency |  |            |                  |      |  |
| 286     | 94               | Channel Input 11 Mid Equalizer Frequency |  |            |                  |      |  |
| 287     | 95               | Channel Input 12 Mid Equalizer Frequency |  |            |                  |      |  |

| Param # | Initial Setup    |  | ProMix 01 Parameter                      | Data Value | User Setup       |      |  |
|---------|------------------|--|--|------------|------------------|------|--|
|         | Control Change # | Bank                                     |  |            | Control Change # | Bank |  |
| 288     | 0                | 3  | Channel Input 13 Mid Equalizer Frequency | 56         |                  |      |  |
| 289     | 1                |  | Channel Input 14 Mid Equalizer Frequency |            |                  |      |  |
| 290     | 2                |  | Channel Input 15 Mid Equalizer Frequency |            |                  |      |  |
| 291     | 3                |  | Channel Input 16 Mid Equalizer Frequency |            |                  |      |  |
| 292     | 4                |  | Stereo Input Mid Equalizer Frequency     |            |                  |      |  |
| 293     | 5                |  | Effect Return 1 Mid Equalizer Frequency  |            |                  |      |  |
| 294     | 6                |  | Effect Return 2 Mid Equalizer Frequency  |            |                  |      |  |
| 295     | 7                |  | Stereo Output Mid Equalizer Frequency    |            |                  |      |  |
| 296     | 8                |  | Channel Input 1 Mid Equalizer Gain       | 31         |                  |      |  |
| 297     | 9                |  | Channel Input 2 Mid Equalizer Gain       |            |                  |      |  |
| 298     | 10               |  | Channel Input 3 Mid Equalizer Gain       |            |                  |      |  |
| 299     | 11               |  | Channel Input 4 Mid Equalizer Gain       |            |                  |      |  |
| 300     | 12               |  | Channel Input 5 Mid Equalizer Gain       |            |                  |      |  |
| 301     | 13               |  | Channel Input 6 Mid Equalizer Gain       |            |                  |      |  |
| 302     | 14               |  | Channel Input 7 Mid Equalizer Gain       |            |                  |      |  |
| 303     | 15               |  | Channel Input 8 Mid Equalizer Gain       |            |                  |      |  |
| 304     | 16               |  | Channel Input 9 Mid Equalizer Gain       |            |                  |      |  |
| 305     | 17               |  | Channel Input 10 Mid Equalizer Gain      |            |                  |      |  |
| 306     | 18               |  | Channel Input 11 Mid Equalizer Gain      |            |                  |      |  |
| 307     | 19               |  | Channel Input 12 Mid Equalizer Gain      |            |                  |      |  |
| 308     | 20               |  | Channel Input 13 Mid Equalizer Gain      |            |                  |      |  |
| 309     | 21               |  | Channel Input 14 Mid Equalizer Gain      |            |                  |      |  |
| 310     | 22               |  | Channel Input 15 Mid Equalizer Gain      |            |                  |      |  |
| 311     | 23               |  | Channel Input 16 Mid Equalizer Gain      |            |                  |      |  |
| 312     | 24               |  | Stereo Input Mid Equalizer Gain          |            |                  |      |  |
| 313     | 25               |  | Effect Return 1 Mid Equalizer Gain       |            |                  |      |  |
| 314     | 26               |  | Effect Return 2 Mid Equalizer Gain       |            |                  |      |  |
| 315     | 27               |  | Stereo Output Mid Equalizer Gain         |            |                  |      |  |
| 316     | 28               |  | Channel Input 1 Mid Equalizer Q          |            | 9                |      |  |
| 317     | 29               |  | Channel Input 2 Mid Equalizer Q          |            |                  |      |  |
| 318     | 30               |  | Channel Input 3 Mid Equalizer Q          |            |                  |      |  |
| 319     | 31               |  | Channel Input 4 Mid Equalizer Q          |            |                  |      |  |
| 320     | 32               |  | Channel Input 5 Mid Equalizer Q          |            |                  |      |  |
| 321     | 23               |  | Channel Input 6 Mid Equalizer Q          |            |                  |      |  |
| 322     | 24               |  | Channel Input 7 Mid Equalizer Q          |            |                  |      |  |
| 323     | 25               |  | Channel Input 8 Mid Equalizer Q          |            |                  |      |  |
| 324     | 26               | Channel Input 9 Mid Equalizer Q          |  |            |                  |      |  |
| 325     | 27               | Channel Input 10 Mid Equalizer Q         |  |            |                  |      |  |
| 326     | 38               | Channel Input 11 Mid Equalizer Q         |  |            |                  |      |  |
| 327     | 39               | Channel Input 12 Mid Equalizer Q         |  |            |                  |      |  |
| 328     | 40               | Channel Input 13 Mid Equalizer Q         |  |            |                  |      |  |
| 329     | 41               | Channel Input 14 Mid Equalizer Q         |  |            |                  |      |  |
| 330     | 42               | Channel Input 15 Mid Equalizer Q         |  |            |                  |      |  |
| 331     | 43               | Channel Input 16 Mid Equalizer Q         |  |            |                  |      |  |
| 332     | 44               | Stereo Input Mid Equalizer Q             |  |            |                  |      |  |
| 333     | 45               | Effect Return 1 Mid Equalizer Q          |  |            |                  |      |  |
| 334     | 46               | Effect Return 2 Mid Equalizer Q          |  |            |                  |      |  |
| 335     | 47               | Stereo Output Mid Equalizer Q            |  |            |                  |      |  |
| 336     | 48               | Channel Input 1 High Equalizer Frequency | 25                                       |            |                  |      |  |

