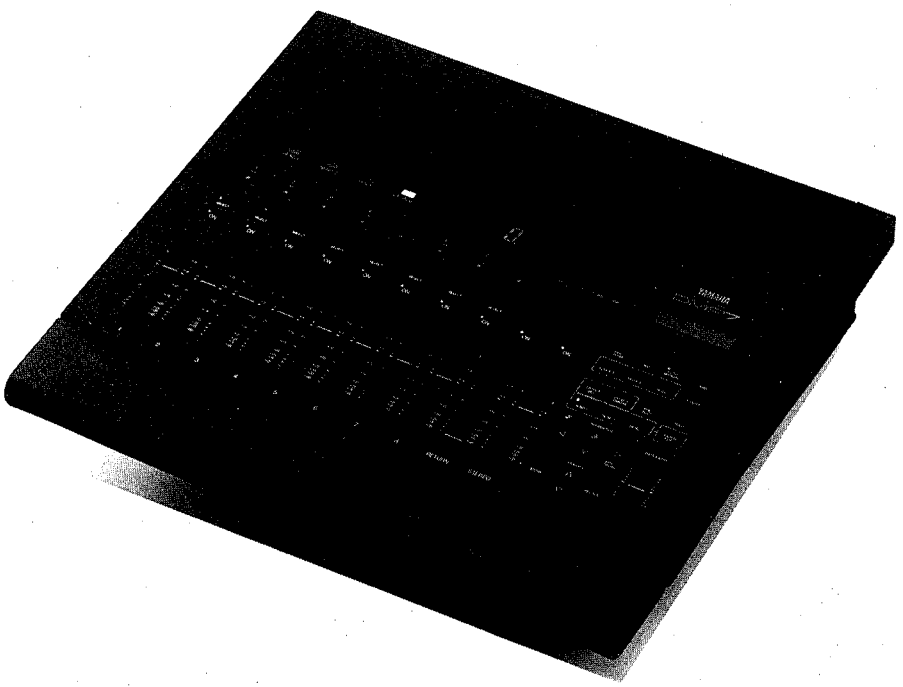
YAMAHA

Digital Mixing Processor

DMP7

Operation Manual



Congratulations on your acquisition of a Yamaha DMP7 Digital Mixing Processor!

The Yamaha DMP7 Digital Mixing Processor is a totally new concept in "music processing." It effectively integrates an 8 × 2 digital line-level mixer with the revolutionary digital effects capability pioneered by Yamaha in products such as the SPX90 Multi-effect Processor. Each and every parameter—from fader positions to effects and EQ settings—is fully programmable. Up to 30 complete system configurations can be stored in internal memory and recalled at the touch of a key for instant "scene" changes. External RAM cartridges provide an extra 67 memory locations. What's more, the DMP7 is MIDI compatible. MIDI program change commands from external equipment can be used to automatically switch scenes, or a MIDI sequence recorder can be used to store mixdown and effects change operations in real time! If 8 inputs aren't enough for your requirements, the DMP7 permits digital cascading of 2 or more units to provide as many inputs as you need. The DMP7 is both a revolutionary production tool and "musical instrument" in its own right. In one compact, easy-to-use unit it offers more creative potential than has ever been offered in this field. In order to take full advantage of the tremendous potential offered by the DMP7, we urge you to read this operation manual thoroughly, and keep the "OPERATIONS SUMMARY" handy while you are familiarizing yourself with the DMP7.

—— DMP7 Features ——

- **All-digital Signal Processing**
  Analog signals are A/D-converted on entry into the console, and are handled and processed in digital form right up to the D/A stage at the stereo outputs. In addition to providing extraordinary signal processing versatility, this ensures that maximum signal quality is maintained from input to output.

- **3 Digital Effects Systems**
  The DMP7 provides 3 effect sends (loops), each of which contains a high-performance internal digital multi-effect processor. Effects Sends 1 and 2 each provide access to 17 different effects including reverb, gate reverb, delay, echo, flange, phasing, tremolo and symphonic. Individual parameters controlling each effect may also be programmed. Effect Send 3 can feed either a 5-effect internal system or external signal processing devices via effect send and return patch points on the rear panel.

- **Reliable Multi-function Motorized Faders**
  The channel, master, effect return and data entry faders are all motorized and digitally controlled. Like all other DMP7 parameters, fader settings can be memorized and recalled as needed. The faders physically move to the programmed positions, allowing visual confirmation of the mix.

- **Versatile Digital EQ**
  Each DMP7 channel offers a versatile 3-band digital parametric equalizer. Each band permits frequency control, 15 dB of boost or cut, and bandwidth (Q) adjustment over a broad 0.1—5.0 range. The high and low bands also offer peaking or shelving response selection.

- **Internal Stereo Compressor**
  A separate digital stereo compressor system is internally provided for the stereo buss. Stereo compression of the master stereo signal is a must for many applications. With the DMP7 this capability is built-in.

- **Memory**
  The DMP7 features 30 internal memory locations which can store all console parameters. You can program and store 30 completely different processing configurations or "scenes," and recall them instantly whenever necessary. A cartridge slot is provided for an external Yamaha RAM4 memory cartridge which can store 67 additional configurations.

- **MIDI Control Capability**
  Stored configurations can be selected simply by sending the appropriate MIDI program change number to the DMP7. It can even be connected directly to a MIDI sequence recorder for real-time storage and playback of mixing and processing operations. For complicated sequences involving simultaneous fades, EQ changes, etc., each operation can be individually overdubbed on the sequence recorder. Then you simply play back the sequence as you would with any other MIDI compatible musical instrument, and the entire mixing/signal processing sequence is recreated in fine detail.

* Optional MLA7 8-channel Microphone Amplifier.
* SOLO mode for individual channel monitoring.
* Programmable stereo panning control.
* Effect, channel and stereo master peak meters.
* 16 character × 2 line LCD display.
* 2-digit 7-segment LED memory number display.
* Memory protection.
* Digital summing points on the streo output buss for cascading 2 or more DMP7s.
* Foot-pedal output level control.
* MIDI bulk dump capability.

CONTENTS

PRECAUTIONS

1. AVOID EXCESSIVE HEAT, HUMIDITY, DUST AND VIBRATION

Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity—such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage.

2. AVOID PHYSICAL SHOCKS

Strong physical shocks to the unit can cause damage. Handle it with care.

3. DO NOT OPEN THE UNIT OR ATTEMPT REPAIRS OR MODIFICATIONS YOURSELF

This product contains no user-serviceable parts. Refer all maintenance to qualified Yamaha service personnel. Opening the unit and/or tampering with the internal circuitry will void the warranty.

5. MAKE SURE POWER IS OFF BEFORE MAKING OR REMOVING CONNECTIONS

Always turn the power OFF prior to connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.

6. HANDLE CABLES CAREFULLY

Always plug and unplug cables—including the AC cord—by gripping the connector, not the cord.

7. CLEAN WITH A SOFT DRY CLOTH

Never use solvents such as benzine or thinner to clean the unit. Wipe clean with a soft, dry cloth.

8. ALWAYS USE THE CORRECT POWER SOURCE

Make sure that the power source voltage specified on the rear panel matches your local AC mains source.

U.S. & Canadian models :	120V AC (105 ~ 130V), 60 Hz
General model :	110-120/220-240V AC (±10%), 50/60 Hz

9. ELECTRICAL INTERFERENCE

Since the DMP7 contains digital circuitry, it may cause interference and noise if placed too close to TV sets, radios or similar equipment. If such a problem does occur, move the DMP7 further away from the affected equipment.

10. BACKUP BATTERY

The DMP7's internal memory is maintained by a long-life (approx. 5 years) lithium battery. Have the battery replaced by a qualified Yamaha service center when its voltage drops below 2.5 volts. See "BATTERY CHECK" on page 30 for details.

FCC CERTIFICATION (USA)

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna.

Relocate the computer with respect to the receiver.

Move the computer away from the receiver.

Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

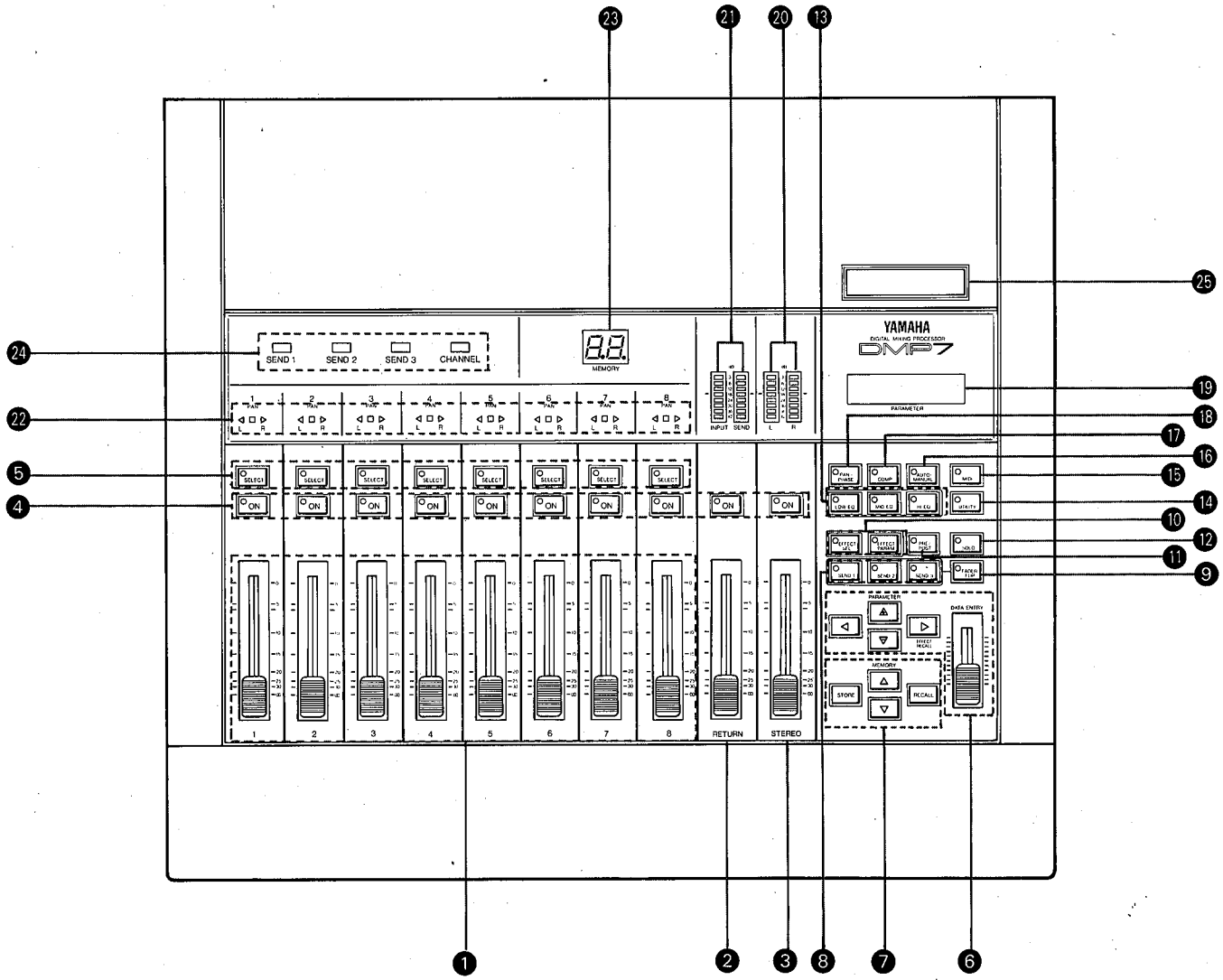
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to identify and Resolve Radio-TV interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

CONTROL PANEL AND CONNECTIONS

CONTROL PANEL



❶ Channel/Effect Send Faders
Depending on the selected mode, these 8 faders function as level controls for the DMP7's 8 input channels, or as effect send level controls for the corresponding channels. The faders are high-reliability motorized types, with a sure, solid operational feel.

❷ Effect Return Fader
Adjusts effect return level for the DMP7's 3 effect systems. The active effect loop is selected by the Effect Send Select keys ❽.
[Detailed instructions on page 16]

❸ Stereo Master Fader
This is the main stereo program fader, controlling the overall level of the master stereo output buss.

❹ **Channel ON keys**
These keys function in the same way as channel ON/OFF keys on a conventional mixer, turning the corresponding channel ON or OFF. When the ON key LED is lit, that channel is ON. When the ON key LED is out, that channel is OFF and its signal will not be applied to the master stereo or effects busses. The ON keys on the effects return and stereo program strips function in a similar way. The stereo output ON key turns the mixer's stereo output ON or OFF, while the effects return ON key is used to individually turn the DMP7's 3 effect loops ON or OFF.
[Detailed instructions on page 12]

❺ **Channel Select Keys**
The SELECT keys at the top of each input channel allow selection of a single channel for programming via the programming keys to the right of the control panel. A channel must be selected using its SELECT key in order to program PAN, PHASE, EQ, and other parameters.

❻ **Parameter Keys & Data Entry Slider**
The group of 4 PARAMETER keys and the DATA ENTRY slider are the DMP7's main programming tools. These are used to select parameters for programming as well as to set the values of the selected parameters.

❼ **Memory Keys**
The group of 4 MEMORY keys allows selection of the DMP7's 30 internal memory locations and 67 external RAM4 cartridge locations for storage and retrieval of data.
[Detailed instructions on page 23]

❽ **Effect Send Select Keys**
These keys are used to select any one of the DMP7's three effect send systems.
[Detailed instructions on page 15]

❾ **Fader Flip Key**
The FADER FLIP key switches the function of the 8 channel faders between channel level control and effect send level control. When the FADER FLIP key LED is off, the faders function as channel level controls. When the FADER FLIP key LED is ON, the faders function as effect send levels controls for their respective channels.
The status of the FADER FLIP function is also displayed by the Channel/Send mode indicators.
[Detailed instructions on page 15]

❿ **Effect Type/Effect Parameter Select Keys**
Pressing the EFFECT SEL key makes it possible to choose from among the range of effects available in the currently selected effects send system (selection is made using the PARAMETER keys or DATA ENTRY slider). Once the desired effect has been selected, the EFFECT PARAM key can be pressed, providing access to parameters within the selected effect which can then be modified as required.
[Detailed instructions on page 15 and 17]

⓫ **Effect Send Pre/Post Selector**
This key permits selection of pre-fader or post-fader effects send position for each of the DMP7's 8 channels.
[Detailed instructions on page 16]

⓬ **Solo Key**
Pressing this key activates the SOLO monitoring system, permitting monitoring of specific input channel signals, effects send signal, or a group of input channel or effect send signals.
[Detailed instructions on page 23]

⓭ **EQ Select Keys**
There keys access the low, middle and high-band equalizer parameters for the currently selected channel. Once selected, the EQ parameters are selected and modified using the parameter keys and data entry slider.
[Detailed instructions on page 14]

⓮ **Utility Key**
The utility key accesses a list of utility functions including memory protection, title editing for the DMP7 memories, channel-to-channel data copying, battery check and others. Each press on the utility key advances to the next function on the list until the utility mode is exited after the last function has been called.

⓯ **MIDI Key**
All the DMP7's MIDI functions are contained in a list which is accessed by this key: program change number assignment, control number assignment, note number assignment, bulk dump, echo back and others.

⓰ **AUTO/MANUAL Key**
This key selects the automatic or manual control mode. In the manual mode MIDI fader data can be overridden and the fader positions modified manually until the automatic mode is re-selected. In the automatic mode the faders will continue to travel to their programmed positions even if temporarily stopped manually.
[Detailed instructions on page 28]

⑰ COMP Key
The DMP7's internal stereo compressor is accessed and programmed using this key.
[Detailed instructions on page 22]

⑱ PAN/PHASE Key.
This key accesses both the panning and phase-reversal functions for the currently selected input channel. Panning is programmed in 17 discrete steps from full left to right, while phase can be set to either normal or reverse allowing phase-matching between input sources.
[Detailed instructions on page 13]

⑲ Backlit LCD Data Display
This 16-character × 2-line backlit LCD (Liquid Crystal Display) shows all parameters while programming and other information when necessary.

⑳ Stereo Program Peak Meter
This left and right-channel meter pair shows levels on the master stereo output buss.

㉑ Input and Send Peak Level Meters
The INPUT level meter shows the input level of the selected input channel. The effect SEND level meter shows the composite effect send level from the selected mixer channels.

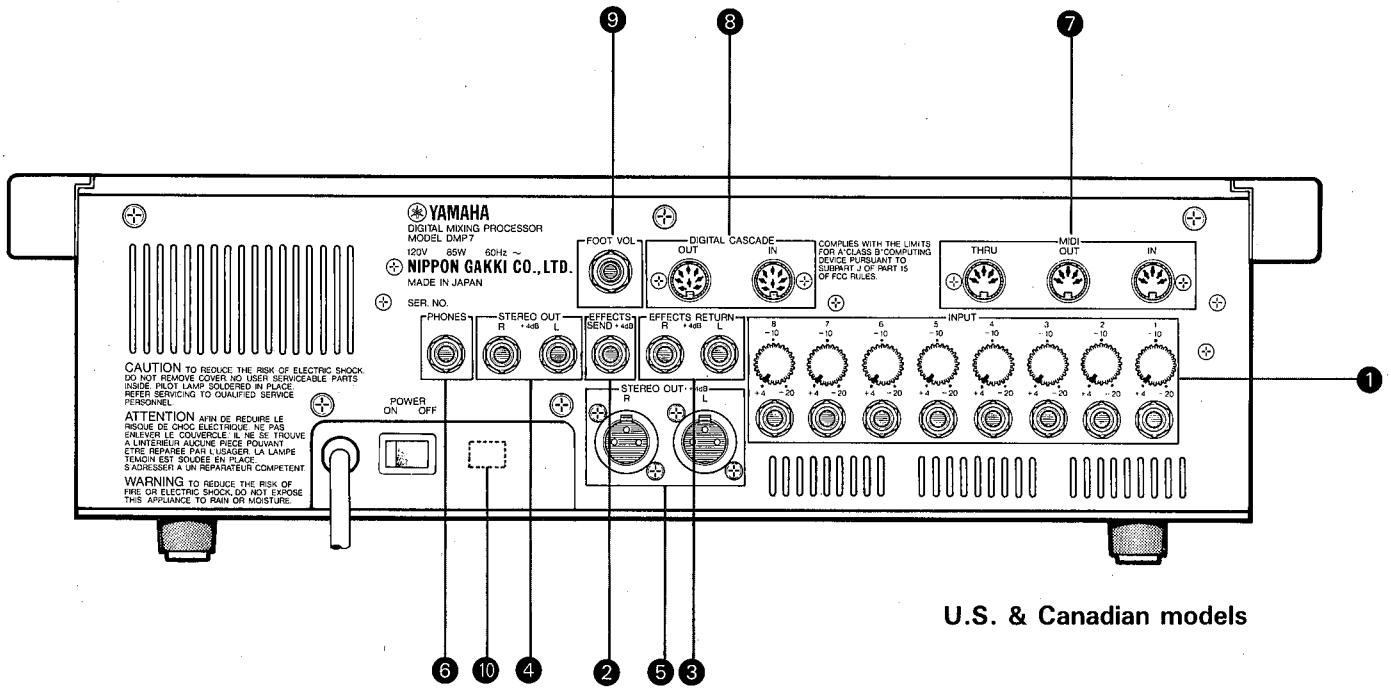
㉒ Channel Pan Indicators
Three LEDs—two red arrows on either side of a central orange block—show approximate PAN position in 5 stages.

㉓ Memory Number LED Display
Shows the number of the currently selected memory location. A continuously lit number indicates the current active location, while a flashing number indicates that a memory location has been selected but not yet recalled (or the location cannot be recalled because it contains no data).