# Add-12

| Param # | Initial Setup    |  | ProMix 01 Parameter                       | Data Value | User Setup       |      |  |
|---------|------------------|--|---|------------|------------------|------|--|
|         | Control Change # | Bank                                   |   |            | Control Change # | Bank |  |
| 337     | 49               | 3                                      | Channel Input 2 High Equalizer Frequency  | 26         |                  |      |  |
| 338     | 50               |  | Channel Input 3 High Equalizer Frequency  |            |                  |      |  |
| 339     | 51               |  | Channel Input 4 High Equalizer Frequency  |            |                  |      |  |
| 340     | 52               |  | Channel Input 5 High Equalizer Frequency  |            |                  |      |  |
| 341     | 53               |  | Channel Input 6 High Equalizer Frequency  |            |                  |      |  |
| 342     | 54               |  | Channel Input 7 High Equalizer Frequency  |            |                  |      |  |
| 343     | 55               |  | Channel Input 8 High Equalizer Frequency  |            |                  |      |  |
| 344     | 56               |  | Channel Input 9 High Equalizer Frequency  |            |                  |      |  |
| 345     | 57               |  | Channel Input 10 High Equalizer Frequency |            |                  |      |  |
| 346     | 58               |  | Channel Input 11 High Equalizer Frequency |            |                  |      |  |
| 347     | 59               |  | Channel Input 12 High Equalizer Frequency |            |                  |      |  |
| 348     | 60               |  | Channel Input 13 High Equalizer Frequency |            |                  |      |  |
| 349     | 61               |  | Channel Input 14 High Equalizer Frequency |            |                  |      |  |
| 350     | 62               |  | Channel Input 15 High Equalizer Frequency |            |                  |      |  |
| 351     | 63               |  | Channel Input 16 High Equalizer Frequency |            |                  |      |  |
| 352     | 64               |  | Stereo Input HighEqualizer Frequency      |            |                  |      |  |
| 353     | 65               |  | Effect Return 1 High Equalizer Frequency  |            |                  |      |  |
| 354     | 66               |  | Effect Return 2 High Equalizer Frequency  |            |                  |      |  |
| 355     | 67               |  | Stereo Output High Equalizer Frequency    |            |                  |      |  |
| 356     | 68               |  | Channel Input 1 High Equalizer Gain       |            | 31               |      |  |
| 357     | 69               |  | Channel Input 2 High Equalizer Gain       |            |                  |      |  |
| 358     | 70               |  | Channel Input 3 High Equalizer Gain       |            |                  |      |  |
| 359     | 71               |  | Channel Input 4 High Equalizer Gain       |            |                  |      |  |
| 360     | 72               |  | Channel Input 5 High Equalizer Gain       |            |                  |      |  |
| 361     | 73               |  | Channel Input 6 High Equalizer Gain       |            |                  |      |  |
| 362     | 74               |  | Channel Input 7 High Equalizer Gain       |            |                  |      |  |
| 363     | 75               |  | Channel Input 8 High Equalizer Gain       |            |                  |      |  |
| 364     | 76               |  | Channel Input 9 High Equalizer Gain       |            |                  |      |  |
| 365     | 77               |  | Channel Input 10 High Equalizer Gain      |            |                  |      |  |
| 366     | 78               |  | Channel Input 11 High Equalizer Gain      |            |                  |      |  |
| 367     | 79               |  | Channel Input 12 High Equalizer Gain      |            |                  |      |  |
| 368     | 80               |  | Channel Input 13 High Equalizer Gain      |            |                  |      |  |
| 369     | 81               |  | Channel Input 14 High Equalizer Gain      |            |                  |      |  |
| 370     | 82               |  | Channel Input 15 High Equalizer Gain      |            |                  |      |  |
| 371     | 83               |  | Channel Input 16 High Equalizer Gain      |            |                  |      |  |
| 372     | 84               | Stereo Input High Equalizer Gain       |   |            |                  |      |  |
| 373     | 85               | Effect Return 1 High Equalizer Gain    |   |            |                  |      |  |
| 374     | 86               | Effect Return 2 High Equalizer Gain    |   |            |                  |      |  |
| 375     | 87               | Stereo Output High Equalizer Gain      |   |            |                  |      |  |
| 376     | 88               | Channel Input 1 High Equalizer Q/Shelf | 10  |            |                  |      |  |
| 377     | 89               | Channel Input 2 High Equalizer Q/Shelf |   |            |                  |      |  |
| 378     | 90               | Channel Input 3 High Equalizer Q/Shelf |   |            |                  |      |  |
| 379     | 91               | Channel Input 4 High Equalizer Q/Shelf |   |            |                  |      |  |
| 380     | 92               | Channel Input 5 High Equalizer Q/Shelf |   |            |                  |      |  |
| 381     | 93               | Channel Input 6 High Equalizer Q/Shelf |   |            |                  |      |  |
| 382     | 94               | Channel Input 7 High Equalizer Q/Shelf |   |            |                  |      |  |
| 383     | 95               | Channel Input 8 High Equalizer Q/Shelf |   |            |                  |      |  |

| Param # | Initial Setup    |  | ProMix 01 Parameter                         | Data Value                              | User Setup       |      |  |
|---------|------------------|--|---|---|------------------|------|--|
|         | Control Change # | Bank                                     |   |   | Control Change # | Bank |  |
| 384     | 0                |  | Channel Input 9 High Equalizer Q/Shelf      | 10                                      |                  |      |  |
| 385     | 1                |  | Channel Input 10 High Equalizer Q/Shelf     |   |                  |      |  |
| 386     | 2                |  | Channel Input 11 High Equalizer Q/Shelf     |   |                  |      |  |
| 387     | 3                |  | Channel Input 12 High Equalizer Q/Shelf     |   |                  |      |  |
| 388     | 4                |  | Channel Input 13 High Equalizer Q/Shelf     |   |                  |      |  |
| 389     | 5                |  | Channel Input 14 High Equalizer Q/Shelf     |   |                  |      |  |
| 390     | 6                |  | Channel Input 15 High Equalizer Q/Shelf     |   |                  |      |  |
| 391     | 7                |  | Channel Input 16 High Equalizer Q/Shelf     |   |                  |      |  |
| 392     | 8                |  | Stereo Input High Equalizer Q/Shelf         |   |                  |      |  |
| 393     | 9                |  | Effect Return 1 High Equalizer Q/Shelf      |   |                  |      |  |
| 394     | 10               |  | Effect Return 2 High Equalizer Q/Shelf      |   |                  |      |  |
| 395     | 11               |  | Stereo Output High Equalizer Q/Shelf        |   |                  |      |  |
| 396     | 12               |  | Channel Input 1/2 Stereo Pair Flag On/Off   |   | 2                |      |  |
| 397     | 13               |  | Channel Input 3/4 Stereo Pair Flag On/Off   |   |                  |      |  |
| 398     | 14               |  | Channel Input 5/6 Stereo Pair Flag On/Off   |   |                  |      |  |
| 399     | 15               |  | Channel Input 7/8 Stereo Pair Flag On/Off   |   |                  |      |  |
| 400     | 16               |  | Channel Input 9/10 Stereo Pair Flag On/Off  |   |                  |      |  |
| 401     | 17               |  | Channel Input 11/12 Stereo Pair Flag On/Off |   |                  |      |  |
| 402     | 18               |  | Channel Input 13/14 Stereo Pair Flag On/Off |   |                  |      |  |
| 403     | 19               |  | Channel Input 15/16 Stereo Pair Flag On/Off |   |                  |      |  |
| 404     | 20               |  | Internal Effect 1 Type                      | 40                                      |                  |      |  |
| 405     | 21               |  | Internal Effect 2 Type                      |   |                  |      |  |
| 406     | 22               |  | 4   | Internal Effect 1 Parameter 1 High Byte | A                |      |  |
| 407     | 23               |  |   | Internal Effect 1 Parameter 1 Low Byte  |                  |      |  |
| 408     | 24               |  |   | Internal Effect 1 Parameter 2 High Byte |                  |      |  |
| 409     | 25               |  |   | Internal Effect 1 Parameter 2 Low Byte  |                  |      |  |
| 410     | 26               |  |   | Internal Effect 1 Parameter 3 High Byte |                  |      |  |
| 411     | 27               |  |   | Internal Effect 1 Parameter 3 Low Byte  |                  |      |  |
| 412     | 28               |  |   | Internal Effect 1 Parameter 4 High Byte |                  |      |  |
| 413     | 29               |  |   | Internal Effect 1 Parameter 4 Low Byte  |                  |      |  |
| 414     | 30               |  |   | Internal Effect 1 Parameter 5 High Byte |                  |      |  |
| 415     | 31               |  |   | Internal Effect 1 Parameter 5 Low Byte  |                  |      |  |
| 416     | 32               |  |   | Internal Effect 1 Parameter 6 High Byte |                  |      |  |
| 417     | 33               |  |   | Internal Effect 1 Parameter 6 Low Byte  |                  |      |  |
| 418     | 34               |  |   | Internal Effect 1 Parameter 7 High Byte |                  |      |  |
| 419     | 35               | Internal Effect 1 Parameter 7 Low Byte   |   |   |                  |      |  |
| 420     | 36               | Internal Effect 1 Parameter 8 High Byte  |   |   |                  |      |  |
| 421     | 37               | Internal Effect 1 Parameter 8 Low Byte   |   |   |                  |      |  |
| 422     | 38               | Internal Effect 1 Parameter 9 High Byte  |   |   |                  |      |  |
| 423     | 39               | Internal Effect 1 Parameter 9 Low Byte   |   |   |                  |      |  |
| 424     | 40               | Internal Effect 1 Parameter 10 High Byte |   |   |                  |      |  |
| 425     | 41               | Internal Effect 1 Parameter 10 Low Byte  |   |   |                  |      |  |
| 426     | 42               | Internal Effect 2 Parameter 1 High Byte  |   |   |                  |      |  |
| 427     | 43               | Internal Effect 2 Parameter 1 Low Byte   |   |   |                  |      |  |
| 428     | 44               | Internal Effect 2 Parameter 2 High Byte  |   |   |                  |      |  |
| 429     | 45               | Internal Effect 2 Parameter 2 Low Byte   |   |   |                  |      |  |
| 430     | 46               | Internal Effect 2 Parameter 3 High Byte  |   |   |                  |      |  |
| 431     | 47               | Internal Effect 2 Parameter 3 Low Byte   |   |   |                  |      |  |
| 432     | 48               | Internal Effect 2 Parameter 4 High Byte  |   |   |                  |      |  |



# Add-14

| Param # | Initial Setup    |   | ProMix 01 Parameter                      | Data Value | User Setup       |      |
|---------|------------------|---|--|------------|------------------|------|
|         | Control Change # | Bank  |  |            | Control Change # | Bank |
| 433     | 49               | 4   | Internal Effect 2 Parameter 4 Low Byte   | A          |                  |      |
| 434     | 50               |   | Internal Effect 2 Parameter 5 High Byte  |            |                  |      |
| 435     | 51               |   | Internal Effect 2 Parameter 5 Low Byte   |            |                  |      |
| 436     | 52               |   | Internal Effect 2 Parameter 6 High Byte  |            |                  |      |
| 437     | 53               |   | Internal Effect 2 Parameter 6 Low Byte   |            |                  |      |
| 438     | 54               |   | Internal Effect 2 Parameter 7 High Byte  |            |                  |      |
| 439     | 55               |   | Internal Effect 2 Parameter 7 Low Byte   |            |                  |      |
| 440     | 56               |   | Internal Effect 2 Parameter 8 High Byte  |            |                  |      |
| 441     | 57               |   | Internal Effect 2 Parameter 8 Low Byte   |            |                  |      |
| 442     | 58               |   | Internal Effect 2 Parameter 9 High Byte  |            |                  |      |
| 443     | 59               |   | Internal Effect 2 Parameter 9 Low Byte   |            |                  |      |
| 444     | 60               |   | Internal Effect 2 Parameter 10 High Byte |            |                  |      |
| 445     | 61               |   | Internal Effect 2 Parameter 10 Low Byte  |            |                  |      |
| 446     | 62               |   | Comp 1 Type                              | 20         |                  |      |
| 447     | 63               |   | Comp 2 Type                              |            |                  |      |
| 448     | 64               |   | Comp 3 Type                              |            |                  |      |
| 449     | 65               |   | Comp 1 Patch Point                       |            |                  |      |
| 450     | 66               |   | Comp 2 Patch Point                       |            |                  |      |
| 451     | 67               |   | Comp 3 Patch Point                       |            |                  |      |
| 452     | 68               |   | Comp 1 Keyin Channel                     | 21         |                  |      |
| 453     | 69               |   | Comp 2 Keyin Channel                     |            |                  |      |
| 454     | 70               |   | Comp 3 Keyin Channel                     |            |                  |      |
| 455     | 71               |   | Comp 1 In Mode(Both/Odd/Even)            | 3          |                  |      |
| 456     | 72               |   | Comp 2 In Mode(Both/Odd/Even)            |            |                  |      |
| 457     | 73               |   | Comp 3 In Mode(Both/Odd/Even)            |            |                  |      |
| 458     | 74               |   | Comp 1 On/Off                            | 2          |                  |      |
| 459     | 75               |   | Comp 2 On/Off                            |            |                  |      |
| 460     | 76               |   | Comp 3 On/Off                            |            |                  |      |
| 461     | 77               |   | Comp 1 Parameter 1                       | B          |                  |      |
| 462     | 78               |   | Comp 1 Parameter 2                       |            |                  |      |
| 463     | 79               | Comp 1 Parameter 3                              |  |            |                  |      |
| 464     | 80               | Comp 1 Parameter 4                              |  |            |                  |      |
| 465     | 81               | Comp 1 Parameter 5                              |  |            |                  |      |
| 466     | 82               | Comp 2 Parameter 1                              |  |            |                  |      |
| 467     | 83               | Comp 2 Parameter 2                              |  |            |                  |      |
| 468     | 84               | Comp 2 Parameter 3                              |  |            |                  |      |
| 469     | 85               | Comp 2 Parameter 4                              |  |            |                  |      |
| 470     | 86               | Comp 2 Parameter 5                              |  |            |                  |      |
| 471     | 87               | Comp 3 Parameter 1                              |  |            |                  |      |
| 472     | 88               | Comp 3 Parameter 2                              |  |            |                  |      |
| 473     | 89               | Comp 3 Parameter 3                              |  |            |                  |      |
| 474     | 90               | Comp 3 Parameter 4                              |  |            |                  |      |
| 475     | 91               | Comp 3 Parameter 5                              |  |            |                  |      |
| 476     | 92               | Send 3/4 Configuration Flag (Individual/Stereo) | 2  |            |                  |      |
| 477     | 93               | Oscillator On/Off                               |  |            |                  |      |
| 478     | 94               | Oscillator Level                                | 128                                      |            |                  |      |
| 479     | 95               | Oscillator Frequency                            | 4  |            |                  |      |