㉔ Channel/Send Mode Indicators
These display the selected mode for the 8 channel/effect send faders. The CHANNEL indicator lights when the faders are set to function in their normal channel level control mode (FADER FLIP LED OFF). When the FADER FLIP key is activated, either the SEND 1, SEND 2 or SEND 3 indicator will light, depending on which effect system is assigned to the faders. The Effect Send Select keys ⑧ are used to assign one of the effect systems to fader control.

㉕ Cartridge Slot
A Yamaha RAM-4 memory cartridge can be plugged in here to provide an extra 67 memory locations (memory numbers 31—97).

CONNECTOR PANEL



U.S. & Canadian models

❶ Input Jacks & Trim Controls

These are standard monaural 1/4'' phone jacks which accept line-level input to the DMP7's eight input channels. Each INPUT jack has an input level trimmer control which adjusts the nominal input level between −20 dB and +4 dB. The center detent position of the input level trimmers provides a nominal input level of −10 dB. Input impedance is 15 k-ohms.

* Microphone-level input is also possible using the optional Yamaha MLA7 8-channel microphone amplifier.

❷ External Effects Send Jack

Delivers a D/A-converted analog signal from the effect SEND 3 system for external signal processing. Nominal output level is +4 dB, and optimum load impedance is 10 k-ohms or greater.

❸ R & L Effects Return Jacks

Stereo effect returns which accept the analog output signal from an external signal processing device fed by the EFFECTS SEND jack. Nominal input level is +4 dB, and input impedance is 15 k-ohms.

❹ Unbalanced Stereo Output Jacks

These unbalanced 1/4'' phone jacks provide the main stereo program outputs from the DMP7. The nominal output level is +4 dB. Load impedance is 10 k-ohms or greater.

❺ Balanced Stereo Output Jacks

These balanced XLR type connectors provide the main stereo program outputs from the DMP7. The output signal level is +4 dB. Optimum load impedance is 600 ohms or greater.

⑥ Phone Jack

The stereo headphones jack delivers the signal appearing on the DMP7's stereo output buss to any standard pair of stereo headphones.

⑦ MIDI IN, OUT & THRU Terminals

The MIDI IN terminal receives MIDI control data from external MIDI equipment, and the MIDI OUT terminal transmits MIDI data from the DMP7 to external MIDI equipment. The MIDI THRU terminal re-transmits any data received at the MIDI IN terminal, allowing "daisy-chaining" to other MIDI equipment.

⑧ Digital Cascade IN and OUT Terminals

These 8-pin DIN connectors are used to cascade 2 or more DMP7 units to increase the available number of inputs.

[Detailed instructions on page 31]

⑨ Foot Volume Control Jack

This 1/4" monaural phone jack accepts an external foot controller such as the Yamaha FC7, permitting foot control of the DMP7's master stereo output level. A utility function allows the operation of the foot controller to be exchanged with that of the DATA ENTRY control so that the foot controller can be used for real-time control of virtually any of the DMP7's parameters (EQ, effects, etc.).

[Detailed instructions on page 27]

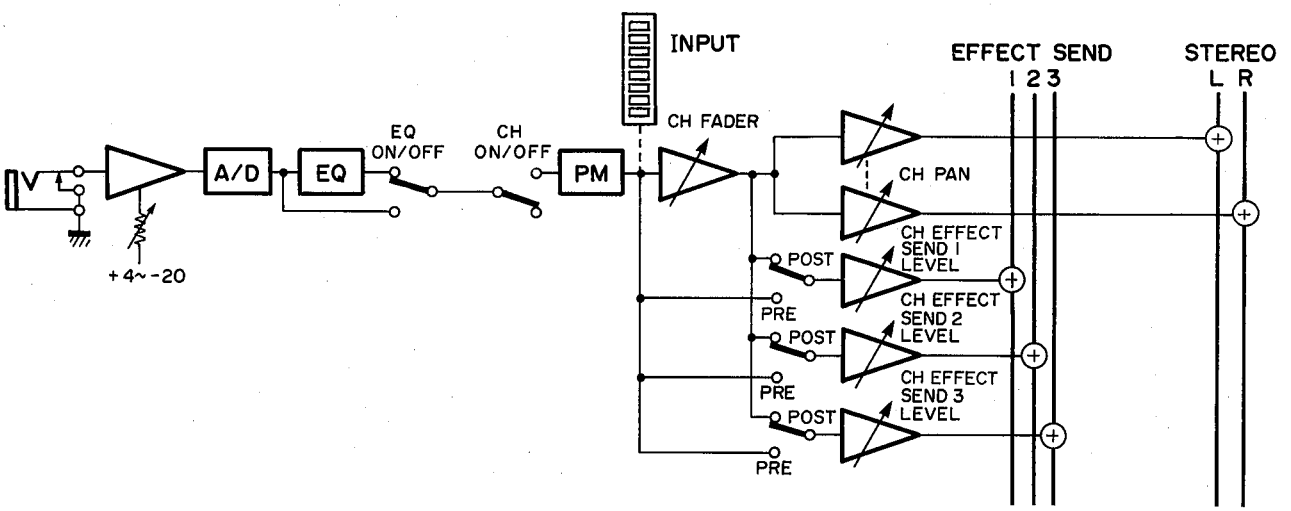
⑩ Voltage Selector (General model only)

Set this to your local AC mains voltage (110-120/220-240V AC). Failure to do so will result in seriously impaired performance or even severe damage.

SIGNAL FLOW AND FUNCTIONAL CONFIGURATION

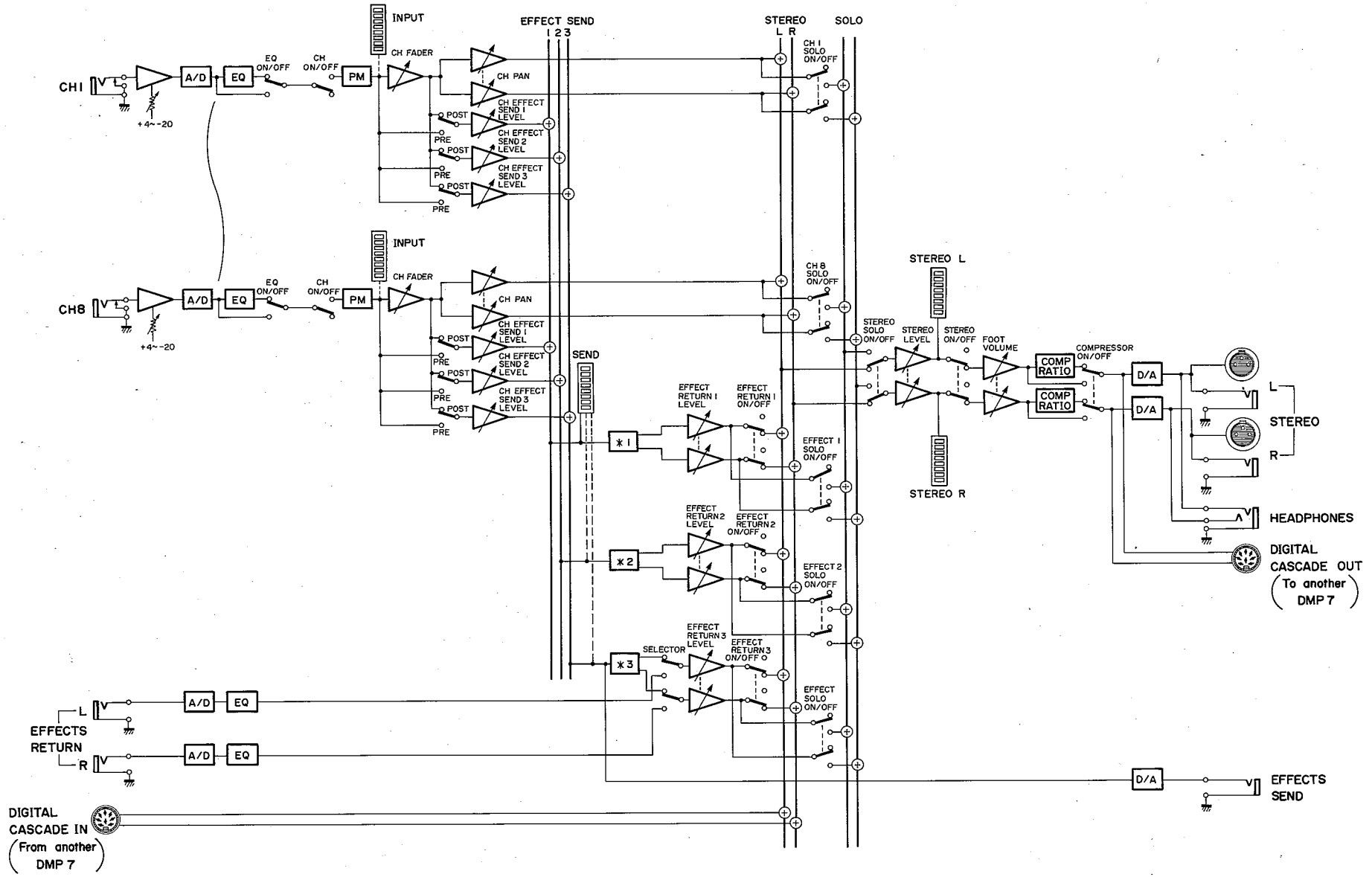
Although the DMP7 is a "digital mixer" dealing almost entirely with digital signals, its basic signal flow and functional layout should be quite familiar to anyone who has worked with even simple audio mixing equipment. One aspect of the DMP7 which may be surprising, however, is its apparent lack of external control hardware (EQ controls, separate effect send controls, etc.) in relation to the number of functions it provides.

Digital operation allows significant functional streamlining of the system, assigning a number of related jobs to a single control or group of controls. Once you're familiar with the system, you'll find that it actually saves time and makes operation easier, allowing you to concentrate more fully on the results to be achieved rather than operating the equipment involved.



Referring to the single-channel block diagram above, input applied to one of the rear-panel INPUT jacks is first routed through an analog buffer/variable-gain amp which buffers and permits level matching with the source signal. The gain trimmers for each channel are located directly above the corresponding input jacks on the rear panel. This stage is immediately followed by a 16-bit linear A/D converter, sampling at 44.1 kHz. The first digital processing stage following A/D conversion is parametric equalization. This is followed by phase inversion, the main channel fader, and stereo pan system which feeds the master stereo program buss. Pre- and post-fader taps immediately before and after the channel fader feed the DMP7's three effect systems. Here it is important to note that the three effect send level control circuits are all controlled by what is normally the channel fader. The user selects one of the three effect sends, and the channel faders then function as the effect send level controls for the respective channels.

Each effect send level control is followed by a sophisticated digital signal processor: the processors in effect sends 1 and 2 each offer a selection of 17 different effects including reverberation, delay, phasing, flanging, chorus, gate reverb and others. Effect send 3 incorporates 5 internal digital effects, but can also be routed to the outside world via a D/A converter permitting use of external effect and signal processing units. A single return level fader controls return from all three effect systems—its operation depends on the selected effect system. Stereo return capability is provided for external effect devices. The returned external signal is immediately A/D-converted, routed through a stereo parametric EQ section specifically provided for this effect return, and applied to the master stereo output buss. The master stereo output buss feeds a variable-gain stage which can be controlled externally by a foot pedal, the main stereo master fader, and a digital stereo compressor. The compressor is the last stage in the digital chain, and is immediately followed by stereo D/A converters which feed the DMP7's main stereo outputs.


CH1
CH8
+4~-20
A/D
EQ
EQ ON/OFF
CH ON/OFF
PM
INPUT
CH FADER
CH PAN
CH EFFECT SEND 1 LEVEL
CH EFFECT SEND 2 LEVEL
CH EFFECT SEND 3 LEVEL
POST
PRE
EFFECT SEND
1 2 3
STEREO
L R
SOLO
CH 1 SOLO ON/OFF
CH 8 SOLO ON/OFF
STEREO L
STEREO R
STEREO SOLO ON/OFF
STEREO LEVEL
STEREO ON/OFF
FOOT VOLUME
COMP RATIO
COMPRESSOR ON/OFF
D/A
L
STEREO
R
HEADPHONES
DIGITAL CASCADE OUT
(To another DMP 7)
SEND
*1
*2
*3
EFFECT RETURN 1 LEVEL
EFFECT RETURN 1 ON/OFF
EFFECT 1 SOLO ON/OFF
EFFECT RETURN2 LEVEL
EFFECT RETURN2 ON/OFF
EFFECT 2 SOLO ON/OFF
EFFECT RETURN 3 LEVEL
EFFECT RETURN 3 ON/OFF
SELECTOR
EFFECT SOLO ON/OFF
EFFECTS RETURN
L
R
EFFECTS SEND
DIGITAL CASCADE IN
(From another DMP 7)

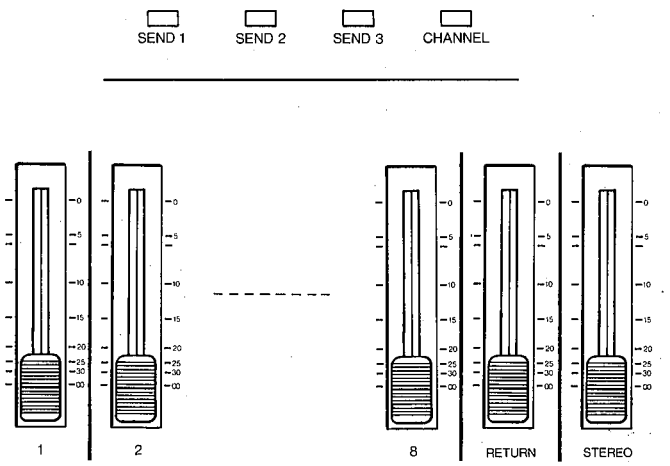
SECTION 1: GENERAL OPERATION

THE FADERS

In terms of external appearance and operation, the DMP7 faders are exactly the same as those on any other mixer. There are, however, two significant differences: 1) the faders are motorized, and 2) they have more than one function.

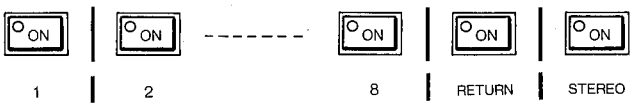
Because the faders are motorized, they may feel slightly "heavier" than conventional types during manual operation. This, however, does not affect mixing precision or performance. These faders have, in fact, undergone extensive, severe testing, and have proven to be extremely reliable as well as of exceptionally high quality.

You'll notice that despite the fact that the DMP7 has three effect systems, and three effect sends for each channel, corresponding level controls are not provided on the panel. In the DMP7, the jobs of controlling channel level and the three effect send levels have been assigned to a single fader for each channel. The four indicator lamps at the top left of the panel tell you which function the channel faders are currently performing: SEND 1, SEND 2, SEND 3 or CHANNEL. The effect RETURN fader individually controls return level for each of the three effect systems. The STEREO master output fader is motorized like the others, but does not have any secondary functions.



CHANNEL ON KEYS

The ON keys located immediately above each fader simply turn the signal related to the corresponding fader ON or OFF. These keys are alternate-action types, alternating between ON and OFF states each time the key is pressed. The key is ON when the red LED built into it is lit. The channel ON keys function like channel ON/OFF or MUTE switches on a conventional mixer. When OFF, the signal from that channel is shut off and will not appear at the stereo buss or any of the effect sends. The return channel ON key turns the return signal from any of the three effects systems on or off (depending on the selected send), and the stereo channel ON key turns the DMP7's main stereo outputs ON or OFF.



PAN

The DMP7 permits panning the signal from each input channel across the stereo buss in 17 discrete steps. The PAN display on the DMP7's LCD shows two numbers: L=n and R=n, where "n" is an integer between 0 and 16. A setting of L=8 R=8, for example, corresponding to center pan positioning. With a setting of L=16 R=0 the signal would be panned full left, and setting of L=12 R=4 would place the signal approximately three-quarters right.

PAN INDICATOR	PAN SETTING
◀ □ ▷	L=16, R=0 (left-most)
◀ ■ ▷	L=15, R=1~L=9, R=7 (left)
◁ ■ ▷	L=8, R=8 (center)
◁ ■ ▶	L=7, R=9~L=1, R=15 (right)
◁ □ ▶	L=0, R=16 (right-most)

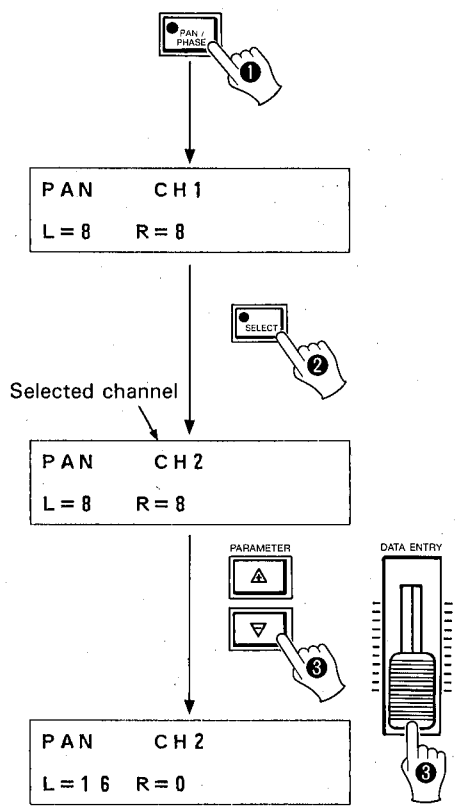
*When PAN is controlled via MIDI, panning occurs in 128 discrete steps.

SETTING PAN

❶ Press PAN/PHASE key.

❷ Press SELECT key for channel to be panned.

❸ Use either DATA ENTRY slider or PARAMETER +/– keys to set desired degree of pan. PARAMETER ◁/▷ keys can also be used to set PAN.



PHASE

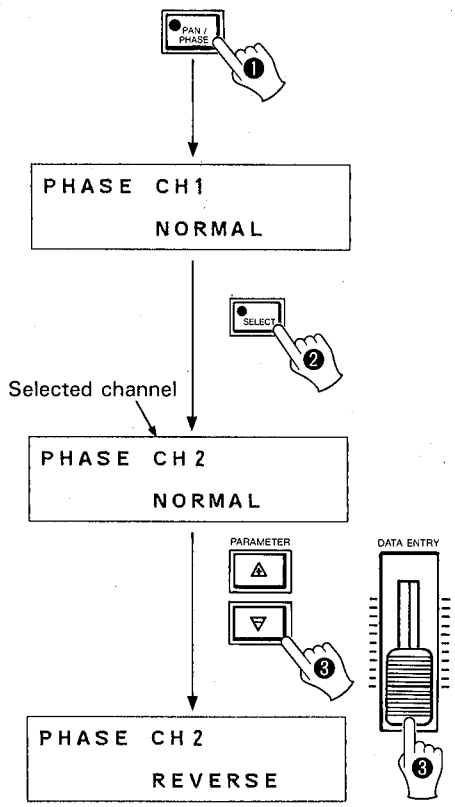
As in a conventional mixer, the phase inversion function on the DMP7 allows matching the phases of different sources to prevent level and response irregularities. Although it is generally not a problem with line sources, proper phase matching can be critical with microphone sources (e.g. when the DMP7 is used with the optional MLA7 8-channel microphone amplifier).

SETTING PHASE

❶ Press PAN/PHASE key twice (once if PAN mode is already selected).

❷ Press SELECT key of channel for which PHASE is to be adjusted.

❸ Use DATA ENTRY slider or PARAMETER +/– keys to select NORMAL or REVERSE phase.



EQUALIZATION

The DMP7 offers a versatile 3-band parametric EQ system on each channel. The HI and LOW bands can be set to function as either peaking or shelving filters, while the MID band is always peaking type. In the peaking mode, all bands permit Q adjustment over a wide 0.1—5 range, permitting precise adjustment of a specific range of frequencies.

SETTING EQ

❶ Press SELECT key on channel for which EQ is to be adjusted.

❷ Press either the LOW EQ, MID EQ or HI EQ key to select the desired EQ range:

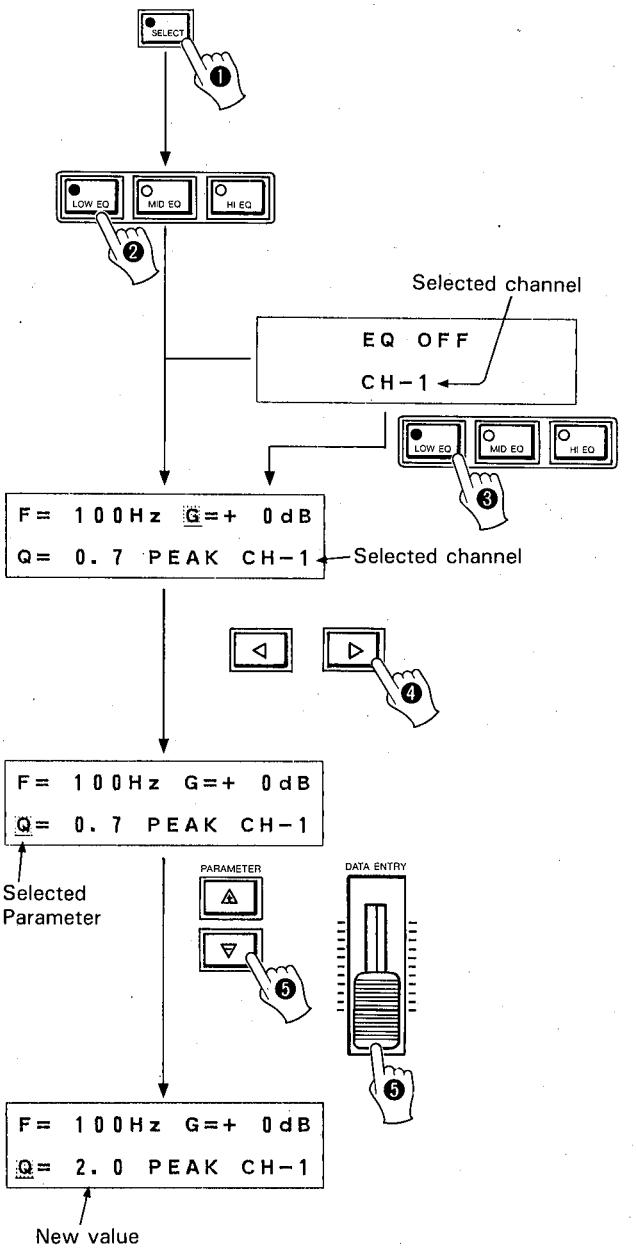
LOW EQ	: 32 Hz—800 Hz
MID EQ	: 250 Hz—8.0 kHz
HI EQ	: 1.0 kHz—18 kHz

❸ If the "EQ OFF" display appears, press the same EQ band selector a second time to turn that band ON. A band which is ON can be turned OFF by pressing its selector a second time.

❹ Use the PARAMETER ◁/▷ keys to select the parameter to be changed (block cursor flashes over first character of parameter):

"F"	= Frequency
"G"	= Gain (−15 dB—+15 dB)
"Q"	= Bandwidth, or Quality Factor (0.1—5, only when "PEAK" filter mode is selected)
"PEAK"	= Peaking EQ/"SHELV" = Shelving EQ

❺ Use DATA ENTRY slider or PARAMETER +/− keys to set the value of the selected parameter.



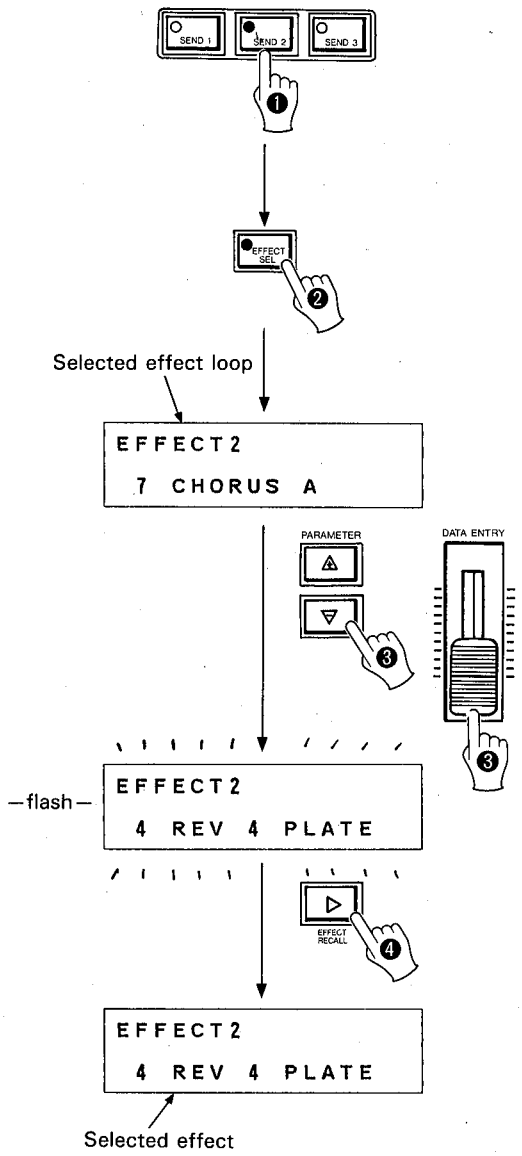
INTERNAL EFFECTS SEND

The DMP7 has three completely independent effect send/return loops, each of which access its own group of top-quality internal digital effects. SEND 1 and SEND 2 access the following 17 internal effects:

1. REV 1 HALL
2. REV 2 ROOM
3. REV 3 VOCAL
4. REV 4 PLATE
5. FLANGE A
6. FLANGE B
7. CHORUS A
8. CHORUS B
9. PHASING
10. TREMOLO
11. SYMPHONIC
12. EARLY REF. 1
13. EARLY REF. 2
14. GATE REVERB
15. REVERSE GATE
16. DELAY L&R
17. STEREO ECHO

SEND 3 offers 5 internal effects, and allows access to outboard effects units via the rear-panel EFFECTS SEND and EFFECTS RETURN L & R jacks. When SEND 3 is used as an external loop, it provides a choice of 3 EQ bands (LO, MID or HI) in series with the EFFECT RETURN jacks. The effects provided for SEND 3 are:

1. STEREO ECHO
2. FLANGE
3. CHORUS
4. PHASING
5. PANPOT
6. EXTERNAL LOW EQ
7. EXTERNAL MID EQ
8. EXTERNAL HI EQ



SELECTING AN EFFECT LOOP AND EFFECT

❶ Press either the SEND 1, SEND 2 or SEND 3 key to select the desired effect loop.

❷ Press the EFFECT SEL key to enter effect selection mode.

❸ Use the DATA ENTRY slider or PARAMETER +/– keys to select the desired effect (the effect name will flash on the LCD)

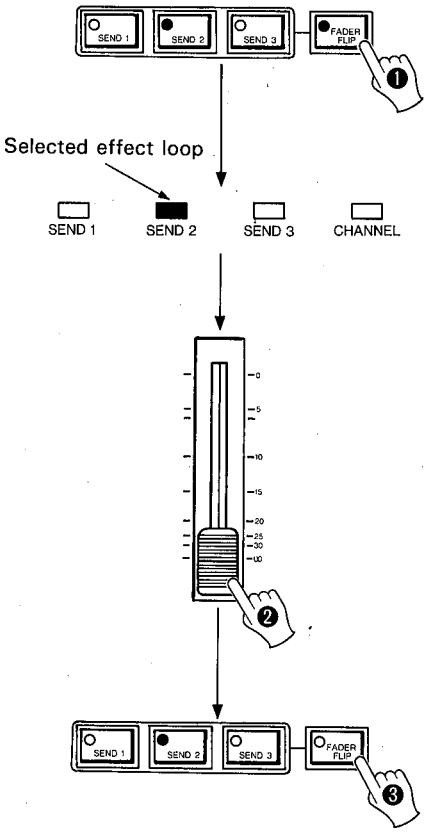
❹ Press the EFFECT RECALL key to activate the selected effect (the effect name will stop flashing).

SETTING SEND LEVELS TO THE SELECTED EFFECT

❶ With the desired effect loop selected (SEND 1, 2 or 3), press the FADER FLIP key. The FADER FLIP key LED will light, the CHANNEL indicator at the top left-hand side of the display panel will go out and the SEND indicator corresponding to the currently selected effect loop will light. The channel faders now function as effect send level controls for their own channels.

❷ Set up the desired effect send levels using the channel faders.

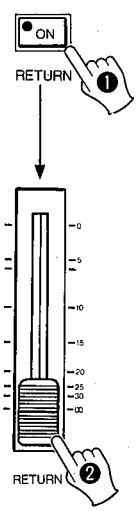
❸ Press the FADER FLIP key again to return to the main channel fader level settings.



SETTING THE RETURN LEVEL FROM THE SELECTED EFFECT

❶ With the desired effect loop selected (SEND 1, 2 or 3), press the RETURN channel ON key to turn its LED ON (if it is not already ON).

❷ Set the RETURN fader to the desired level.



* This process must be carried out independently for each effect loop. As you switch from effect loop to effect loop (e.g. from SEND 1 to SEND 2, etc.,) the RETURN ON/OFF status and RETURN fader level memorized for the selected effect loop will be recalled.

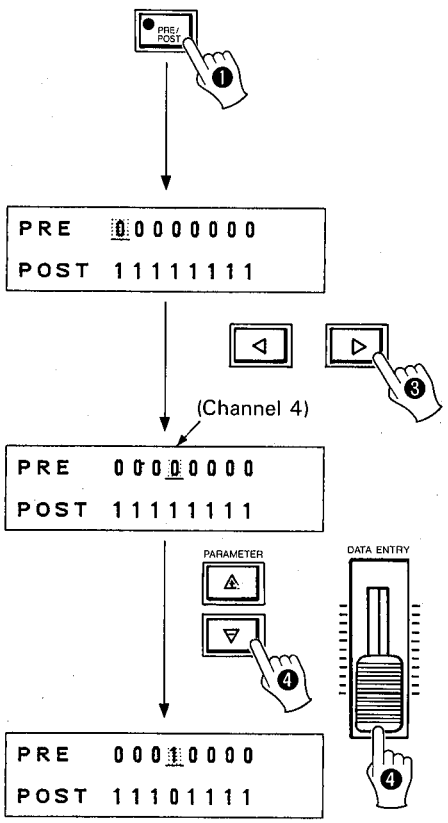
SELECTING PRE- OR POST-FADER EFFECT SEND

❶ Press the PRE/POST key.

❷ From left to right, the 8 columns of 0/1 digits that appear on the LCD represent input channels 1 through 8. "0" represents OFF, and "1" represents ON. If, for example, the first-column digit in the "PRE" (top) row is "0" and the digit below it in the "POST" row is "1," then the channel-1 effect send is set post-fader (this is the default setting for all channels).

❸ Use the PARAMETER ◁/▷ keys to select the desired channel send (the cursor will flash in the top row of the selected column).

❹ Use the PARAMETER +/– keys or DATA ENTRY slider to set PRE or POST status for the selected channel.

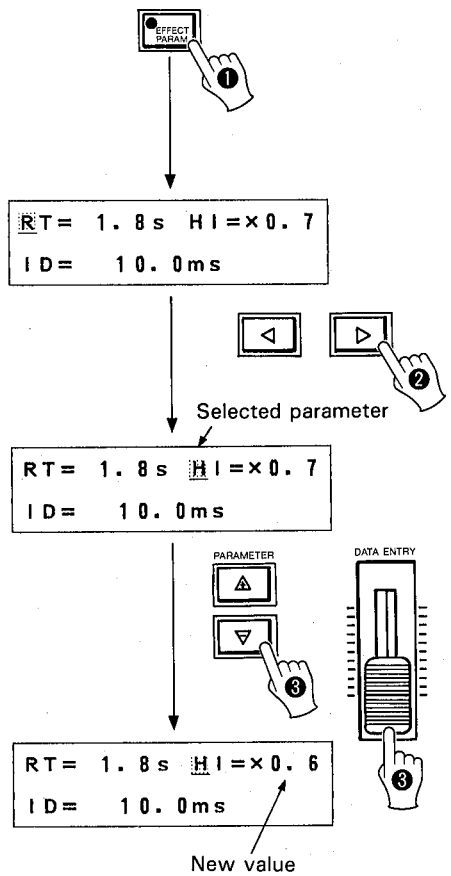


MODIFYING EFFECT PARAMETERS

❶ With the desired effect loop and effect selected, press the EFFECT PARAM key to activate the effect parameter edit mode.

❷ Use the PARAMETER ◁/▷ keys to select the desired parameter.

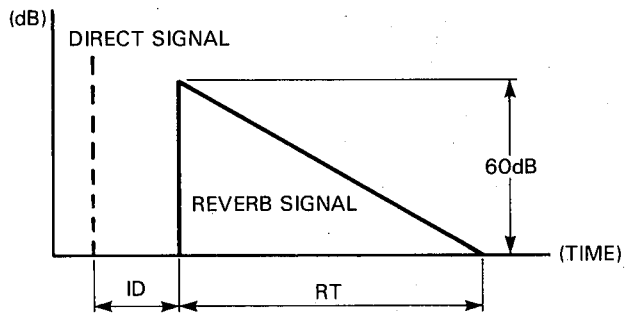
❸ Use the DATA ENTRY slider or PARAMETER +/− keys to set the desired value for the selected parameter.



The following is a summary of the DMP7's internal effects and their parameters:

SEND 1 & SEND 2 EFFECTS & PARAMETERS

1. REV 1 HALL
2. REV 2 ROOM
3. REV 3 VOCAL
4. REV 4 PLATE



Reverb Time (RT): 0.3—99 seconds

The length of time it takes for the level of reverberation at 1 kHz to decrease by 60 dB—virtually to silence. In a live setting, this depends on several factors: room size, room shape, type of reflective surfaces, and others.

High Frequency Reverb Time Ratio (HI): ×0.1—×1.0

Natural reverberation varies according to the frequency of the sound. The higher the frequency, the more sound tends to be absorbed by walls, furnishings and even air. This parameter allows alteration of the high-frequency reverb time in relation to the overall reverb time.

Initial Delay (ID): 0.1—1000 milliseconds

This parameter represents the delay between the direct sound of an instrument and the first of the many reflections that together form reverberation.

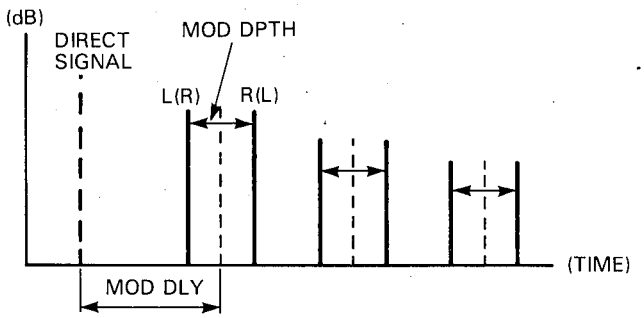
High-pass Filter (HPF): THRU, 32 Hz—1000 Hz

Permits rolling off the low-frequency content of the reverb signal below the set frequency. The HPF is OFF when set to THRU.

Low-pass Filter (LPF): 1 kHz—18 kHz, THRU

Permits rolling off the high-frequency content of the reverb signal above the set frequency. The LPF is OFF when set to THRU.

5. FLANGE A
6. FLANGE B



Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the speed of modulation, and hence the rate at which the effect varies.

Modulation Depth (MOD DPTH): 0%—100%

Sets the amount of delay time variation, thus adjusting the depth of the effect. At the maximum setting, the delay time is varied by ±4 msec.

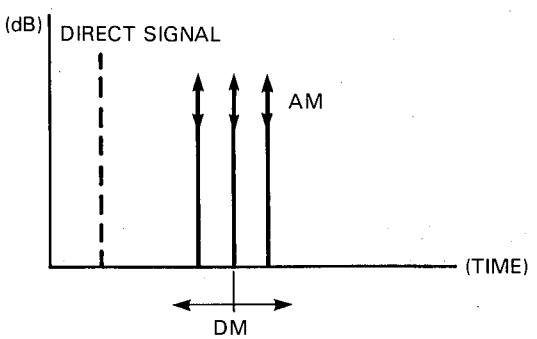
Modulation Delay (MOD DLY): 0.1 ms—100 ms

This sets the basic delay time from the initial direct sound to the beginning of the flange effect.

Feedback Gain (F B GAIN): 0%—99%

Determines the amount of flange signal which is fed back to the input of the processor for further modulation. More feedback increases the overall complexity, "strength" and decay time of the effect.

7. CHORUS A
8. CHORUS B



Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the rate of modulation, and hence the speed at which the effect varies.

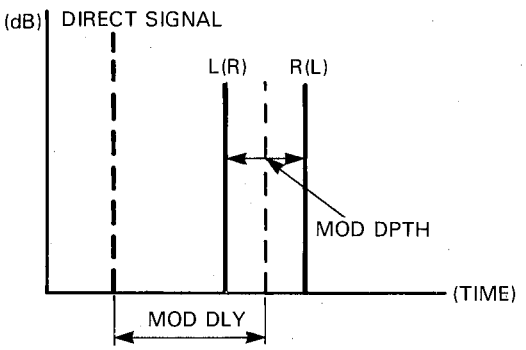
Delay Modulation Depth (DM): 0%—100%

This sets the amount by which the delay time of one delay signal is varied in relation to the other. At the maximum setting the delay time is varied by ±4 msec.

Amplitude Modulation Depth (AM): 0%—100%

Sets the amount by which the amplitude (level) of the input signal is varied.

9. PHASING



Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the modulation speed of the phasing effect.

Modulation Depth (MOD DPTH): 0%—100%

Sets the amount of delay time variation, thus adjusting the depth of the effect. At the maximum setting, the delay time is varied by ±4 msec.

Modulation Delay (MOD DLY): 0.1—5.8 milliseconds

This sets the delay time from the initial direct sound to the beginning of the phasing effect.

10. TREMOLO

Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the modulation speed of the tremolo effect.

Modulation Depth (MOD DPTH): 0%—100%

Sets the depth (amount of amplitude variation) of the tremolo effect.

11. SYMPHONIC

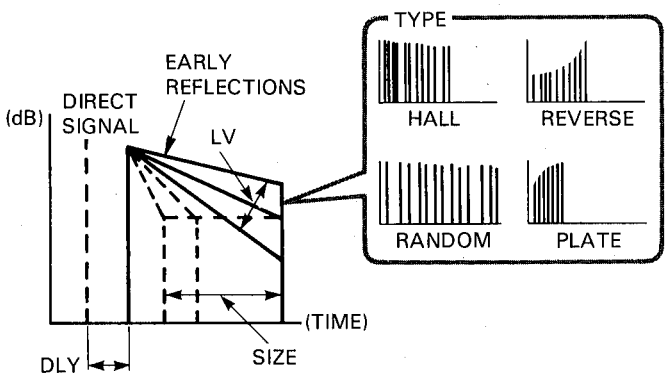
Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the modulation speed of the Symphonic effect.

Modulation Depth (MOD DPTH): 0%—100%

Sets the depth (amount of delay time variation) of the effect.

12. EARLY REF. 1
13. EARLY REF. 2
14. GATE REVERB
15. REVERSE GATE



Early Reflection Pattern (TYPE): HALL/RANDOM/REVERSE/PLATE

The TYPE parameter selects one of four different patterns of early reflections. HALL produces a typical grouping of early reflections that would occur in a performing environment such as a hall. RANDOM produces an irregular series of reflections that could not occur naturally. PLATE produces a typical grouping of reflections that would occur in a plate reverb unit. REVERSE generates a series of reflections that increase in level—like the effect produced by playing a recorded reverberation sound backwards.

Room Size (SIZE): 0.1—20

This parameter sets the time intervals between the early reflections—a feature of natural early reflections which is directly proportional to the size of the room.

Liveness (LV): 0—10

"Liveness" refers to the rate at which the reflected sounds decay. An acoustically "dead" room is simulated by setting this parameter to zero. Increasing the value of this parameter creates an increasingly "live" sound, simulating an increasing area of reflective surfaces in the room.