A. Depends on selected effects type.

B. Depends on selected dynamics type.

| Param # | Initial Setup    |      | ProMix 01 Parameter   | Data Value | User Setup             |      |
|---------|------------------|------|---|------------|------------------------|------|
|         | Control Change # | Bank |   |            | Control Change #       | Bank |
| 480     | 0                | 5    | Oscillator SEND3 Assign                                       | 2          |                        |      |
| 481     | 1                |      | Oscillator SEND4 Assign                                       |            |                        |      |
| 482     | 2                |      | Oscillator ST OUT Assign                                      |            |                        |      |
| 483     | --               | --   | Cue mode MIX/LAST CUE/GROUP CUE/STEREO OUT FIX                | 4          |                        |      |
| 484     | 4                | 5    | Channel Input 1 Group No. (0: OFF, 1-4: A-D)                  | 5          |                        |      |
| 485     | 5                |      | Channel Input 2 Group No.                                     |            |                        |      |
| 486     | 6                |      | Channel Input 3 Group No.                                     |            |                        |      |
| 487     | 7                |      | Channel Input 4 Group No.                                     |            |                        |      |
| 488     | 8                |      | Channel Input 5 Group No.                                     |            |                        |      |
| 489     | 9                |      | Channel Input 6 Group No.                                     |            |                        |      |
| 490     | 10               |      | Channel Input 7 Group No.                                     |            |                        |      |
| 491     | 11               |      | Channel Input 8 Group No.                                     |            |                        |      |
| 492     | 12               |      | Channel Input 9 Group No.                                     |            |                        |      |
| 493     | 13               |      | Channel Input 10 Group No.                                    |            |                        |      |
| 494     | 14               |      | Channel Input 11 Group No.                                    |            |                        |      |
| 495     | 15               |      | Channel Input 12 Group No.                                    |            |                        |      |
| 496     | 16               |      | Channel Input 13 Group No.                                    |            |                        |      |
| 497     | 17               |      | Channel Input 14 Group No.                                    |            |                        |      |
| 498     | 18               |      | Channel Input 15 Group No.                                    |            |                        |      |
| 499     | 19               |      | Channel Input 16 Group No.                                    |            |                        |      |
| 500     | 20               |      |   |            | Stereo Input Group No. |      |
| 501     | 21               |      | Panpot Control Mode (Individual/Gang)                         | 2          |                        |      |
| 502     | 22               |      | Group Select (A/B/C/D)  | 4          |                        |      |
| 503     | 23               | 5    | "Ch Input 1/2 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)"   | 4          |                        |      |
| 504     | 24               |      | "Ch Input 3/4 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)"   |            |                        |      |
| 505     | 25               |      | "Ch Input 5/6 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)"   |            |                        |      |
| 506     | 26               |      | "Ch Input 7/8 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)"   |            |                        |      |
| 507     | 27               |      | "Ch Input 9/10 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)"  |            |                        |      |
| 508     | 28               |      | "Ch Input 11/12 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)" |            |                        |      |
| 509     | 29               |      | "Ch Input 13/14 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)" |            |                        |      |
| 510     | 30               |      | "Ch Input 15/16 Pair Execute(MONO,Odd->Even,Even->Odd,Reset)" |            |                        |      |
| 511     | 31               |      | Stereo Master Patch Point Pre/Post                            | 2          |                        |      |
| 512     | 32               |      | Send3 Master Patch Point Pre/Post                             |            |                        |      |
| 513     | 33               |      | Send4 Master Patch Point Pre/Post                             |            |                        |      |
| 514     | 34               |      | "Send3,4 Configuration Execute(Monaural/Stereo)"              |            |                        |      |
| 515     | 35               | 5    | MIDI Local Off Fader No.1                                     | 128        |                        |      |
| 516     | 36               |      | MIDI Local Off Fader No.2                                     |            |                        |      |
| 517     | 37               |      | MIDI Local Off Fader No.3                                     |            |                        |      |
| 518     | 38               |      | MIDI Local Off Fader No.4                                     |            |                        |      |
| 519     | 39               |      | MIDI Local Off Fader No.5                                     |            |                        |      |
| 520     | 40               |      | MIDI Local Off Fader No.6                                     |            |                        |      |
| 521     | 41               |      | MIDI Local Off Fader No.7                                     |            |                        |      |
| 522     | 42               |      | MIDI Local Off Fader No.8                                     |            |                        |      |
| 523     | 43               |      | MIDI Local Off Fader No.9                                     |            |                        |      |
| 524     | 44               |      | MIDI Local Off Fader No.10                                    |            |                        |      |
| 525     | 45               |      | MIDI Local Off Fader No.11                                    |            |                        |      |
| 526     | 46               |      | MIDI Local Off Fader No.12                                    |            |                        |      |
| 527     | 47               |      | MIDI Local Off Fader No.13                                    |            |                        |      |
| 528     | 48               |      | MIDI Local Off Fader No.14                                    |            |                        |      |
| 529     | 49               |      | MIDI Local Off Fader No.15                                    |            |                        |      |
| 530     | 50               |      | MIDI Local Off Fader No.16                                    |            |                        |      |

# MIDI Data Format

## 1 General Items

1-1 This section describes the ProMix 01 MIDI specifications.

1-2 Electrical characteristics and signal specifications conform to the MIDI Standard 1.0.

## 2 Transmission/Reception

ProMix 01 transmits and receives Program Change, Control Change, and System Exclusive messages. Real-time messages, Active Sensing, and MIDI Reset are received only.

### 2-1 Program Change

Transmission Channel number (Tx Channel No.) is used for transmission. Messages are received only when the receive Channel number (Rx Channel No.) matches, or when OMNI is set to ON.

Receiving a Program Change message recalls the scene memory assigned to that Program number. When a scene memory is recalled using the RECALL button, the corresponding Program Change message is output. Program Changes can be assigned to scene memories by the user.

### 2-2 Control Change

Control Change messages can be transmitted and received in Channel mode or Register mode. In Channel mode, the MIDI Channel No. is the Transmission/Receive Channel (Tx/Rx Channel No.) plus parameter Bank Number (Bank). If the resultant value exceeds 16, the remainder will be the Channel number. If all parameters are transmitted and received in this mode, many MIDI Channels are used. See <Cf1> below.

In Register mode, the Channel number uses the transmission/receive Channel number (Tx/Rx Channel No.), and the parameter Bank Number (Bank) is specified by Non-Registered Parameter Number (NRPN) 62h (98 in decimal). In this mode, only one MIDI Channel is required, and OMNI operation is available. See <Cf2> below.

The ProMix 01 parameter corresponding to the Control Change Bank number and Control Change number is adjusted.

If an assigned parameter is adjusted using the front panel controls, the corresponding Control Change message is output. Parameters can be assigned to Control Changes by the user.