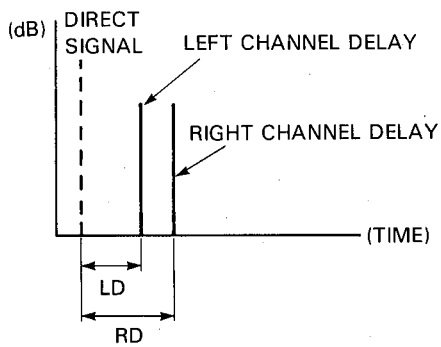
Delay (DLY): 0.1—1000 milliseconds

The time delay between the direct sound of the instrument and the first of the early reflections.

Low-pass Filter (LPF): 1 kHz—18 kHz, THRU

Permits rolling off the high-frequency content of the early reflection signal above the set frequency. The LPF is OFF when set to THRU.

16. DELAY L&R



Left Channel Delay (LD): 0.1—1400 milliseconds

Sets the delay time between the direct sound of the instrument and the first repeat heard from the left channel.

Left Channel Feedback Gain (LFG): 0%—99%

Sets the amount of the left-channel delay signal fed back to the input of the processor. The higher the feedback gain setting, the greater the number of delayed repeats produced.

Right Channel Delay (RD): 0.1—1400 milliseconds

Sets the time between the direct sound of the instrument and the first repeat heard from the right channel.

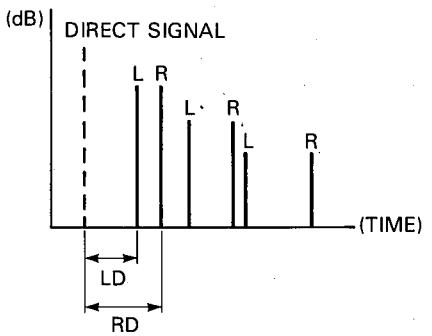
Right Channel Feedback Gain (RFG): 0%—99%

Sets the amount of the right-channel delay signal fed back to the input of the processor. The higher the feedback gain setting, the greater the number of delayed repeats produced.

High Frequency Feedback (HIGH): ×0.1—×1.0

Controls the high-frequency content of the feedback signal. The amount of high-frequency feedback is reduced as the value of this parameter is decreased.

17. STEREO ECHO



Left Channel Delay (LD): 0.1—700 milliseconds

After the delay set by this parameter, the first left-channel echo will appear. Subsequent echoes will appear at the same time interval, the number of echoes depending on the setting of the feedback gain setting for the corresponding channel.

Left Channel Feedback Gain (LFG): 0%—99%

Adjusts the number of echoes that follow the direct signal—from zero to a virtually infinite number of echoes at the maximum setting.

Right Channel Delay (RD): 0.1—700 milliseconds

Same as Left Channel Delay, but affects the right channel only.

Right Channel Feedback Gain (RFG): 0%—99%

Same as Left Channel Feedback Gain, but affects the right channel only.

High Frequency Feedback (HIGH): ×0.1—×1.0

Controls the high-frequency content of the feedback signal. The amount of high-frequency feedback is reduced as the value of this parameter is decreased.

SEND 3 EFFECTS & PARAMETERS

1. STEREO ECHO

Left Channel Delay (LD): 0.1—175 milliseconds

After the delay set by this parameter, the first left-channel echo will appear. Subsequent echoes will appear at the same time interval, the number of echoes depending on the setting of the feedback gain setting for the corresponding channel.

Left Channel Feedback Gain (LFG): 0%—99%

Adjusts the number of echoes that follow the direct signal—from zero to a virtually infinite number of echoes at the maximum setting.

Right Channel Delay (RD): 0.1—175 milliseconds

Same as Left Channel Delay, but affects the right channel only.

Right Channel Feedback Gain (RFG): 0%—99%

Same as Left Channel Feedback Gain, but affects the right channel only.

High Frequency Feedback (HIGH): ×0.1—×1.0

Controls the high-frequency content of the feedback signal. The amount of high-frequency feedback is reduced as the value of this parameter is decreased.

2. FLANGE

Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the speed of modulation, and hence the rate at which the effect varies.

Modulation Depth (MOD DPTH): 0%—100%

Sets the amount of delay time variation, thus adjusting the depth of the effect. At the maximum setting, the delay time is varied by ±4 msec.

Modulation Delay (MOD DLY): 0.1 ms—100 ms

This sets the basic delay time from the initial direct sound to the beginning of the flange effect.

Feedback Gain (F B GAIN): 0%—99%

Determines the amount of flange signal which is fed back to the input of the processor for further modulation. More feedback increases the overall complexity, "strength" and decay time of the effect.

3. CHORUS

Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the speed of delay time modulation, and hence the rate at which the effect varies.

Delay Modulation Depth (DM): 0%—100%

This sets the amount of delay time variation, thus adjusting the depth of the effect. At the maximum setting the delay time is varied by ±4 msec.

Amplitude Modulation Depth (AM): 0%—100%

Sets the amount by which the amplitude (level) of the input signal is varied.

4. PHASING

Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the speed of phase modulation, and thus the rate at which the effect varies.

Modulation Depth (MOD DPTH): 0%—100%

Sets the amount of delay time variation, thus adjusting the depth of the effect. At the maximum setting, the delay time is varied by ±4 msec.

Modulation Delay (MOD DLY): 0.1—5.8 milliseconds

This sets the delay time from the initial direct sound to the beginning of the phasing effect.

5. PANPOT

Modulation Frequency (MOD FREQ): 0.1 Hz—20 Hz

Sets the speed of pan (the speed at which the signal sweeps from channel to channel.

Modulation Depth (MOD DPTH): 0%—100%

Sets the spatial depth of the pan effect: i.e. how far the signal apparently moves within the stereo sound field.

EXTERNAL EFFECTS

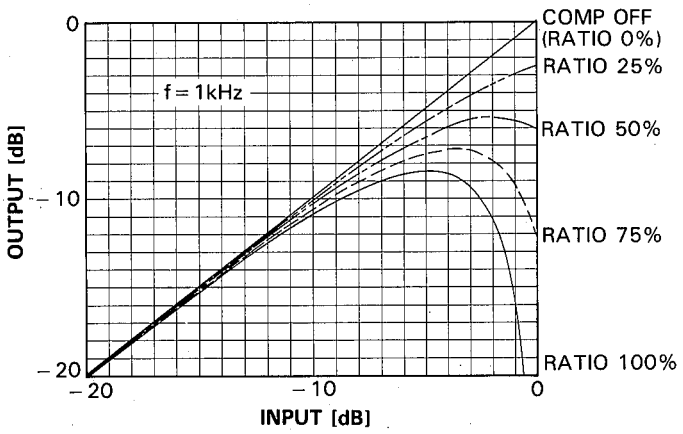
When either effect 6, 7 or 8 (EXTERNAL LEQ, EXTERNAL MEQ or EXTERNAL HEQ, respectively) of SEND 3 is selected, the external effect loop becomes active and an external effect device connected between the EFFECT SEND and EFFECT RETURN jacks can be used. Note that it is not possible to simultaneously use the SEND 3 internal effects and an external effect. The three external effect settings provided offer a degree of EQ control over the returned effects signal. Only one EQ band can be set at a time.

6. EXTERNAL LEQ
7. EXTERNAL MEQ
8. EXTERNAL HEQ

The external EQ band is selected and its parameters one accessed in exactly the same way as the other internal effects. The EQ parameters are exactly the same as those provided by the DMP7's channel EQ system, described on page 14

STEREO COMPRESSOR

The DMP7's digital stereo compressor is the last active element on the stereo output buss prior to D/A conversion. It permits compressing the overall stereo program to any desired degree, limiting dynamic range, for example, prior to recording the program on tape.



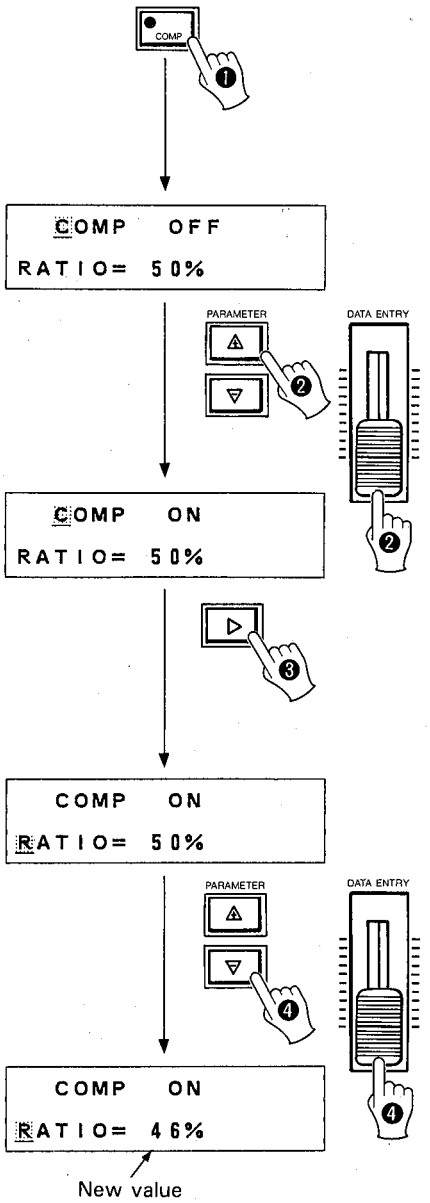
SETTING THE COMPRESSOR

❶ Press the COMP key.

❷ Use the PARAMETER +/– keys or DATA ENTRY slider to turn the compressor ON or OFF.

❸ Use the PARAMETER ▷ key to move the cursor to the "RATIO" parameter.

❹ Use the PARAMETER +/– keys or DATA ENTRY slider to set the desired compression ratio (0%–100%). "0%" corresponds to no compression, "100%" represents maximum compression.



SOLO

The DMP7 SOLO function permits monitoring of a specified input channel, group of input channels, or effect return signal via the stereo output buss.

USING THE SOLO FUNCTION

❶ Press the SOLO key to activate the solo function. The SOLO key LED, eight channel ON key LEDS and RETURN channel ON key LED will flash.

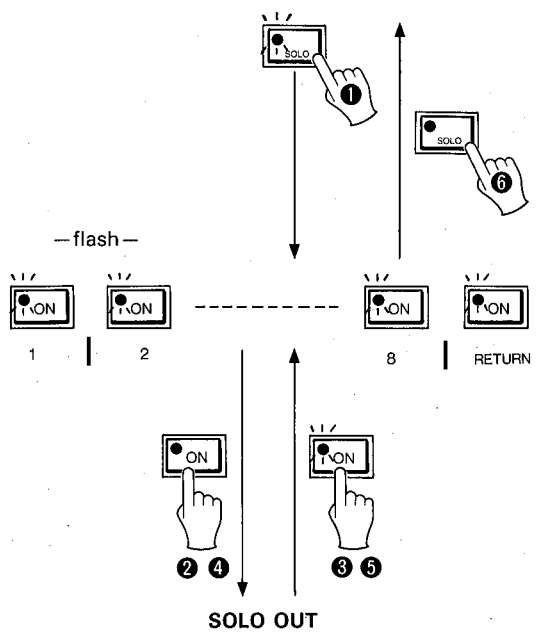
❷ Press the ON key(s) of the channel(s) to be monitored. The ON key LEDs of the selected channel(s) will light continuously and the selected channel signals will be fed to the stereo program buss for monitoring.

❸ Pressing the ON key of a selected channel a second time disengages the SOLO monitoring of that channel.

❹ Press the RETURN channel ON key to monitor the effect return signal from the currently selected effect loop (SEND 1, SEND 2 or SEND 3).

❺ Press the RETURN channel ON key a second time to disengage effect return SOLO monitoring

❻ Press the SOLO key a second time to disengage the solo function.



* Channel signals may be monitored singly or in any combination, while the return signal for the selected effect loop is monitored for all channels assigned to that effect loop.

MEMORY

INTERNAL AND CARTRIDGE MEMORY

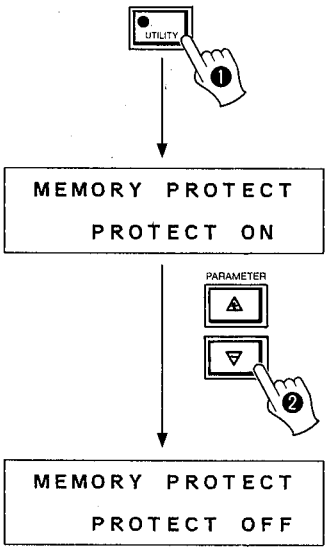
The DMP7 has 30 internal RAM memory locations (1—30) which are capable of storing all DMP7 parameters. External Yamaha RAM4 cartridges (one piece included) provide an extra 67 memory locations. When a RAM4 cartridge is plugged into the DMP7 cartridge slot, memory numbers 31—97 correspond to the 67 locations provided by the cartridge. Memory numbers 31—97 are not usable unless a properly initialized RAM4 cartridge is plugged into the cartridge slot. There is also a memory location 0, and this is a read only memory location which contains the initial data for all DMP7 parameters. The data in this location cannot be rewritten or erased.
The DMP7 memory system allows you to store entire "scenes" (a "scene" is a complete set of parameters: fader settings, effects, EQ, etc.) in each memory location. With an external cartridge plugged in that means you have a total of 97 different scenes "on-line," ready for instant recall whenever they are needed.

MEMORY PROTECT

The DMP7 has a memory protect feature which prevents unwanted alterations to the memory contents. When memory protect is ON, the memory store operation to the internal or cartridge memory can not be performed. Make sure memory protect is OFF prior to storing new memory data.

❶ Press UTILITY key. The memory protect function is the first called when the UTILITY key is pressed.

❷ Use the PARAMETER +/— keys to turn memory protect ON or OFF.



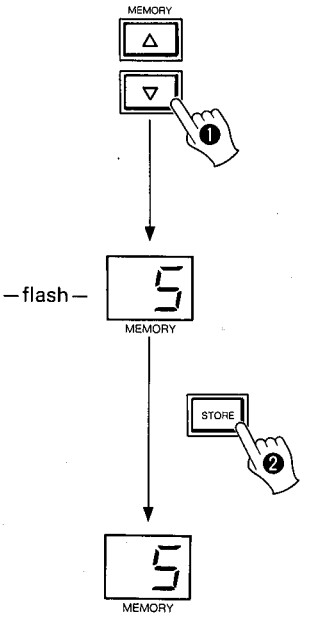
* Please note that there is also a MEMORY PROTECT switch on RAM4 cartridge that must be turned OFF if you wish to store data to a cartridge memory location.

MEMORY STORE

This function is used to store the scene (all parameters) currently set up on the DMP7. Memory protect must be OFF prior to using the store function. You do not need a RAM4 cartridge to store data into memory locations 1—30, but a properly initialized RAM4 cartridge (with the cartridge memory protect switch turned OFF) must be plugged into the cartridge slot in order to store data in memory locations 31—97.

❶ Use the memory △/▽ keys to select the memory location into which you wish to STORE. The selected memory location is shown on the MEMORY LED display. Hold down either MEMORY △/▽ key to scroll quickly through the memory locations. The selected memory location number will flash on the LED display.

❷ Press the MEMORY STORE key to store all current DMP7 settings in the selected memory location. The memory location number will stop flashing if the STORE operation is successful.



* The "MEMORY PROTECT!" display will appear and the STORE operation will be aborted if you attempt to STORE with the DMP7 memory protect function ON.

```
MEMORY PROTECT!
```

* If you attempt to STORE to memory location 0, the display will read "MEMORY NO. 0 is READ ONLY!" and the STORE operation will be aborted.

```
MEMORY NO. 0 is
     READ ONLY !!
```

* If you attempt to store to a cartridge memory location (31—97) while the cartridge memory protect switch is ON, the display will read "RAM CARTRIDGE PROTECT ON!" and the STORE operation will be aborted

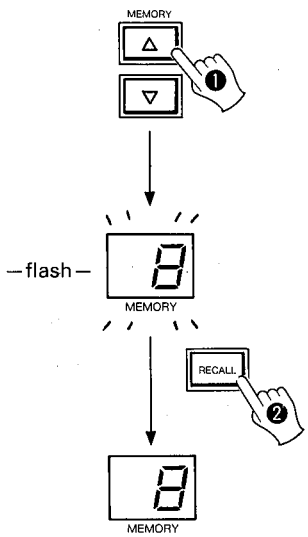
```
RAM CARTRIDGE
  PROTECT ON !!
```

MEMORY RECALL

This function allows you to recall an entire scene from a previously stored memory location.

❶ Use the memory △/▽ keys to select the memory location from which you wish to RECALL data. The selected memory location is shown on the MEMORY LED display. Hold down either MEMORY △/▽ key to scroll quickly through the memory locations. The selected memory location number will flash on the LED display.

❷ Press the MEMORY RECALL key to recall the stored scene from the selected memory location. The memory location number will stop flashing if the RECALL operation is successful, and the title of the recalled scene will appear on the top line of the LCD if one has been programmed using the MEMORY TITLE EDIT function (see "MEMORY TITLE EDIT," page 26).



* If the memory protect function is ON when a memory is recalled, "PROTECT" will appear on the bottom line of the LCD. The memory protect function being ON does not prevent memory recall.

* If you select a memory location which has not been previously stored, the display will read "This Memory Has NO DATA!". If you then attempt to RECALL this memory the display will read "** CAUTION!! ** *** NO DATA ***" and the RECALL operation will be aborted.

```
This Memory Has
    NO DATA !!!!
```

```
** CAUTION !! **
*** NO DATA  ***
```

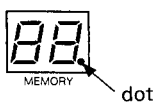
* If you attempt to recall memory locations 31—97 with no cartridge plugged into the cartridge slot, the display will read "NO CARTRIDGE!!! PLEASE SET ONE".

```
NO CARTRIDGE !!!
  PLEASE SET ONE
```

* If a cartridge which has not been specifically initialized for use with the DMP7 is plugged in and you attempt to recall a cartridge memory location, the display will read "CAUTION!! WRONG CARTRIDGE" and recall will not be possible.

```
CAUTION !!!
 WRONG CARTRIDGE
```

* If any changes are made to any DMP7 settings after a memory has been recalled, an LED dot will light to the right of the second digit in the LED MEMORY number display, indicating that the recalled data has been changed.



* The entire contents of the DMP7 memory can be cleared by first turning the power OFF, then turning the power back ON while holding both the FADER FLIP and PARAMETER ◁ keys.

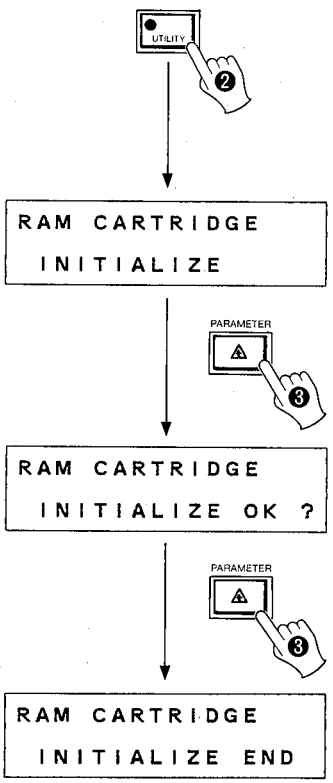
INITIALIZING NEW CARTRIDGES

Yamaha RAM4 cartridges must be initialized by the DMP7 before they can be used with the DMP7!

❶ Make sure a new Yamaha RAM4 cartridge (or an old one which you don't mind erasing) is properly inserted into the cartridge slot, and that the cartridge's memory protect switch is OFF.

❷ Press UTILITY key a few times to call RAM CARTRIDGE INITIALIZE function (the RAM CARTRIDGE INITIALIZE function will NOT appear if a RAM4 cartridge is not installed).

❸ Press the PARAMETER + key to begin initialization.



* If the cartridge memory protect switch is ON when you attempt to initialize, the display will read "RAM CARTRIDGE PROTECT ON!!" and the initialization function will be aborted.

EDIT TITLE

The EDIT TITLE function makes it possible to assign up to a 16-character (including spaces) title to each scene stored in the DMP7 memory. The assigned title appears in the LCD when the corresponding memory number is selected, facilitating identification.

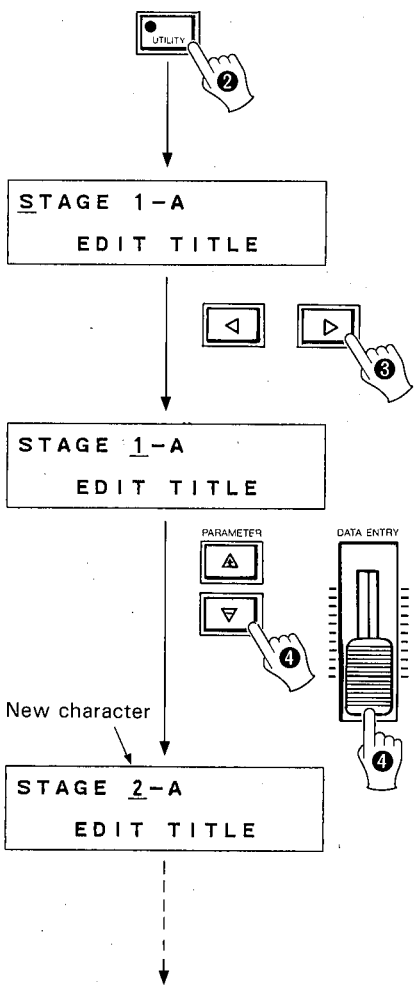
❶ Use the normal MEMORY RECALL procedure to recall the memory number to which you wish to assign a title.

❷ Press the UTILITY key twice to call the EDIT TITLE function. The EDIT TITLE function cannot be accessed if memory number 0 is selected, or a cartridge memory is selected when no cartridge is installed.

❸ A line cursor appears under the first character on the first line of the LCD. Use the PARAMETER ◁/▷ keys to move the cursor to any character on the first line you wish to change.

❹ Use the PARAMETER +/– keys or data entry slider to place a new character in the current cursor location.

❺ Move the cursor to the next character to be edited and continue the process until your title is completed on the first line of the LCD.



* The following characters can be selected using the PARAMETER ENTRY +/– keys or DATA ENTRY slider, in the following sequence:

0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				
ä	ü	ö							
a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z				
space									
(	)	<	>	[	]	{	}	@	+
–	*	/	=	.	,	·	'	"	:
;	!	?	&	#	$	%	¥		
space									
ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ
サ	シ	ス	セ	ソ	タ	チ	ツ	テ	ト
ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ
マ	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ
ル	レ	ロ	ワ	ヲ	ン	ャ	ュ	ョ	ッ
゛	°	、	。						
space									

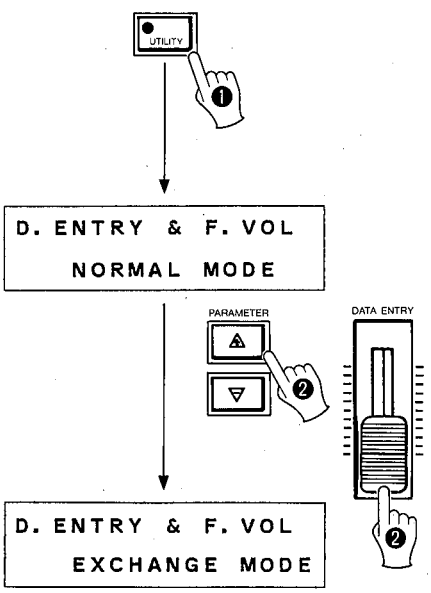
FOOT CONTROL

An optional Yamaha FC7 Foot Controller plugged into the DMP7's rear-panel FOOT VOL jack performs the same function as the master STEREO fader, controlling stereo output volume.
It is possible to exchange the function of the foot control unit with that of the DATA ENTRY slider, making it possible to control other parameters via the foot control. Foot control of equalization or effect parameters could be used for real-time expression control during a performance.

EXCHANGING FOOT CONTROL AND DATA ENTRY FUNCTIONS

❶ Press the UTILITY key several times to call the D. ENTRY & F.VOL function.

❷ Use the PARAMETER +/– keys or DATA ENTRY slider to select the NORMAL MODE (foot controller volume, data entry parameters) or EXCHANGE MODE (foot controller parameters, data entry volume).



To use the foot controller for parameter control, simply call the parameter to be controlled to the LCD display in the same way as you would for normal programming. The value of the selected parameter will be controlled by the foot controller as long as the EXCHANGE MODE is set.

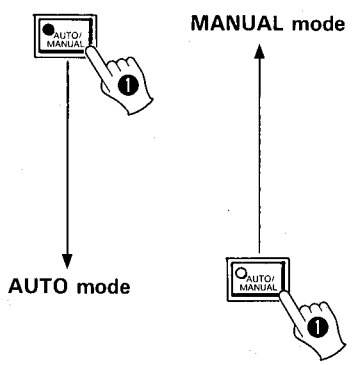
AUTO/MANUAL

The AUTO/MANUAL key makes it possible to override external MIDI fader control so that fader positions may be changed manually while receiving MIDI data. This facilitates making "on-the-fly" modifications to a mixing program being received from a MIDI sequencer or similar device.
Refer to the "MIDI CONTROL" section for details on MIDI control.

❶ Press the AUTO/MANUAL key to select either the AUTO or MANUAL mode. When the AUTO/MANUAL key LED is lit the AUTO mode is selected, and when the LED is out the MANUAL mode is selected.

❷ In the MANUAL mode, the faders will not more under external MIDI control except that through program change and the user can move the faders freely regardless of external MIDI control. When changing scenes using program change, the faders may be stopped manually at any point during motorized travel.

❸ In the AUTO mode the faders will continue to travel to their programmed destinations.



* The AUTO/MANUAL key also functions in conjunction with the UTILITY mode FADER, PANPOT and EQ EDIT CHANNEL ASSIGNMENT functions. See page 38 for details.

OTHER UTILITY FUNCTIONS

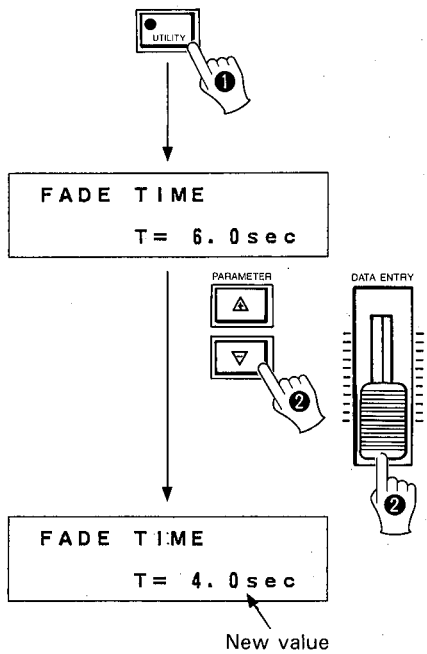
FADE TIME

This function sets the time it takes for the faders to travel their entire length, and the fade time when scenes are switched.

❶ Press the UTILITY key several times until the FADE TIME function appears.

❷ Use the PARAMETER +/– keys or DATA ENTRY slide to select the desired fade time:

0.1, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 7.0, 8.0, 10 sec.



CHANNEL DATA COPY

This function makes it possible to copy all the programmed data from one channel into any other channel. This can save considerable time when setting up similar complex parameters in a number of channels.

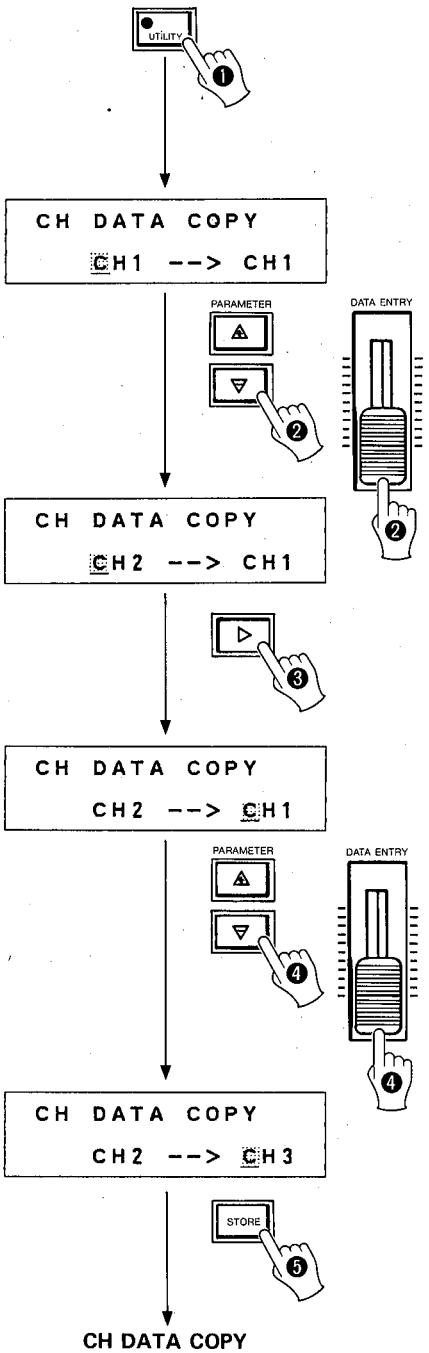
❶ Press the UTILITY key several times until the CH DATA COPY function appears.

❷ Use the PARAMETER +/– keys or DATA ENTRY slider to select the channel from which data is to be copied.

❸ Press the PARAMETER ▷ key to move the cursor to the next (rightmost) channel parameter.

❹ Use the PARAMETER +/– keys or DATA ENTRY slider to select the channel to which the data is to be copied.

❺ Press the MEMORY STORE key to execute the copy operation.



* Note that data is only copied to the work buffer and that a MEMORY STORE operation must be carried out to store the copied data in an internal or cartridge memory location.

MEMORY & MIDI SAVE/LOAD

The MEMORY SAVE function saves the entire contents of the DMP7 internal memory (memory numbers 1 through 30) in either "page 1" (memory numbers 31—60) or "page 2" (memory numbers 61—90) of an external RAM4 cartridge. The MEMORY LOAD function loads the contents of page 1 (31—60) or page 2 (61—90) of an external RAM4 memory into the DMP7's internal memory.
When the MIDI SAVE or LOAD functions are selected, the MIDI program change assignment table is saved to or loaded from a RAM4 cartridge. Separate "hidden" areas of the RAM4 cartridge are used to store MIDI data, so a single cartridge can hold both memory (31—97) and MIDI data. See "MIDI CHANNEL & PROGRAM CHANGE ASSIGNMENT," on page 32.

❶ Press the UTILITY key several times until the MEMORY SAVE/LOAD function appears (the MEMORY SAVE/LOAD function will NOT appear if a RAM4 cartridge is not installed).

❷ Use the PARAMETER ◁/▷ keys to select either the MEMORY or MIDI mode.

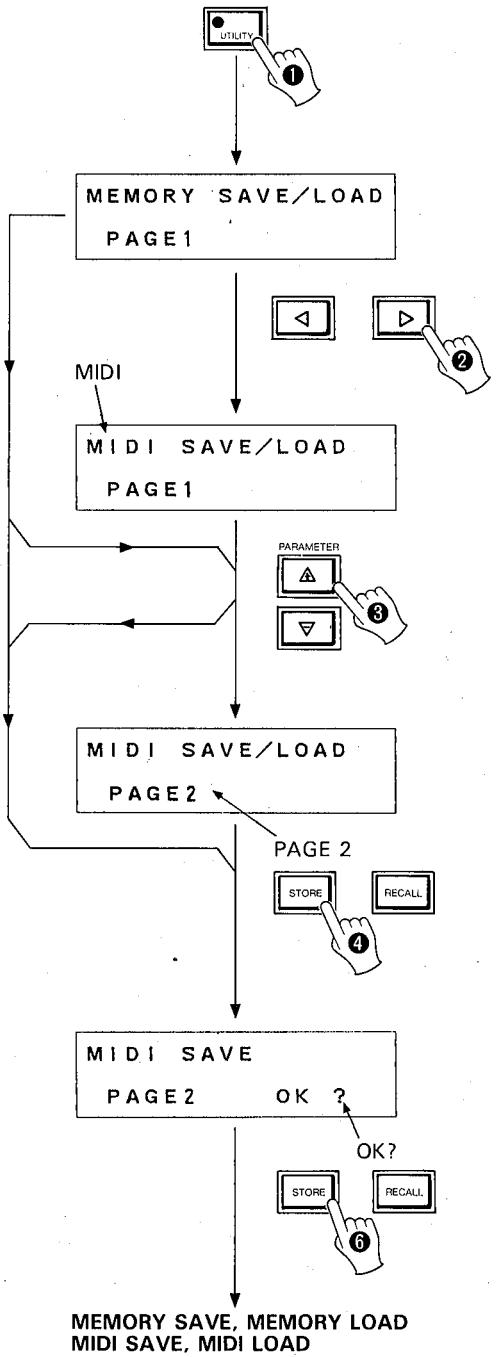
❸ Use the PARAMETER +/− keys to select save/load to or from page 1 or page 2.

❹ Press the MEMORY STORE key to SAVE, or the MEMORY RECALL key to LOAD.

❺ "OK ?" will appear at the bottom right hand corner of the LCD, asking you to confirm your intention to save or load.

❻ Press MEMORY STORE or MEMORY RECALL a second time to execute the store or load operation, or any other key to abort.

* The MEMORY PROTECT function must be turned OFF to save or lead MEMORY data, but has no effect when saving or loading MIDI data.



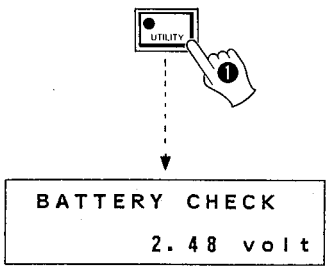
* The word "EXECUTE" will appear on the bottom line of the LCD while the SAVE or LOAD operation is in progress. When completed, "END" will appear.

BATTERY CHECK

This function provides a warning that the memory backup battery must be replaced. Always refer battery replacement to a qualified Yamaha service center. The internal memory backup battery should last for approximately 5 years.

❶ The BATTERY CHECK function is the last on the UTILITY function list, and will appear immediately after the CARTRIDGE INITIALIZE function only if the battery voltage is below 2.5 volts!

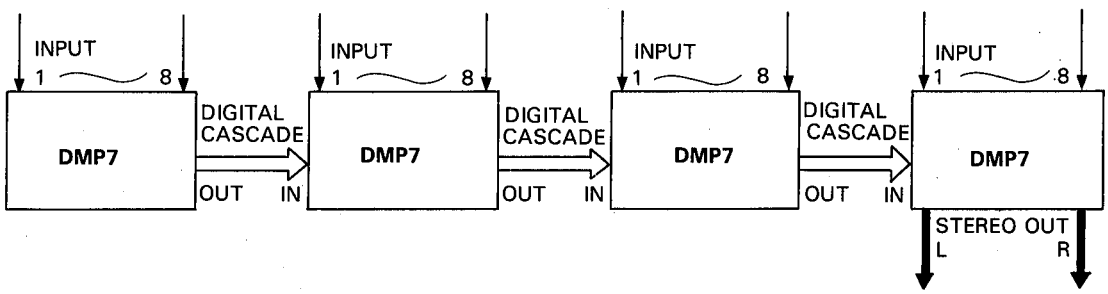
❷ The current battery voltage is displayed on the bottom line of the LCD.



REPLACE BATTERY IF BATTERY CHECK FUNCTION APPEARS!!

CASCADING

2 or more DMP7s can be "cascaded" to provide additional input channels feeding a master stereo output buss. Cascading between DMP7 units is fully digital, so no signal degradation occurs due to cascading.
The CASCADE OUT terminal of the first DMP7 in the cascade chain is connected to the CASCADE IN terminal of the next DMP7, and so on. Output is taken from the STEREO OUT terminals of the last DMP7 in the chain.
Since the CASCADE OUT signal is taken after the master stereo fader, please note that the setting of the master stereo fader on each DMP7 in the chain will affect the total level of output from that DMP7 contributed to the final mix.

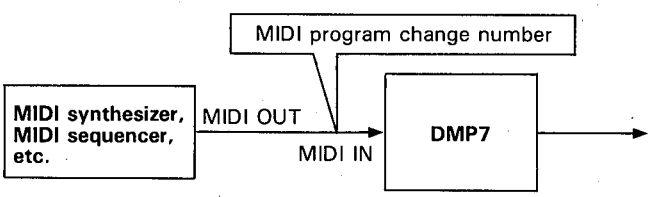


*One cascade cable (2 m) is included with the unit.

SECTION 2: MIDI CONTROL

MIDI SCENE CHANGES

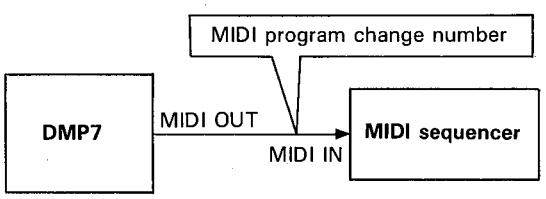
It is possible to change DMP7 scenes (select different memory locations) remotely under MIDI control. MIDI controlled scene changes are effected by sending an appropriate MIDI PROGRAM CHANGE NUMBER to the DMP7 MIDI IN terminal (for more detailed information on MIDI and the MIDI data categories, see Yamaha's "THE MIDI BOOK"). Any MIDI device that can transmit, or record and retransmit MIDI program change numbers can be used to change scenes on the DMP7. A MIDI synthesizer such as the Yamaha DX7II, for example, transmits a program change number every time one of its voice select buttons is pressed. Pressing voice select button 1 transmits program change number 1, and so on, right up to program change number 64.
An alternative is to use a MIDI sequencer such as the Yamaha QX5 to record program change numbers with the appropriate timing, and then play back the program change numbers to change scenes on the DMP7 at just the right moment. Program numbers can be transmitted to and recorded in the sequencer from a synthesizer simply by pressing the appropriate voice selector keys, or directly from the DMP7 itself by calling up the scene changes.



* NOTE: Appropriate MIDI channel and program change assignments must be programmed in the DMP7 before the MIDI scene change capability can be used. Refer to "MIDI CHANNEL & PROGRAM CHANGE ASSIGNMENT," below.

RECORDING PROGRAM CHANGE NUMBERS FROM THE DMP7

Each time a new memory location is selected on the DMP7, the corresponding MIDI program change number is transmitted via the DMP7's MIDI OUT terminal. If the DMP7 MIDI OUTPUT terminal is connected to the MIDI IN terminal of a MIDI sequence recorder such as the QX5, all you have to do is start the sequence recorder in the record mode and change scenes (select different memory locations) on the DMP7 at the appropriate times. When you play back the sequence recorder (the sequence recorder MIDI OUT terminal must be connected to the DMP7 MIDI IN terminal) the scenes will be selected on the DMP7 exactly as they were recorded.



MIDI CHANNEL & PROGRAM CHANGE ASSIGNMENT

The DMP7 has 4 MIDI CONTROL "BANKS," each of which can be set to receive on a different MIDI channel and can be programmed with a completely different set of program change assignments. Program change assignments simply "pair up" specific MIDI program change numbers with specific memory location numbers on the DMP7, so that when a given memory location is selected on the DMP7 the assigned program change number is transmitted via MIDI OUT, and when a program change number is received via MIDI IN, the memory location to which it is assigned is selected.
Note that the DMP7 can be set to receive and transmit on any or all MIDI channels. However, when OMNI is selected, the DMP7 transmits only on channel 1.

❶ Press the MIDI key to select the MIDI CONTROL function.

❷ With the cursor on the BANK parameter, use the PARAMETER +/– keys or DATA ENTRY slider to select the bank to be programmed (A, B, C or D).