<Cf1> The data format will be as follows:

When you adjust a parameter of Channel #10, Bank #2, and Control #72:  
BB 48 dd (dd is data)

When you adjust a parameter of Channel #13, Bank #5, and Control #20:  
B1 14 dd (dd is data)

<Cf2> The data format will be as follows:

When you adjust a parameter of Channel #10, Bank #2, and Control #72:  
B9 62 02 B9 48 dd (dd is data)

For MIDI data transmission, a parameter's minimum internal data value is expressed by 00h, and the maximum value is expressed by 7fh. For example, for Panpot data the internal data value "0" is expressed by 00h, and the internal data value "32 (MAX)" is expressed by 7fh.

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To derive the midway value of the internal data, the following calculation is used (MIDI midway value = 64). First, 128 (the maximum value used in MIDI) is divided by the internal Data Value (Panpot = 33) to obtain the MIDI data number equivalent to one internal data number. The internal Data Values for all parameters are given in the Control Change to Parameter Assignment tables.

ex. Panpot:  $128 / 33 = 3...29$

To express the midway value of the internal data using the MIDI midway value (64), the remainder obtained from the above calculation is added to both sides of the MIDI range. If there is another remainder, "1" is added to the result.

ex. Panpot:  $29 / 2 = 14...1$   $14 + 1 = 15$

Therefore, when MIDI data is  $x$ , the internal data is calculated using the following formula:

ex. Panpot:  $\text{INTEGER}((x - 15) / 3)$

If the resultant value is below 0, it becomes the minimum internal data value.

If the resultant value exceeds the maximum internal data value, it becomes the maximum internal data value.

For data that consists of two bytes (Effect Parameter), 16,384 (14-bit value) is used instead of "128" (Minimum: 0000h, Maximum: 3fffh).

Usually, Control Change messages are output only when the internal data is changed. Incoming messages are processed so that they do not contradict the internal data (i.e. abnormal settings that are not acceptable to ProMix 01). However, the following are exceptions:

If the status of a stereo pair is changed, a Stereo Pair Flag Control Change is output, then the Control Change of the changed parameter is output. When ProMix 01 receives a Stereo Pair Flag Control Change, only the flag is changed. When the information about channels for a stereo pair is received afterward, the parameter of the other receive channel is also changed. Also, at the moment of operation, the parameters for both channels are changed. Therefore, the Control Change that has the same function as the pair processing on the unit is assigned to the other number. The parameters labelled "Execute" or "Ex." can prevent contradiction occurring when the message is received. Also, when the unit receives the Control Change message of this number, the parameter changed by this message will, in turn, output a control change message.

The above also applies to SEND3, 4 Configuration.

When a Control Change message to change the level of a channel in a group is received, the other channels are not affected. The group is temporarily released, the fader adjusted, then grouping is reactivated.

## 2-3 System Exclusive Message

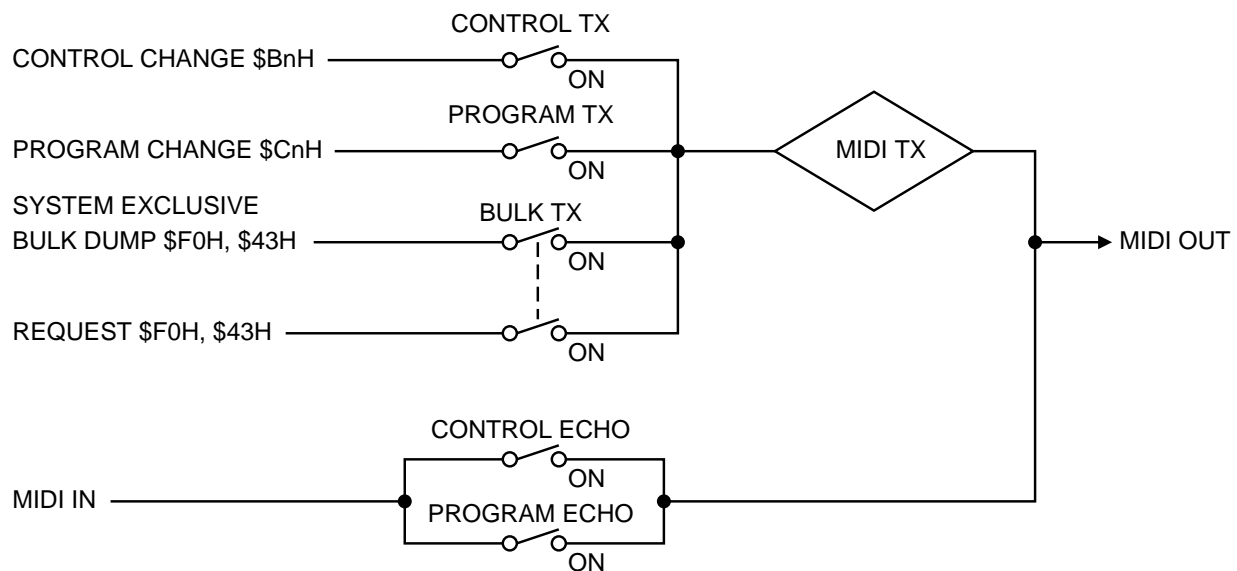
Transmission Channel number (Tx Channel No.) is used for transmission. Messages are received only when the receive Channel number (Rx Channel No.) matches, or when OMNI is set to ON.

The ProMix 01 transmits and receives scene memory contents, Program Change Assignment Table, Control Change Assignment Table, Edit Buffer contents, Setup Memory contents, Backup Memory contents, Key Remote Message, Effect User Memory contents, Compressor User Memory contents, and EQ User Library contents.

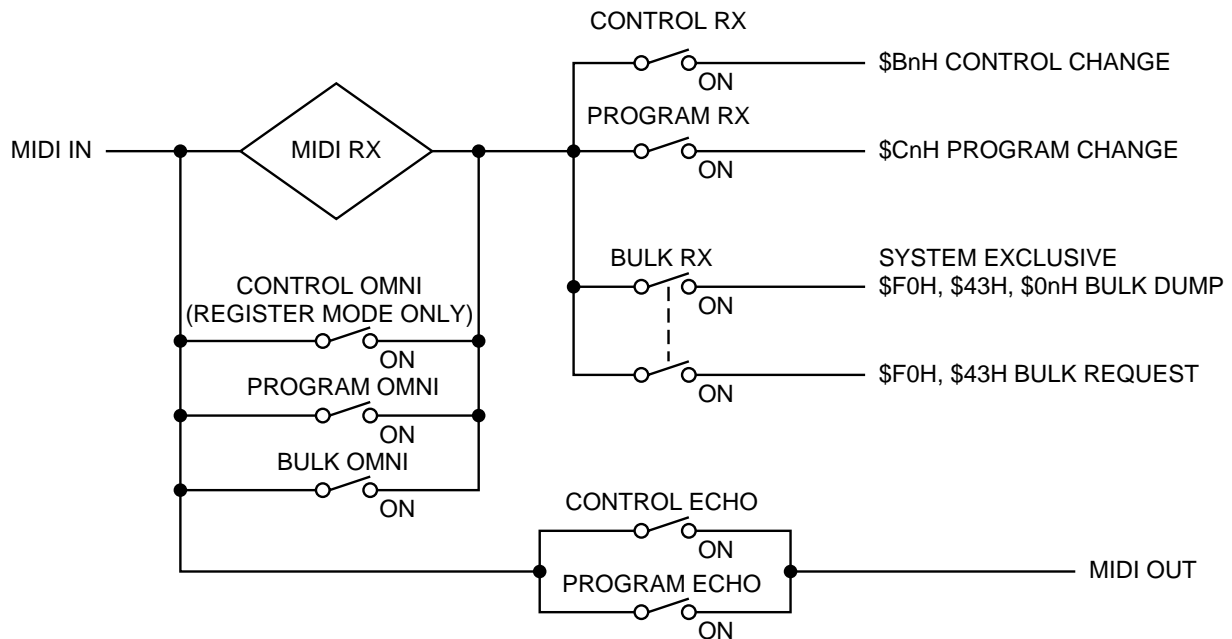
## 2-4 Real Time Message

Only Active Sensing (FEh), and MIDI Reset (FFh) are received. Running Status is cleared if the unit does not receive any data for more than 300 ms after receiving Active Sensing, or when MIDI Reset is received.

### 3 Transmission Condition



### 4 Receive Condition



## 5 Bulk Dump Request Format

### 5-1 One Memory Mixing Program Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message  |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                                    |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)   |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump   |
| BYTE COUNT(HIGH) | 00000110 | 06  | 826(408x2+10)bytes  |
| BYTE COUNT(LOW)  | 00111010 | 3A  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01001101 | 4D  | 'M'   |
| MEMORY NO.       | 0xxxxxxx | mm  | "mm=1(01h)-50(32h)...Scene Memory No.,"<br>127(7Fh)...Edit Buffer |
| DATA*1           | 0xxxxxxx | dsH | Scene Memory Data(408x2bytes)*3                                   |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh                   |
| EOX              | 11110111 | F7  | End Of Exclusive  |

### 5-2 All Program Change Assignment Table Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                       |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00000010 | 02  | 266(128x2+10)bytes                              |
| BYTE COUNT(LOW)  | 00001010 | 0A  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01010000 | 50  | 'P'   |
| MEMORY NO.       | 00100000 | 20  | ' '   |
| DATA*1           | 0xxxxxxx | dsH | Program Change Table(128x2bytes)*4              |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |

### 5-3 All Control Change Assignment Table Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                       |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00010010 | 12  | 2314(96x6x2x2+10)bytes                          |
| BYTE COUNT(LOW)  | 00001010 | 0A  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01000011 | 43  | 'C'   |
| MEMORY NO.       | 00100000 | 20  | ' '   |
| DATA*1           | 0xxxxxxx | dsH | Control Change Table(96x6x2x2bytes)*5           |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |

### 5-4 Setup Memory Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                       |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00000000 | 00  | 62(26x2+10)bytes                                |
| BYTE COUNT(LOW)  | 00111110 | 3E  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01010011 | 53  | 'S'   |
|                  | 00100000 | 20  | ' '   |
| DATA*1           | 0xxxxxxx | dsH | Setup Memory(26x2bytes)*6                       |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |

## 5-5 Backup Memory Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                       |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00000001 | 01  | 154(72x2+10)bytes                               |
| BYTE COUNT(LOW)  | 00011010 | 1A  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01000010 | 42  | 'B'   |
|                  | 00100000 | 20  | ' '   |
| DATA*1           | 0xxxxxxx | dsH | Backup Memory(72x2bytes)*7                      |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |

## 5-6 Effect User Memory Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                       |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00000000 | 00  | 82(36x2+10)bytes                                |
| BYTE COUNT(LOW)  | 01010010 | 52  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01000101 | 45  | 'E'   |
| MEMORY NO.       | 0xxxxxxx | mm  | "mm=1(00h)-10(09h)...Effect User Memory No.,"   |
| DATA*1           | 0xxxxxxx | dsH | Effect User Memory Data(36x2bytes)*8            |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |



## 5-7 Compressor User Memory Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                          |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                    |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                         |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                               |
| BYTE COUNT(HIGH) | 00000000 | 00  | 54(22x2+10)bytes                                  |
| BYTE COUNT(LOW)  | 00110110 | 36  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01001111 | 4F  | 'O'   |
| MEMORY NO.       | 0xxxxxxx | mm  | "mm=1(00h)-10(09h)...Compressor User Memory No.," |
| DATA*1           | 0xxxxxxx | dsH | Compressor User Memory Data(22x2bytes)*9          |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh   |
| EOX              | 11110111 | F7  | End Of Exclusive                                  |

## 5-8 Equalizer User Library Bulk Dump Data Format

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                          |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                    |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx/Rx Channel No.)                         |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                               |
| BYTE COUNT(HIGH) | 00000000 | 00  | 58(24x2+10)bytes                                  |
| BYTE COUNT(LOW)  | 00111010 | 3A  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01010001 | 51  | 'Q'   |
| MEMORY NO.       | 0xxxxxxx | mm  | "mm=1(00h)-20(13h)...Equalizer User Library No.," |
| DATA*1           | 0xxxxxxx | dsH | Equalizer User Memory Data(24x2bytes)*10          |
|                  | 0xxxxxxx | dsL |   |
|                  | :        | :   |   |
|                  | 0xxxxxxx | deH |   |
|                  | 0xxxxxxx | deL |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh   |
| EOX              | 11110111 | F7  | End Of Exclusive                                  |

## 5-9 Key Remote Bulk Dump Data Format (Receive only)

|                  |          |    |   |
|------------------|----------|----|---|
| STATUS           | 11110000 | F0 | System Exclusive Message                        |
| ID No.           | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n | n=0-15(Rx Channel No.)                          |
| FORMAT No.       | 01111110 | 7E | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 00000000 | 00 | 11(1+10)bytes                                   |
| BYTE COUNT(LOW)  | 00001011 | 0B |   |
|                  | 01001100 | 4C | 'L'   |
|                  | 01001101 | 4D | 'M'   |
|                  | 00100000 | 20 | ' '   |
|                  | 00100000 | 20 | ' '   |
|                  | 00111000 | 38 | '8'   |
|                  | 01000001 | 41 | 'A'   |
|                  | 00110100 | 34 | '4'   |
|                  | 00110001 | 31 | '1'   |
| DATA NAME        | 01001011 | 4B | 'K'   |
| MEMORY NO.       | 0xxxxxxx | Kn | Key Number*11                                   |
| DATA*1           | 0xxxxxxx | DT | Key Data*12                                     |
| CHECK SUM*2      | 0xxxxxxx | ee | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7 | End Of Exclusive                                |