❸ Press the PARAMETER ▷ key to move the cursor to the "ch" parameter (channel).

❹ Use the PARAMETER +/– keys or DATA ENTRY slider to select the desired MIDI receive channel (1 –16, OMNI or OFF). When the OMNI mode is selected MIDI data will be received on all 16 channels. When OFF is selected both MIDI transmission and reception are shut off.

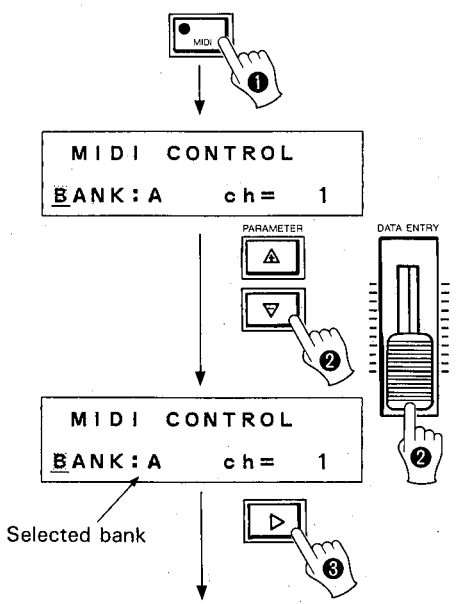
* This is all that has to be done if you simply want to set a new MIDI receive channel for a specific bank. To set program change assignments for the selected bank, continue:

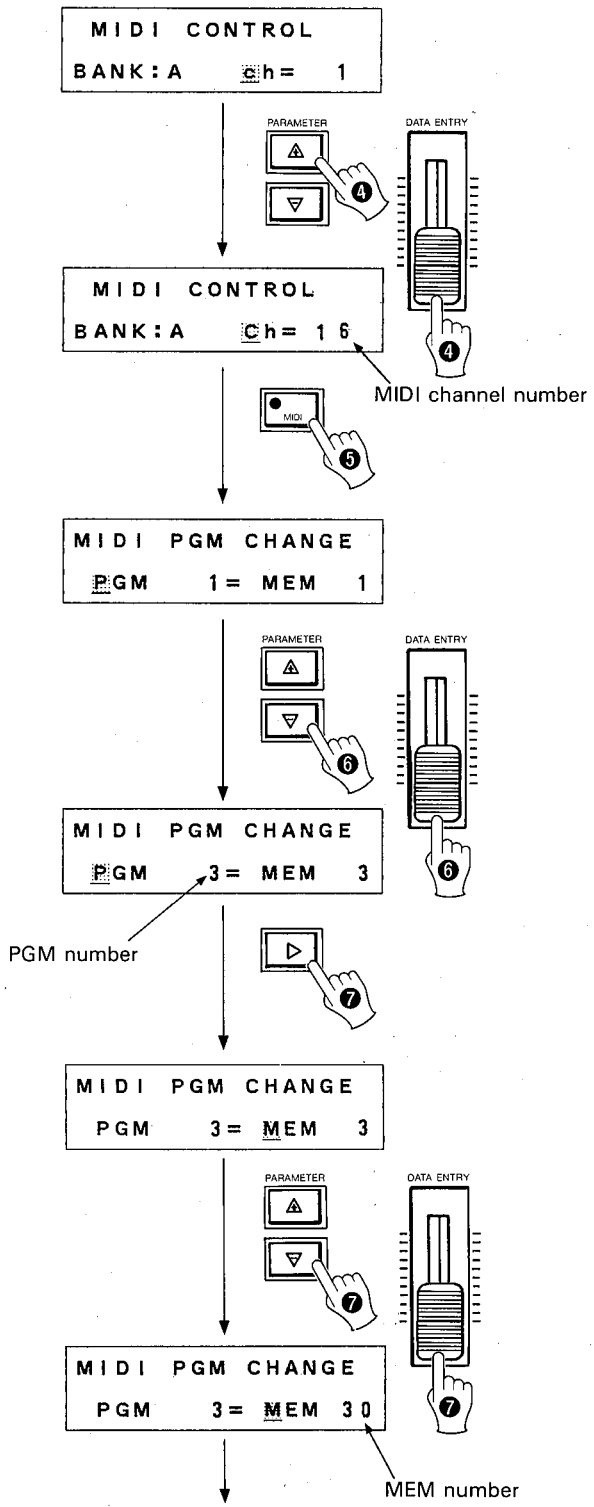
❺ Press the MIDI key again to select the MIDI PGM CHANGE function.

❻ With the cursor on the PGM (program change number) parameter, use the PARAMETER +/– keys or DATA ENTRY slider to select the program change number to which a parameter will be assigned. The PGM parameter can be set to any program number between 1 and 128.

❼ Use the PARAMETER ▷ keys to select the MEM (memory number) parameter, and the PARAMETER +/– keys or DATA ENTRY slider to select the memory number to which the previously selected program change number will correspond. The MEM parameter can be set to any memory number between 0 and 97. MEM can also be set to 255, but this means that no memory number is assigned to the corresponding program change number.

❽ Repeat steps ❻ and ❼ until all necessary program change assignments have been programmed.





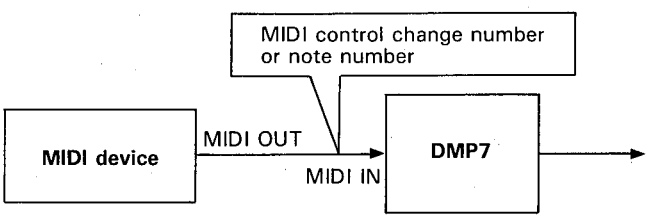
* Remember that each MIDI CONTROL BANK (A, B, C and D) can be programmed with a completely different receive channel and set of program change assignments. Once the required number of banks have been programmed, all you need to do is select the bank containing the desired assignments after calling the MIDI CONTROL function via the MIDI key.

REAL-TIME MIDI CONTROL

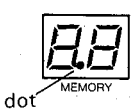
Real time control of all DMP7 parameters can be carried out remotely via MIDI, using MIDI CONTROL CHANGE and NOTE NUMBER data (for more detailed information on MIDI and the MIDI data categories, see Yamaha's "THE MIDI BOOK").

Each DMP7 parameter has a parameter number (see DMP7 PARAMETER CHART, below), and these may be individually assigned to any MIDI control change number or note on number. Since MIDI control change numbers and note on numbers have a value associated with them ("velocity" in the case of note on numbers), they can be used to both select and set variable parameters such as fader position, EQ frequency, reverb time, etc.

You may transmit the appropriate realtime parameter control data to the DMP7 from a computer fitted with a MIDI interface, or record the data from the DMP7 on a MIDI sequence recorder. When the DMP7 controls are operated or parameters changed, the corresponding MIDI control change or note on number data is transmitted via the DMP7 MIDI OUT terminal. This data can be recorded on a MIDI sequence recorder such as the Yamaha QX1 in the same way as performance data from a MIDI synthesizer can—in real time. When the sequence recording is played back, the entire mix, as "performed" while the sequence was recorded, will be recreated in fine detail. It is also possible to take advantage of the sequence recorder's overdubbing capabilities to create extremely complex mixdown sequences. Simply overdub the various mix operations and parameter changes as you would do with different musical parts when recording from a synthesizer.



* If the LED dot to the right of the first digit in the LED MEMORY number display lights during reception of MIDI data, this indicates a MIDI RECEIVE ERROR.



DMP7 PARAMETER CHART

NUMBER	PARAMETER
0–7:	INPUT [SOLO] ON/OFF (CHANNELS 1–8)
8:	PHASE (CHANNELS 1–4)
9:	PHASE (CHANNELS 5–8)
10:	PRE/POST FOR EFFECT SEND 1 (CHANNELS 1–4)
11:	PRE/POST FOR EFFECT SEND 1 (CHANNELS 5–8)
12:	PRE/POST FOR EFFECT SEND 2 (CHANNELS 1–4)
13:	PRE/POST FOR EFFECT SEND 2 (CHANNELS 5–8)
14:	PRE/POST FOR EFFECT SEND 3 (CHANNELS 1–4)
15:	PRE/POST FOR EFFECT SEND 3 (CHANNELS 5–8)
16–23:	PAN (CHANNELS 1–8)
24–31:	FADER (CHANNELS 1–8)
32–39:	EFFECT SEND LEVEL, SEND 1 (CHANNELS 1–8)
40–47:	EFFECT SEND LEVEL, SEND 2 (CHANNELS 1–8)
48–55:	EFFECT SEND LEVEL, SEND 3 (CHANNELS 1–8)
56–63:	EQ, LOW, FREQ (CHANNELS 1–8)
64–71:	EQ, LOW, GAIN (CHANNELS 1–8)
72–79:	EQ, LOW, Q (CHANNELS 1–8)
80:	EQ, LOW, SHLV/PEAK (CHANNELS 1–4)
81:	EQ, LOW, SHLV/PEAK (CHANNELS 5–8)
82–89:	EQ, MID, FREQ (CHANNELS 1–8)
90–97:	EQ, MID, GAIN (CHANNELS 1–8)
98–105:	EQ, MID, Q (CHANNELS 1–8)
106–113:	EQ, HI, FREQ (CHANNELS 1–8)
114–121:	EQ, HI, GAIN (CHANNELS 1–8)
122–129:	EQ, HI, Q (CHANNELS 1–8)
130:	EQ, HI, SHLV/PEAK (CHANNELS 1–4)
131:	EQ, HI, SHLV/PEAK (CHANNELS 5–8)
132:	EFFECT 1 RETURN LEVEL
133:	EFFECT 2 RETURN LEVEL
134:	EFFECT 3 RETURN LEVEL
135:	STEREO OUT LEVEL
136:	COMPRESSOR ON/OFF
137:	COMPRESSOR RATIO
138–145:	EQ ON/OFF (CHANNELS 1–8)
146:	SOLO MODE ON/OFF
147:	STEREO ON/OFF
148:	EFFECT RETURN 1 [SOLO] ON/OFF
149:	EFFECT RETURN 2 [SOLO] ON/OFF
150:	EFFECT RETURN 3 [SOLO] ON/OFF
151:	EFFECT 1 PARAMETER, TYPE
152:	EFFECT 1 PARAMETER 1, PARAMETER RANGE
153:	EFFECT 1 PARAMETER 1, PARAMETER VALUE
154:	EFFECT 1 PARAMETER 2, PARAMETER RANGE
155:	EFFECT 1 PARAMETER 2, PARAMETER VALUE
156:	EFFECT 1 PARAMETER 3, PARAMETER RANGE
157:	EFFECT 1 PARAMETER 3, PARAMETER VALUE
158:	EFFECT 1 PARAMETER 4, PARAMETER RANGE
159:	EFFECT 1 PARAMETER 4, PARAMETER VALUE
160:	EFFECT 1 PARAMETER 5, PARAMETER RANGE

NUMBER	PARAMETER
161:	EFFECT 1 PARAMETER 5, PARAMETER VALUE
162:	EFFECT 1 PARAMETER 6, PARAMETER RANGE
163:	EFFECT 1 PARAMETER 6, PARAMETER VALUE
164:	EFFECT 1 PARAMETER 7, PARAMETER RANGE
165:	EFFECT 1 PARAMETER 7, PARAMETER VALUE
166:	EFFECT 1 PARAMETER 8, PARAMETER RANGE
167:	EFFECT 1 PARAMETER 8, PARAMETER VALUE
168:	EFFECT 2 PARAMETER, TYPE
169:	EFFECT 2 PARAMETER 1, PARAMETER RANGE
170:	EFFECT 2 PARAMETER 1, PARAMETER VALUE
171:	EFFECT 2 PARAMETER 2, PARAMETER RANGE
172:	EFFECT 2 PARAMETER 2, PARAMETER VALUE
173:	EFFECT 2 PARAMETER 3, PARAMETER RANGE
174:	EFFECT 2 PARAMETER 3, PARAMETER VALUE
175:	EFFECT 2 PARAMETER 4, PARAMETER RANGE
176:	EFFECT 2 PARAMETER 4, PARAMETER VALUE
177:	EFFECT 2 PARAMETER 5, PARAMETER RANGE
178:	EFFECT 2 PARAMETER 5, PARAMETER VALUE
179:	EFFECT 2 PARAMETER 6, PARAMETER RANGE
180:	EFFECT 2 PARAMETER 6, PARAMETER VALUE
181:	EFFECT 2 PARAMETER 7, PARAMETER RANGE
182:	EFFECT 2 PARAMETER 7, PARAMETER VALUE
183:	EFFECT 2 PARAMETER 8, PARAMETER RANGE
184:	EFFECT 2 PARAMETER 8, PARAMETER VALUE
185:	EFFECT 3 PARAMETER, TYPE
186:	EFFECT 3 PARAMETER 1, PARAMETER RANGE
187:	EFFECT 3 PARAMETER 1, PARAMETER VALUE
188:	EFFECT 3 PARAMETER 2, PARAMETER RANGE
189:	EFFECT 3 PARAMETER 2, PARAMETER VALUE
190:	EFFECT 3 PARAMETER 3, PARAMETER RANGE
191:	EFFECT 3 PARAMETER 3, PARAMETER VALUE
192:	EFFECT 3 PARAMETER 4, PARAMETER RANGE
193:	EFFECT 3 PARAMETER 4, PARAMETER VALUE
194:	EFFECT 3 PARAMETER 5, PARAMETER RANGE
195:	EFFECT 3 PARAMETER 5, PARAMETER VALUE
196:	EFFECT 3 RETURN EQ, LOW, FREQ
197:	EFFECT 3 RETURN EQ, LOW, GAIN
198:	EFFECT 3 RETURN EQ, LOW, Q
199:	EFFECT 3 RETURN EQ, MID, FREQ
200:	EFFECT 3 RETURN EQ, MID, GAIN
201:	EFFECT 3 RETURN EQ, MID, Q
202:	EFFECT 3 RETURN EQ, HI, FREQ
203:	EFFECT 3 RETURN EQ, HI, GAIN
204:	EFFECT 3 RETURN EQ, HI, Q
205:	FADE TIME

NOTE NUMBER & CONTROL CHANGE ASSIGNMENT

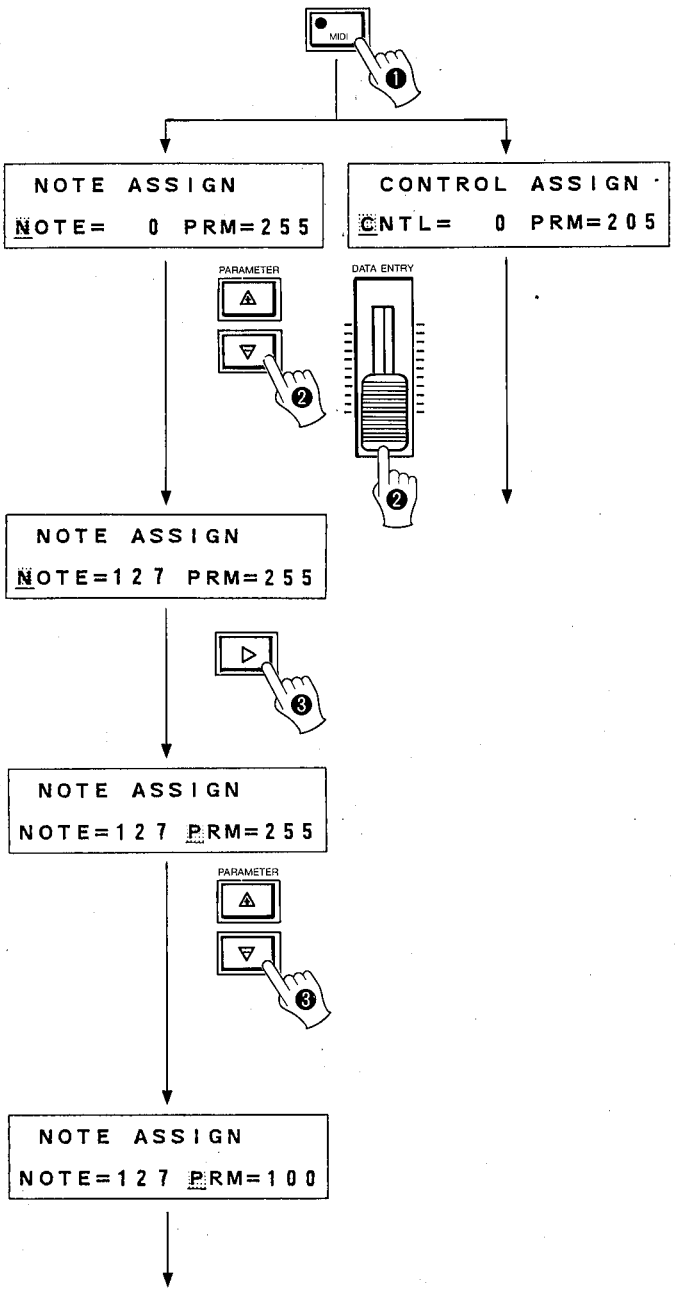
The DMP7 has a total of 206 MIDI-controllable parameters. The range of available MIDI note on numbers is 0—127, and the range of available MIDI control change numbers is also 0—127. If your real-time control application requires the use of less than 127 parameters, we strongly recommend that you use only control change numbers with sequencers such as the QX5 and QX7 since the NOTE OFF data transmitted by the DMP7 is recorded and played back as a NOTE ON message with zero verocity. If you need to control more than 128 parameters, then a combination of control change and note on number assignments will be required.

❶ Press the MIDI key a few times to call the NOTE ASSIGN or CON TROL ASSIGN function, depending on your requirements.

❷ With the cursor on the NOTE parameter (in the NOTE ASSIGN mode) or CNTL parameter (in the CONTROL ASSIGN mode), use the PARAMETER +/− or DATA ENTRY slider to select the note on number or control change number to be assigned.

❸ Press the PARAMETER ▷ key to move the cursor to the PRM (parameter number) parameter, and use the PARAMETER +/− keys or DATA ENTRY slider to select the parameter number to be assigned to the previously selected note on or control change number.

❹ Repeat steps 2 and 3 until the required number of assignments have been made.



* The initial factory-programmed program change, note on number and control change number assignments can be restored by turning the DMP7 OFF, then turning the power back ON while holding both the FADER FLIP and MIDI keys. (See "INITIAL DATA CHART" on page 55.)

CAUTION!! Do not try other power-on key combinations. Software failure may occur.

CONTROL CHANGE & NOTE NUMBER SEND/RECEIVE SELECTION

This function permits independently enabling or disabling reception and transmission of control change and note on number data.

❶ Press the MIDI key a few times until the following display appears:

```
CNTL  (R) 0  (S) 0
NOTE  (R) 0  (S) 0
```

On the top row, "CNTL (R)" corresponds to control change receive, "CNTL (S)" corresponds to control change send. On the lower row "NOTE (R)" is note on number receive and "NOTE (S)" is note number send.

❷ Use the PARAMETER ◁/▷ keys to place the cursor over the desired send or receive parameter.

❸ Use the PARAMETER +/– keys or DATA ENTRY slider to set the digit immediately following the (R) or (S) parameter to "0" (disable) or "1" (enable).

If you will be sending and receiving control change data but not note on number data, then the display should be set as follows:

```
CNTL  (R) 1  (S) 1
NOTE  (R) 0  (S) 0
```

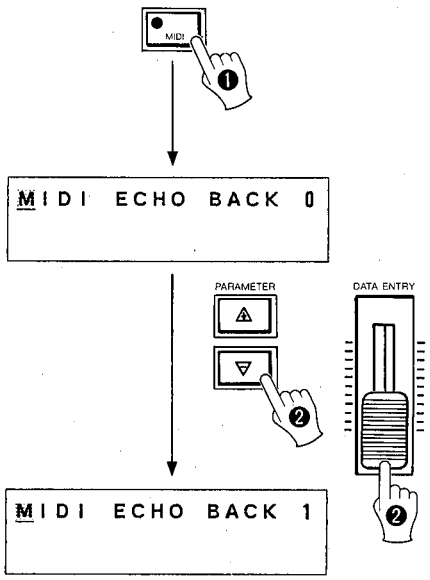
* Note that the send (S) parameters only enable or disable transmission of data internally generated by the DMP7.

MIDI ECHO BACK

When the MIDI ECHO BACK function is ON, MIDI data received at the DMP7 MIDI IN terminal is immediately re-transmitted via the MIDI OUT terminal in addition to MIDI data internally generated by the DMP7. Refer to "CONTROL CHANGE & NOTE ON NUMBER SEND/RECEIVE SELECTION," above, for details about transmisison of internally generated data. Referring to the same section, MIDI control change or note on data received at MIDI IN will only be re-transmitted via MIDI OUT if the corresponding receive (R) parameters are turned ON, and appropriate parameters are assigned within the DMP7 (see "NOTE ON NUMBER & CONTROL CHANGE ASSIGNMENT" on page 35).

❶ Press the MIDI key a few times to select the MIDI ECHO BACK function.

❷ Use the PARAMETER +/− keys or DATA ENTRY slider to set the digit at the end of the LCD line to 0 (MIDI echo back OFF) or 1 (MIDI echo back ON).



* During normal operation MIDI ECHO BACK should be turned OFF (0).

MIDI BULK DUMP

The BULK OUT function permits initiating a bulk dump of any of the following four data groups via the MIDI OUT terminal:

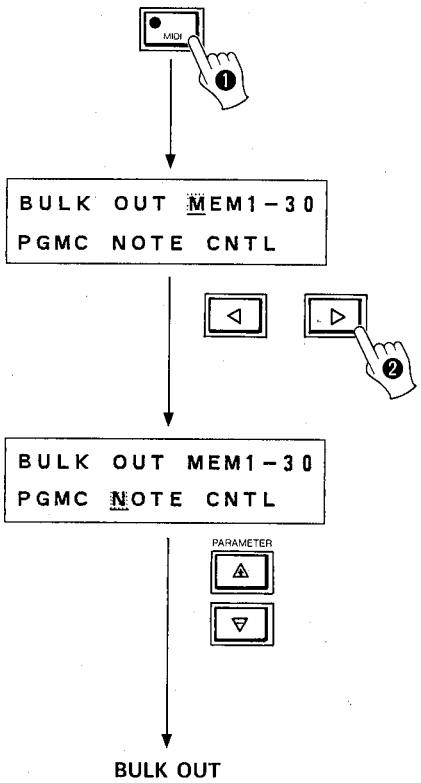
1. MEM1-30: The contents of internal memories 1 through 30.
2. PGMC: The four program change assignment tables.
3. NOTE: The note on assignment table.
4. CNTL: The control change assignment table.

This data may be conveniently stored on a MIDI Data Recorder such as the Yamaha MDF1 MIDI Data Filer or the internal micro floppy disk drive of the DX7IIFD Digital Programmable Algorithm Synthesizer.

❶ Press the MIDI key a few times until the BULK OUT function appears.

❷ Use the PARAMETER ◁/▷ keys to select the data group to be transmitted.

❸ Press either the PARAMETER + or − key to initiate the bulk dump.



The following is a list of the number of data bytes transmitted for each data group:

MEM1-30:	6630 bytes
PGMC:	569 bytes
NOTE:	274 bytes
CNTL:	274 bytes

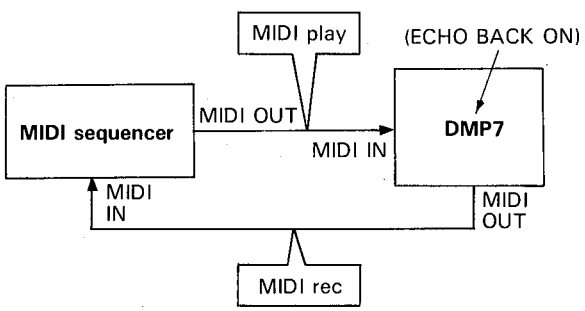
* Some EDIT TITLE characters are not transferred by the BULK OUT function.
The main title characters (0~9, A~Z, a~z) are transferred.

EDITING RECORDED MIDI SEQUENCE DATA

The method of recording real-time MIDI control data to a sequencer directly from the DMP7 has already been described in the "REAL-TIME MIDI CONTROL" section on page 34. Three functions are provided in the UTILITY group which allow editing a section of an already-recorded mixdown sequence:

1. FADER EDIT CHANNEL ASSIGN
2. PANPOT EDIT CHANNEL ASSIGN
3. EQUALIZER EDIT CHANNEL ASSIGN

This can be a great time-saver when programming long or complex real-time MIDI control sequences, since it eliminates the need to re-record the entire sequence if a change is required.
All three of these functions work in conjunction with the AUTO/MANUAL key. When a recorded sequence is played back and the AUTO mode is selected there is no effect, but when the MANUAL mode is selected only the assigned channels switch to manual operation and changes may be made by manual control.
The setup to edit a sequence is as follows:

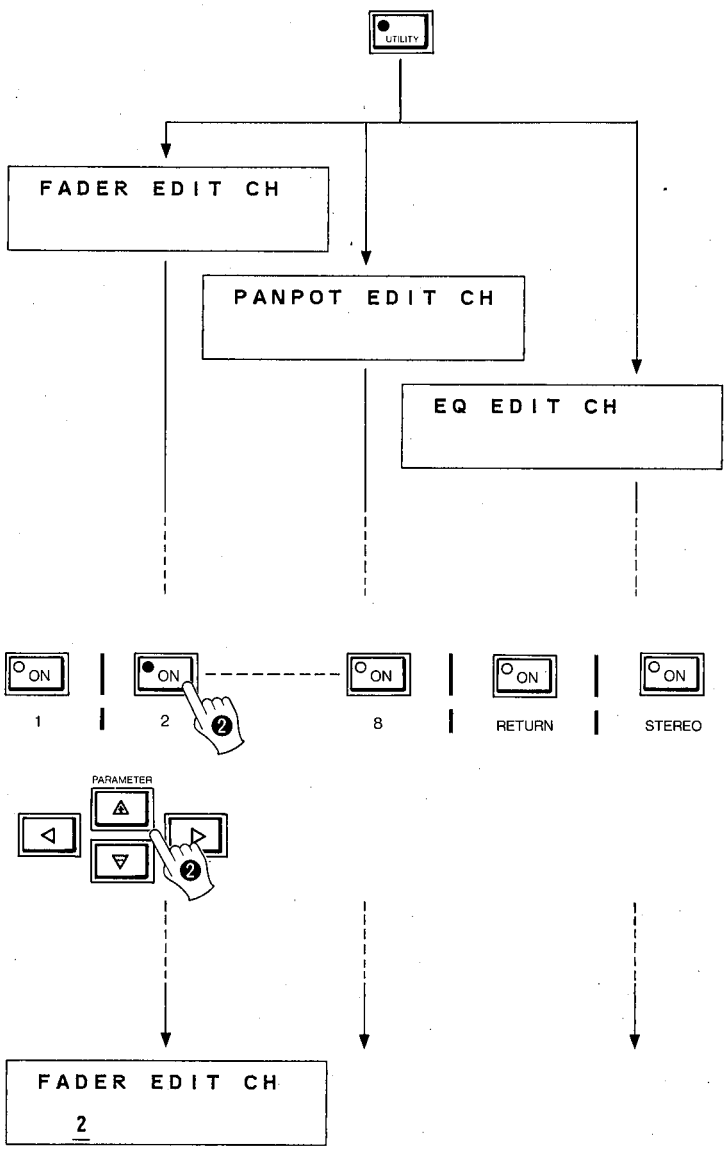


The MIDI OUT terminal of the DMP7 is connected to the MIDI IN terminal of the sequencer, and the MIDI OUT terminal of the sequencer is connected to the MIDI IN terminal of the DMP7. The previously recorded sequence is moved to a non-recording track of the sequencer (in the case of the QX5, for example, track 2) and the recording track is set up to record (track 1 in the QX5). The DMP7 MIDI ECHO BACK function (see page 36) must be turned ON, and the DMP7 control change receive and send functions (see page 36) must be enabled. The note on receive and send functions must also be enabled if MIDI note on numbers are assigned to any of the DMP7 parameters.

The next step is to assign the channel(s) and parameter(s) to be edited:

❶ Press the UTILITY key a few times until the FADER EDIT CH function appears if you wish to edit a channel fader setting, the PANPOT EDIT CH function appears if you wish to edit a panpot setting, or the EQ EDIT CH function appears if you wish to edit an equalizer setting. Note that the EQ PEAK/SHLV parameter can not be edited.

❷ Press the channel ON key(s) for the channels you wish to edit for the selected parameter (channel fader, pan or EQ). The number of the assigned channel(s) will appear on the bottom row of the LCD. In the FADER EDIT CH function only the RETURN and STEREO channels may also be assigned for editing. These are indicated by an "R" and an "S," respectively. Channels may also be assigned using the PARAMETER ◁/▷ keys to move the cursor to the position of the channel number. Then press the PARAMETER + key to assign the channel, or the PARAMETER-key to cancel the channel.



The entire edited sequence has now been re-recorded onto the recording track of the sequencer (track 1). The pre-edit version still resides on the non-recording track of the sequencer, so if a mistake was made, simply repeat the edit procedure.

The edit is then performed as follows:

1. Press the AUTO/MANUAL key so that its LED turns ON (the AUTO mode is selected.)
2. Start the sequencer in the RECORD mode.
3. At the beginning of the section you wish to edit press the AUTO/MANUAL key to select the MANUAL mode. When this is done the assigned channels will be released from MIDI control.
4. Make the required changes using the appropriate DMP7 controls.
5. Press the AUTO/MANUAL key at the end of the edit section to reselect the AUTO mode and allow the sequence to play through to the finish.

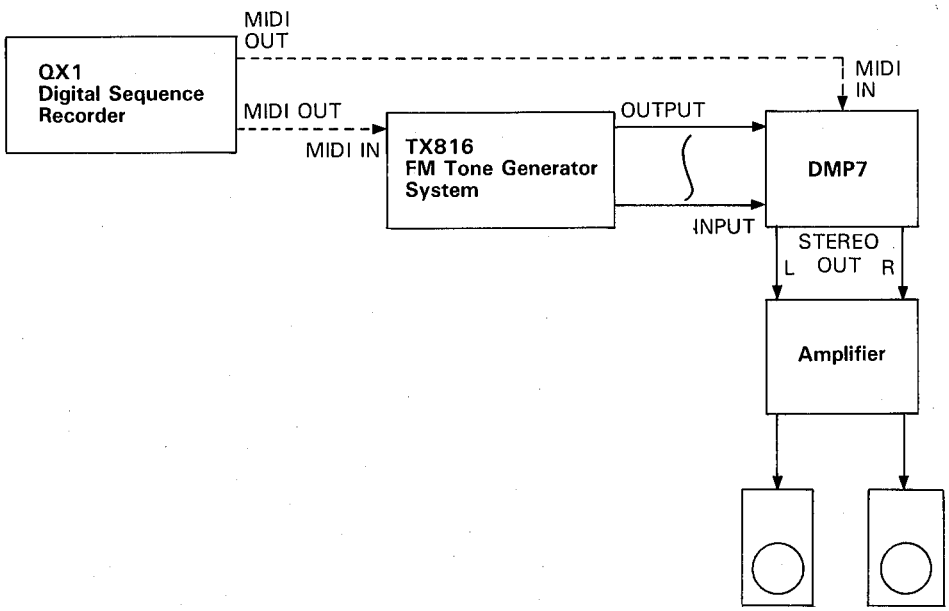
SECTION 3: SYSTEM EXAMPLES

Although the DMP7 has many uses, we feel that it is appropriate to offer a few sample system applications to help fire your own imagination.

A Sequence System

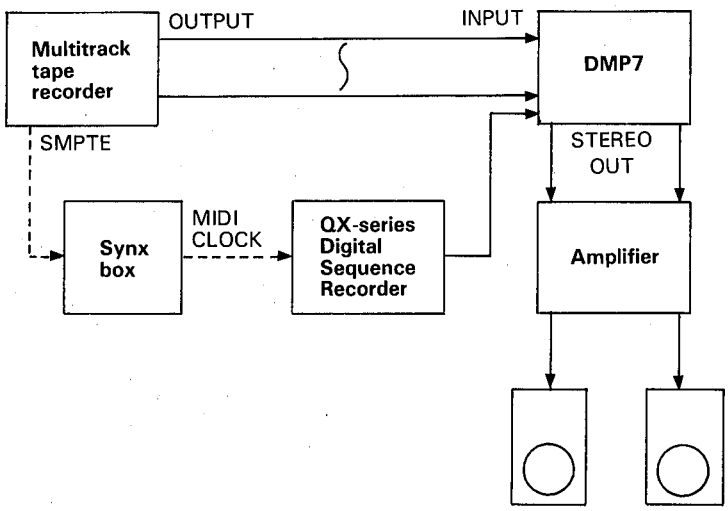
In this system, the DMP7 is used with a TX816 8-module FM Tone Generator System and QX1 Digital Sequence Recorder for fully automated mixdown and signal processing of sequence playback. One sequencer "track" is dedicated to control of the DMP7, while the others control the tone generator modules. The control data for the DMP7 may be scene changes controlled by transmission of MIDI program change numbers, or real-time mixdown data using MIDI control change and note on numbers.

While straight sequence playback can sound "flat" and lack dynamic variety, the DMP7 adds a full range of digital effects as well as mixing functions. These can be sequenced along with the tone generators to produce a professionally "finished" sound without using an inch of tape.



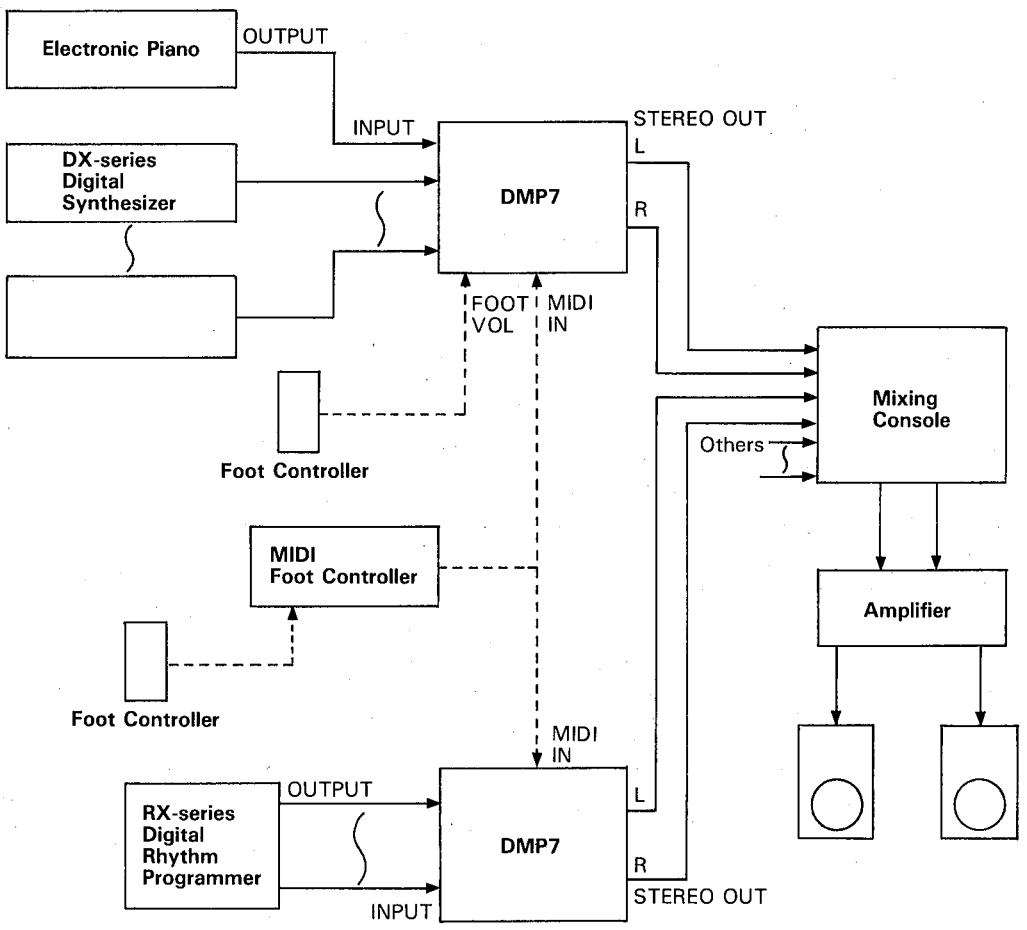
A Tape Sync System

In the system shown here, the source is a multitrack tape rather than sequencer and tone generator system. Virtually any system can be used to record a synchronization track on the multitrack tape—SMPTE, FSK, etc—as long as an appropriate sync-conversion box is available to convert between the sync signal and MIDI formats. The mixdown data for the DMP7 is recorded on a sequencer such as the QX21 or QX5. The mixdown data can be in the form of scene changes and/or realtime control data using MIDI control change and note on numbers. The mixdown data is recorded on the sequencer directly from the DMP7, and then the recorded sequence is played via the sync box at the proper tempo to record the synchronization track on the multitrack tape. When the tape is played back, sequence playback is synchronized to the tape and the mixdown sequence for the source tracks is performed in precise detail.



A Live Performance System

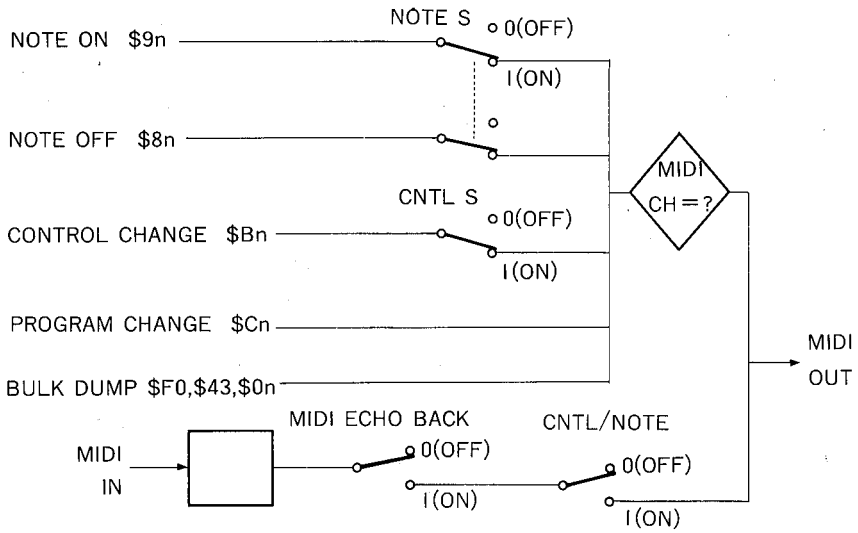
The DMP7 can be a tremendous advanatage on stage as well as in the studio. In the system shown here a DMP7 is used to mix and add effects to the outputs from a multi-keyboard setup and RX-series Digital Rhythm Programmer. The DMP7's foot volume control capability is used to control the overall level of the entire system. An MFC1 MIDI Foot Controller is connected to the DMP7's MIDI IN terminal to provide even further foot control capability. The MFC1 can be programmed to transmit MIDI program change and control change data, making it possible to switch scenes simply by tapping a footswitch. A foot controller connected to the MFC1 can be used to independently control specific faders, effects or other DMP7 parameters, allowing extensive expressive control.



SECTION 4: MIDI DATA AND SPECIFICATIONS

MIDI DATA FORMAT

1. Transmission Conditions



2. Transmission Data

2-1 Channel Information

1) Channel Voice Message

❶ NOTE ON/NOTE OFF

When the NOTE ON/OFF SEND ENABLE function is "1" (ON), MIDI data is transmitted on the MIDI channel specified by the currently active bank.
The appropriate message is transmitted whenever a parameter is changed. The 2nd byte is the note number of the changed parameter, and the third byte is the new value.