## 5-10 Error/Warning Report Bulk Dump Data Format (Transmission only)

|                  |          |     |   |
|------------------|----------|-----|---|
| STATUS           | 11110000 | F0  | System Exclusive Message                        |
| ID No.           | 01000011 | 43  | Manufacturer's ID No. (YAMAHA)                  |
| SUB STATUS       | 0000xxxx | 0n  | n=0-15(Tx Channel No.)                          |
| FORMAT No.       | 01111110 | 7E  | Universal Bulk Dump                             |
| BYTE COUNT(HIGH) | 0xxxxxxx | nn  | nn([Message]x2+10)bytes                         |
| BYTE COUNT(LOW)  | 0xxxxxxx | nn  |   |
|                  | 01001100 | 4C  | 'L'   |
|                  | 01001101 | 4D  | 'M'   |
|                  | 00100000 | 20  | ' '   |
|                  | 00100000 | 20  | ' '   |
|                  | 00111000 | 38  | '8'   |
|                  | 01000001 | 41  | 'A'   |
|                  | 00110100 | 34  | '4'   |
|                  | 00110001 | 31  | '1'   |
| DATA NAME        | 01011000 | 58  | 'X'   |
|                  | 01000101 | 45  | 'E'   |
| DATA*1           | 0xxxxxxx | EnH | Message No.(HIGH)*13                            |
|                  | 0xxxxxxx | EnL | Message No.(LOW)                                |
|                  | 0xxxxxxx | Ms  | Message*14                                      |
|                  | :        | :   |   |
|                  | 0xxxxxxx | Me  |   |
| CHECK SUM*2      | 0xxxxxxx | ee  | ee=(INVERT('L'+ 'M'+...+dsH+...+deL)+1) AND 7Fh |
| EOX              | 11110111 | F7  | End Of Exclusive                                |

### 5-11 One Memory Mixing Program Bulk Request Data Format

|            |          |    |   |
|------------|----------|----|---|
| STATUS     | 11110000 | F0 | System Exclusive Message  |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                                    |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)   |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump   |
|            | 01001100 | 4C | 'L'   |
|            | 01001101 | 4D | 'M'   |
|            | 00100000 | 20 | ' '   |
|            | 00100000 | 20 | ' '   |
|            | 00111000 | 38 | '8'   |
|            | 01000001 | 41 | 'A'   |
|            | 00110100 | 34 | '4'   |
|            | 00110001 | 31 | '1'   |
| DATA NAME  | 01001101 | 4D | 'M'   |
| MEMORY NO. | 0xxxxxxx | mm | "mm=1(01h)-50(32h)...Scene Memory No.,"<br>127(7Fh)...Edit Buffer |
| EOX        | 11110111 | F7 | End Of Exclusive  |

### 5-12 All Program Change Assignment Table Bulk Request Data Format

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)      |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01010000 | 50 | 'P'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

### 5-13 All Control Change Assignment Table Bulk Request Data Format

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)      |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01000011 | 43 | 'C'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

## 5-14 Scene Memory Store Bulk Request Data Format\*17

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)      |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01010111 | 57 | 'W'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

## 5-15 All Data Bulk Request Data Format\*18

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)      |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01000001 | 41 | 'A'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

## 5-16 Setup Memory Bulk Request Data Format

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Tx/Rx Channel No.)      |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01010011 | 53 | 'S'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

### 5-17 Backup Memory Bulk Request Data Format

|            |          |    |                                |
|------------|----------|----|--------------------------------|
| STATUS     | 11110000 | F0 | System Exclusive Message       |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA) |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Rx Channel No.)         |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump            |
|            | 01001100 | 4C | 'L'                            |
|            | 01001101 | 4D | 'M'                            |
|            | 00100000 | 20 | ' '                            |
|            | 00100000 | 20 | ' '                            |
|            | 00111000 | 38 | '8'                            |
|            | 01000001 | 41 | 'A'                            |
|            | 00110100 | 34 | '4'                            |
|            | 00110001 | 31 | '1'                            |
| DATA NAME  | 01000010 | 42 | 'B'                            |
|            | 00100000 | 20 | ' '                            |
| EOX        | 11110111 | F7 | End Of Exclusive               |

### 5-18 Effect User Memory Bulk Request Data Format

|            |          |    |   |
|------------|----------|----|---|
| STATUS     | 11110000 | F0 | System Exclusive Message                      |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Rx Channel No.)                        |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump                           |
|            | 01001100 | 4C | 'L'   |
|            | 01001101 | 4D | 'M'   |
|            | 00100000 | 20 | ' '   |
|            | 00100000 | 20 | ' '   |
|            | 00111000 | 38 | '8'   |
|            | 01000001 | 41 | 'A'   |
|            | 00110100 | 34 | '4'   |
|            | 00110001 | 31 | '1'   |
| DATA NAME  | 01000101 | 45 | 'E'   |
| MEMORY NO. | 0xxxxxxx | mm | "mm=1(00h)-10(09h)...Effect User Memory No.," |
| EOX        | 11110111 | F7 | End Of Exclusive                              |

### 5-19 Compressor User Memory Bulk Request Data Format

|            |          |    |  |
|------------|----------|----|--|
| STATUS     | 11110000 | F0 | System Exclusive Message                         |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                   |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Rx Channel No.)                           |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump                              |
|            | 01001100 | 4C | 'L'  |
|            | 01001101 | 4D | 'M'  |
|            | 00100000 | 20 | ' '  |
|            | 00100000 | 20 | ' '  |
|            | 00111000 | 38 | '8'  |
|            | 01000001 | 41 | 'A'  |
|            | 00110100 | 34 | '4'  |
|            | 00110001 | 31 | '1'  |
| DATA NAME  | 01001111 | 4F | 'O'  |
| MEMORY NO. | 0xxxxxxx | mm | "mm=1(00h)-10(09h)..Compressor User Memory No.," |
| EOX        | 11110111 | F7 | End Of Exclusive                                 |

## 5-20 Equalizer User Library Bulk Request Data Format

|            |          |    |   |
|------------|----------|----|---|
| STATUS     | 11110000 | F0 | System Exclusive Message                          |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                    |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Rx Channel No.)                            |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump                               |
|            | 01001100 | 4C | 'L'   |
|            | 01001101 | 4D | 'M'   |
|            | 00100000 | 20 | ' '   |
|            | 00100000 | 20 | ' '   |
|            | 00111000 | 38 | '8'   |
|            | 01000001 | 41 | 'A'   |
|            | 00110100 | 34 | '4'   |
|            | 00110001 | 31 | '1'   |
| DATA NAME  | 01010001 | 51 | 'Q'   |
| MEMORY NO. | 0xxxxxxx | mm | "mm=1(00h)-20(13h)...Equalizer User Library No.," |
| EOX        | 11110111 | F7 | End Of Exclusive                                  |

## 5-21 Memory Control Change Out Bulk Request Data Format

|            |          |    |   |
|------------|----------|----|---|
| STATUS     | 11110000 | F0 | System Exclusive Message  |
| ID No.     | 01000011 | 43 | Manufacturer's ID No. (YAMAHA)                                    |
| SUB STATUS | 0010xxxx | 2n | n=0-15(Rx Channel No.)  |
| FORMAT No. | 01111110 | 7E | Universal Bulk Dump   |
|            | 01001100 | 4C | 'L'   |
|            | 01001101 | 4D | 'M'   |
|            | 00100000 | 20 | ' '   |
|            | 00100000 | 20 | ' '   |
|            | 00111000 | 38 | '8'   |
|            | 01000001 | 41 | 'A'   |
|            | 00110100 | 34 | '4'   |
|            | 00110001 | 31 | '1'   |
| DATA NAME  | 01011001 | 59 | 'Y'   |
| MEMORY NO. | 0xxxxxxx | mm | "mm=1(01h)-50(32h)...Scene Memory No.,"<br>127(7Fh)...Edit Buffer |
| EOX        | 11110111 | F7 | End Of Exclusive  |

## Button Number Table

| Button # | Button Name   |
|----------|---------------|
| # 0      | MEMORY STORE  |
| # 1      | MEMORY UP     |
| # 2      | UTILITY       |
| # 3      | MIDI          |
| # 4      | MEMORY RECALL |
| # 5      | MEMORY DOWN   |
| # 6      | GROUP         |
| # 7      | PAIR          |
| # 8      | METER         |
| # 9      | PAN/PHASE     |
| # 10     | COMP          |
| # 11     | CUE           |
| # 12     | SEND1         |
| # 13     | SEND2         |
| # 14     | SEND3         |
| # 15     | SEND4         |
| # 16     | EQ LOW        |
| # 17     | EQ MID        |
| # 18     | EQ HIGH       |
| # 19     | EQ LIBRARY    |
| # 20     | CH1 SEL       |
| # 21     | CH2 SEL       |
| # 22     | CH3 SEL       |
| # 23     | CH4 SEL       |
| # 24     | CH5 SEL       |
| # 25     | CH6 SEL       |
| # 26     | CH7 SEL       |
| # 27     | CH8 SEL       |
| # 28     | CH9 SEL       |
| # 29     | CH10 SEL      |
| # 30     | CH11 SEL      |
| # 31     | CH12 SEL      |
| # 32     | CH13 SEL      |
| # 33     | CH14 SEL      |
| # 34     | CH15 SEL      |
| # 35     | CH16 SEL      |
| # 36     | ST IN SEL     |
| # 37     | RTN/SEND SEL  |

| Button # | Button Name    |
|----------|----------------|
| # 38     | ST OUT SEL     |
| # 39     | CH1 ON         |
| # 40     | CH2 ON         |
| # 41     | CH3 ON         |
| # 42     | CH4 ON         |
| # 43     | CH5 ON         |
| # 44     | CH6 ON         |
| # 45     | CH7 ON         |
| # 46     | CH8 ON         |
| # 47     | CH9 ON         |
| # 48     | CH10 ON        |
| # 49     | CH11 ON        |
| # 50     | CH12 ON        |
| # 51     | CH13 ON        |
| # 52     | CH14 ON        |
| # 53     | CH15 ON        |
| # 54     | CH16 ON        |
| # 55     | ST IN ON       |
| # 56     | RTN/SEND ON    |
| # 57     | ST OUT ON      |
| # 58     | CURSOR UP      |
| # 59     | CURSOR DOWN    |
| # 60     | CURSOR LEFT    |
| # 61     | CURSOR RIGHT   |
| # 62     | ENTER          |
| # 63     | PARAMETER UP   |
| # 64     | PARAMETER DOWN |

---

\*1 How to calculate data format. For example, Internal Data: Ds,D1,D2,D3,...,Dx,...,De (Dx is 1 byte data). The data ranges between 00h and FFh.

$DxH = \text{ASCII} ((Dx/16) \text{ AND } 0Fh)$  (Character code '0' to 'F')

$DxL = \text{ASCII} (Dx \text{ AND } 0Fh)$  (Character code '0' to 'F')

\*2 Check sum. Sum is calculated for the sum after the BYTE COUNT (LOW), namely 'L' to the data immediately before the CHECK SUM, all bits are inverted (one's compliment), and then add 1 (one), and then the MSB (bit7) is set 0 (zero) for obtaining the CHECK SUM (two's compliment).

\*3 Data between D0 and D407

\*4 Data between D0 and D127 (See the Program Change Assign Map)

\*5 Data between D0 and D1151 (See the Control Change Assign Map)

\*6 Data between D0 and D25

\*7 Data between D0 and D71

\*8 Data between D0 and D35

\*9 Data between D0 and D21

\*10 Data between D0 and D23

\*11 Data between 0 and 45 (See the Button Number Table)

\*12 SWITCH: "ON=7Fh, OFF=00h" DATA ENTRY:01-7Fh

\*13 See the Error Message List

\*14 How to calculate data format. For example, Strings character: Ms,M1,M2,M3,...,Mx,...,Me (Mx is ASCII code 1 byte data. The data ranges between 00h and FFh).

$Mx = Mx$  (Character code) LF (Return) = 0Ah

\*15 The following is how to calculate data format. For example, Internal Data: Ds, D1, D2, D3, ..., Dx, ..., De (Dx is 1 byte data. The data ranges between 00h and 3Fh.)  $Dx = Dx$

\*16 Data between D0 and D2559

\*17 This request signal is output when storing a scene memory on the STORE key, thus enabling the current setup within the EDIT BUFFER to be stored into a specified memory.

\*18 All Data= [1 Memory Mixing Program No. 1-50, Edit Buffer] + [All Program Change Assignment Table] + [All Control Change Assignment Table] + [Setup Memory] + [Backup Memory] + [1 Effect User Memory No. 0-9] + [1 Compressor User Memory No. 0-12] + [1 EQ User Library No. 0-19].



| 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>OMNI on/off<br>X | Memorized         |
| Note Number      | True Voice                                       | X<br>*****          | X<br>X                                 |                   |
| Velocity         | Note On<br>Note Off                              | X<br>X              | X<br>X                                 |                   |
| After Touch      | Keys<br>Ch's                                     | X<br>X              | X<br>X                                 |                   |
| Pitch bend       |  | X                   | X                                      |                   |
| Control Change   | 0–95<br>96–97<br>98–99<br>100–120                | O<br>X<br>O<br>X    | O<br>X<br>O<br>X                       | *1                |
| Prog Change      | :True#   | O<br>*****<br>0–127 | O<br>0–127<br>0–50                     | *2                |
| System Exclusive |  | O                   | O                                      | Bulk Dump/Request |
| 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              | X<br>X                                 |                   |
| Aux Messages     | :Local ON/OFF<br>:All Notes OFF<br>:Active Sense | X<br>X<br>X<br>X    | X<br>X<br>X<br>X                       |                   |

Notes \*1: Each parameter can be assigned to any Control Change and these assignment tables can be stored in memory.  
\*2: For program 1–128, memory #0–#50 is selected.

# YAMAHA