STATUS	1001nnnn (9nH)	n=0 (channel no. 1)—15 (channel no. 16)
NOTE NO.	0kkkkkkk	k=0 (note no. 0)—127 (note no. 127)
VALUE	0vvvvvvv	d=0 (minimum value)—127 (maximum value)
STATUS	1000 nnnn (8nH)	n=0 (channel no. 1)—15 (channel no. 16)
NOTE NO.	0kkkkkkk	k=0 (note no. 0)—127 (note no. 127)
VALUE	0vvvvvvv	d=note on velocity

❷ CONTROL CHANGE

When the CONTROL CHANGE SEND ENABLE function is "1" (ON), MIDI data is transmitted on the MIDI channel specified by the currently active bank.
The appropriate message is transmitted whenever a parameter is changed. The 2nd byte is the control number of the changed parameter, and the third byte is the new value.

STATUS	1011nnnn (BnH)	n=0 (channel no. 1)—15 (channel no. 16)
CONTROL NO.	0ppppppp	p=0 (control no. 0)—127 (control no. 127)
VALUE	0vvvvvvv	d=0 (minimum value)—127 (maximum value)

❸ PROGRAM CHANGE

Can be transmitted on the MIDI channel set for each bank.
The message is transmitted when a memory is recalled. The program number corresponding to the recalled memory is transmitted as the 2nd byte.

STATUS	1100nnnn (CnH)	n=0 (channel no. 1)—15 (channel no. 16)
PROG NO.	0ppppppp	p=0 (program no. 0)—127 (program no. 127)

2-2 System Information

1) System Exclusive Message

❶ 1 MEMORY BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.

The data is transmitted when a bulk dump request is received from external equipment. The transmitted data consists of the contents of the specified memory number.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000001 (01H)	
BYTE COUNT	01011010 (5AH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01001101 (4DH)	"M"
MEMORY NO.	0mmmmmmm	m=0 (initialize data) — 97, 127 (currently active program)
DATA	0ddddddd	┐
	↓	├ 208 bytes
	0ddddddd	┘
CHECKSUM	0eeeeeee	
EOX	11110111 (F7H)	

❷ 30 MEMORY BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.

The data is transmitted when the BULK DUMP MEM1-30 function is activated. The contents of memory numbers 1 through 30 are transmitted.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000001 (01H)	┐
	↓	├ memory 1
CHECKSUM	0eeeeeee	┘
BYTE COUNT	00000001 (01H)	┐
	↓	├ memory 2
CHECKSUM	0eeeeeee	┘
	⋮	
BYTE COUNT	00000001 (01H)	┐
	↓	├ memory 30
CHECKSUM	0eeeeeee	┘
EOX	11110111 (F7H)	

* For details on the data between BYTE COUNT (01H) and CHECKSUM see "1 MEMORY BULK DATA."

❸ 1 BANK PROGRAM CHANGE ASSIGNMENT TABLE BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.

The data is transmitted when a program change assignment table bulk dump request is recieved. The data transmitted consists of the program change assignment table (assignment of MIDI program change numbers to memory numbers).

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000001 (01H)	
BYTE COUNT	00001010 (0AH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01010100 (54H)	"T"
BANK NO.	0mmmmmmm	m=bank 1—4 (1=A, 2=B, 3=C, 4=D)
DATA	0ddddddd	┐
	↓	├ 128 bytes
	0ddddddd	┘
CHECKSUM	0eeeeeee	
EOX	11110111 (F7H)	

❹ 4 BANK PROGRAM CHANGE ASSIGNMENT TABLE BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.
The data is transmitted when the BULK DUMP PGMC function is activated. The program change assignment tables for all four banks are transmitted.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)–15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000001 (01H)	bank A
CHECKSUM	0eeeeeee	
BYTE COUNT	00000001 (01H)	bank B
CHECKSUM	0eeeeeee	
BYTE COUNT	00000001 (01H)	bank C
CHECKSUM	0eeeeeee	
BYTE COUNT	00000001 (01H)	bank D
	0eeeeeee	
	11110111 (F7H)	

* For details on the data between BYTE COUNT (01H) and CHECKSUM see "1 BANK PROGRAM CHANGE ASSIGNMENT TABLE BULK DATA."

❺ NOTE ASSIGNMENT TABLE BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.
The data is transmitted when a note assignment table bulk dump request is recieved. The data transmitted consists of the note assignment table (assignment of MIDI note numbers to DMP7 parameter numbers).

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)–15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000010 (02H)	
BYTE COUNT	00001010 (0AH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01001110 (4EH)	"N"
SPACE	00100000 (20H)	space
DATA	0ddddddd	256 bytes
	0ddddddd	
CHECKSUM	0eeeeeee	
EOX	11110111 (F7H)	

❻ CONTROL ASSIGNMENT TABLE BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.
The data is transmitted when a control assignment table bulk dump request is recieved. The data transmitted consists of the control assignment table (assignment of MIDI control change numbers to DMP7 parameter numbers).

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no.1)–15 (channel no. 16)
FORMAT NO.	01111110 (7EH)	
BYTE COUNT	00000010 (02H)	
BYTE COUNT	00001010 (0AH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01001110 (4CH)	"C"
	00100000 (20H)	space
DATA	0ddddddd	256 bytes
	0ddddddd	
CHECKSUM	0eeeeeee	
EOX	11110111 (F7H)	

❼ CONDITION SETUP BULK DATA

Can be transmitted on the MIDI channel set in the currently active bank.
The data is transmitted when a condition setup bulk dump request is recieved. The data transmitted consists of the fade time setting, note & control enable settings, MIDI echo back ON/OFF, and the MIDI channel numbers for all banks.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0000nnnn (0nH)	n=0 (channel no. 1) −15 (channel no. 16)
FORMAT NO.	01111100 (7CH)	
BYTE COUNT	00000000 (00H)	
BYTE COUNT	00010110 (16H)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
	01010011 (53H)	"S"
	00100000 (20H)	space
SOFT VER.NO.	0vvvvvvv	
SOFT REV. NO.	0RRRRRRR	
DATA	0000aaaa (0aH)	a=bank A channel no.
	0000bbbb (0bH)	b=bank B channel no.
	0000cccc (0cH)	c=bank C channel no.
	0000dddd (0dH)	d=bank D channel no.
	000000bb (0bH)	b=current bank
	000fffff (0fH)	f=MIDI control flag
FADE TIME	0000tttt	
	0ddddddd	┐
	oddddddd	├ spare
	oddddddd	┘
CHECKSUM	0eeeeeee	
EOX	11110111 (F7H)	

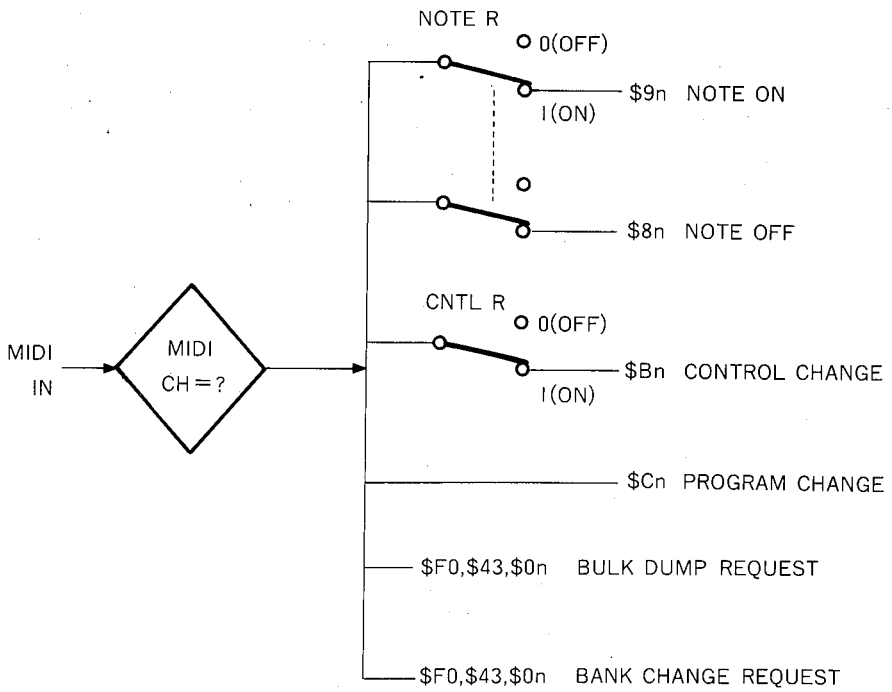
* The MIDI control flag format is as follows:

0	0	0	V	IV	III	II	I

1: ENABLE
0: DISABLE

I: CONTROL CHANGE RECEIVE ENABLE
II: NOTE ON/NOTE OFF RECEIVE ENABLE
III: CONTROL CHANGE SEND ENABLE
IV: NOTE ON/NOTE OFF SEND ENABLE
V: MIDI ECHO BACK ENABLE

3. Reception Conditions



4. Reception Data

4-1 Channel Information

❶ NOTE ON

When the NOTE ON/OFF RECEIVE ENABLE function is "1" (ON), reception is possible ofn the MIDI channel specified by the currently active bank. Received note numbers affect the DMP7 parameters assigned in the note assignment table.

STATUS	1001nnnn (9nH)	n=0 (channel no.1)—15 (channel no.16)
NOTE NO.	0kkkkkkk	k=0 (C-2)—127 (G8)
VELOCITY	0vvvvvvv	v=0—128

❷ NOTE OFF

When the NOTE ON/OFF RECEIVE ENABLE function is "1" (ON), reception is possible ofn the MIDI channel specified by the currently active bank. This message is essential to signal the end of a NOTE ON message in the DMP7.

STATUS	1000nnnn (8nH)	n=0 (channel no.1)—15 (channel no.16)
NOTE NO.	0kkkkkkk	k=0 (C-2)—127 (G8)
VELOCITY	0vvvvvvv	v=0—128

❸ CONTROL CHANGE

When the CONTROL CHANGE RECEIVE ENABLE function is "1" (ON), reception is possible on the MIDI channel specified by the currently active bank. Received control change numbers affect the parameters assigned in the control change assignment table.

STATUS	1011nnnn (BnH)	n=0 (channel no.1)—15 (channel no.16)
CONTROL NO.	0ccccccc	c=0—127
VALUE	0vvvvvvv	v=0—128

❹ PROGRAM CHANGE

Can be received on the MIDI channel set in the currently active bank.
When received, the memory number is recalled that is assigned to the received program change number in the program change assignment table of the currently active bank.

STATUS	1100nnnn (CnH)	n=0 (channel no.1)—15 (channel no.16)
PROGRAM NO.	0ccccccc	c=0—127

4-2 System Information

1) System Exclusive Message

❶ MEMORY BULK DUMP REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received, a bulk dump of the specified memory is performed.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0010nnnn (2nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01001101 (4DH)	"M"
MEMORY NO.	0mmmmmmm	m=0 (initialize data)—99, 127 (current memory)
EOX	11110000 (F0H)	

❷ PROGRAM CHANGE ASSIGN TABLE BULK DUMP REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received the program change assignment table of the specified bank is bulk-dumped. The bulk dump data consists of the specified program change assignment table (assignment of MIDI program change numbers to memory numbers).

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0020nnnn (2nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01010100 (54H)	"T"
BANK NO.	0mmmmmmm	m=bank 1—4 (1=A, 2=B, 3=C, 4=D)
EOX	11110111 (F7H)	

❸ NOTE ASSIGNMENT TABLE BULK DUMP REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received the note assignment table (assignment of MIDI note numbers to DMP7 parameter numbers) is bulk-dumped.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0020nnnn (2nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01001110 (4EH)	"N"
	00100000 (20H)	space
EOX	11110111 (F7H)	

❹ CONTROL ASSIGNMENT TABLE BULK DUMP REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received the control assignment table (assignment of MIDI control change numbers to DMP7 parameter numbers) is bulk-dumped.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0020nnnn (2nH)	n=0 (channel no.1)—15 (channel no.16)
FORMAT NO.	01111110 (7EH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01000011 (43H)	"C"
	00100000 (20H)	space
EOX	11110111 (F7H)	

❺ CONDITION SETUP BULK DUMP REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received the fade time setting, note and control enable settings, MIDI echo back ON/OFF setting, and the MIDI channel numbers for all four banks are bulk-dumped..

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0020nnnn (2nH)	n=0 (channel no. 1)—15 (channel no. 16)
FORMAT NO.	01111100 (7CH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01010011 (53H)	"S"
	00100000 (20H)	space
EOX	11110111 (F7H)	

❻ BANK CHANGE REQUEST

Can be received on the MIDI channel set in the currently active bank.
When received the specified bank is selected.

STATUS	11110000 (F0H)	
ID NO.	01000011 (43H)	
SUB-STATUS	0020nnnn (2nH)	n=0 (channel no. 1)—15 (channel no. 16)
FORMAT NO.	01111110 (7EH)	
	01001100 (4CH)	"L"
	01001101 (4DH)	"M"
	00100000 (20H)	space
	00100000 (20H)	space
	00111000 (38H)	"8"
	00110011 (33H)	"3"
	00110100 (34H)	"4"
	00110100 (34H)	"4"
DATA NAME	01010101 (55H)	"T"
BANK NO.	0mmmmmmm	m=bank 1—4 (1=A, 2=B, 3=C, 4=D)
EOX	11110111 (F7H)	

[Digital Mixing Processor] Date : 4/2, 1987

Model DMP7 MIDI Implementation Chart Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16	memorized
Channel	Changed	1 - 16	1 - 16	
Mode	Default	x	OMNIoff/OMNIon	memorized
	Messages	x	OMNI on/off	
	Altered	XXXXXXXXXXXXX	x	
Note Number		0 - 127	0 - 127	X1
	True voice	XXXXXXXXXXXXX	x	
Velocity	Note ON	o 9nH,v=0-127	o v=0-127	
	Note OFF	o 8nH,v=0-127	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bender		x	x	
Control Change	0 - 127	o	o	X1
Prog Change	True #	o 0 - 127 XXXXXXXXXXXXX	o 0 - 127 0 - 97	X2 31-97:Cartridge
System Exclusive		o	o	Setup data
System Common	Song Pos	x	x	
	Song Sel	x	x	
	Tune	x	x	
System Real Time	Clock	x	x	
	Commands	x	x	
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	x	
	Active Sense	x	x	
	Reset	x	x	
Notes		X1 Each parameter can be assigned to any Control Change or Note On number and these assignment tables can be stored in memory. X2 For program 1 - 128, memory #0 - #97 is selected.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

SPECIFICATIONS

Analog Section

Total Harmonic Distortion	0.03% @ STEREO OUT, +17 dB, 1 kHz
Frequency Response	20 Hz–20 kHz, 0 $\pm\frac{1}{3}$ dB
Dynamic Range	88 dB (STEREO OUT)

Hum & Noise*1 (STEREO OUT)
- −70 dB One channel fader and stereo master fader at nominal.
- −80 dB Stereo on key at off.

Maximum Voltage Gain
- +36 dB CH IN to STEREO OUT
- +30 dB CH IN to EFFECTS SEND
- +12 dB EFFECTS RETURN to STEREO OUT

Digital Section

A/D, D/A Conversion	Linear 16 bit
Sampling Frequency	44.1 kHz
Program Memory	Internal: 1–30 Data cartridge: 31–97

Mixing Parameters

—Channel Inputs—

Phase	Normal/Reverse
3-band EQ	
Freq.	Low: 32 Hz–800 Hz Mid: 250 Hz–8.0 kHz High: 1.0 kHz–18 kHz
Gain	±15 dB
Q	0.1–5.0
P/S	Peaking/Shelving (Low and High bands only)
EQ	ON/OFF
Channel Switch	ON/OFF
Channel Level	Motor-drive fader
Pan	L-C-R (17 steps)

—Channel Effect Send—

Channel effect send 1–3	Pre/Post Level (2nd function of motor-drive channel faders)

—Effect Master—

Effect Send 1–3	Effect select Effect parameter set
Effect Return 1–3	Level (Motor-drive fader) ON/OFF

—Stereo Master—

Stereo Level	Motor-drive fader
Stereo Switch	ON/OFF
Compressor	ON/OFF, Ratio

Functions

Foot volume, Channel copy, Solo, Fader auto/manual, Fade time, RAM cartridge initialize, Data entry & foot volume exchange, Battery check

Display

Channel Input 1–8 Level	8-segment LED peak meter
Effect Send 1–8 Level	8-segment LED peak meter
Stereo Out L/R Level	Left & right channel 8-segment LED peak meters
Memory no.	2-digit 7-segment LED
Parameter Display	16-character × 2-line LCD, backlit

Rear Panel

Connectors	Channel inputs 1–8, Effects send, Effects return L/R, Stereo out L/R, Phones, Foot volume, MIDI IN/OUT/THRU, Digital cascade IN/OUT,
Controls	Power ON/OFF, Channel gain trimmers 1–8

Power Supply

U.S. & Canadian models	120V AC, 60 Hz
General model	110-120/220-240V AC, 50/60Hz

Power Consumption

U.S. & Canadian models	85W
General model	100W

Dimensions (W × H × D)	480 mm × 139.4 mm × 435 mm (18-7/8" × 5-1/2" × 17-1/8")
Weight	10.5 kilograms (23.1 lbs.)
Accessories	RAM-4 data cartridge × 1, Cascade cable × 1, Rack-mount bracket kit

*1 *Hum and Noise are measured with a −6dB/octave filter at 12.7kHz.*

- *0dB = 0.775 Vrms*
- *Specifications and appearance subject to change without notice.*

• INPUT/OUTPUT SPECIFICATIONS

• Input specifications

Input Terminal	GAIN	Actual Load Impedance	For Use With Nominal	Sensitivity**	Input Level (@1 KHz) Nominal	Input Level (@1 KHz) Max Before Clip	Connector In Console
CH INPUT 1~8	−20	15kΩ	600Ω Lines	−32dB(195mV)	−20dB (77.5mV)	−5dB(436mV)	Phone Jack (TRS) (Unbalanced)
	−10			−22dB(61.5mV)	−10dB(245mV)	+5dB(1.38V)	
	+4			−8dB(309mV)	+4dB(1.23V)	+19dB(6.9V)	
EFFECTS RETURN (L, R)		15kΩ	600Ω Lines	−8dB(309mV)	+4dB(1.23V)	+19dB(6.9V)	Phone Jack (Unbalanced)

• Output specifications

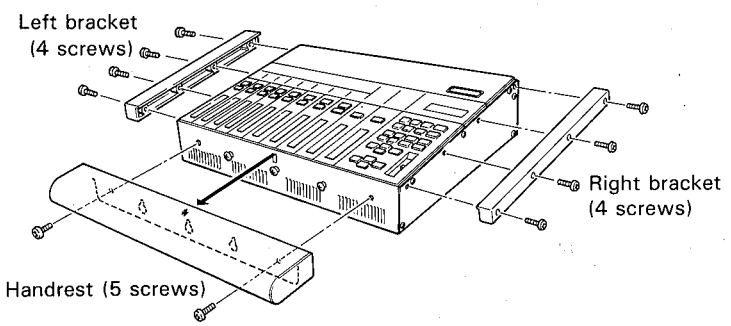
Output Terminal	Actual Source Impedance	For Use With Nominal	Output Level (@1 KHz) Nominal	Output Level (@1 KHz) Max Before Clip	Connector In Console
STEREO OUT (L, R)	150Ω	600Ω Lines	+4dB(1.23V)	+19dB(6.9V)	XLB 3-32 (Balance)
		10kΩ Lines			Phone Jack (Unbalanced)
EFFECTS SEND	150Ω	10kΩ Lines	+4dB(1.23V)	+19dB(6.9V)	Phone Jack (Unbalanced)
PHONES	150Ω	8Ω Phones	0.5mW	15mW	Stereo Phone Jack (unbalanced)
		40Ω Phones	1.7mW	53mW	

SECTION 5: RACK-MOUNTING AND DATA CHARTS

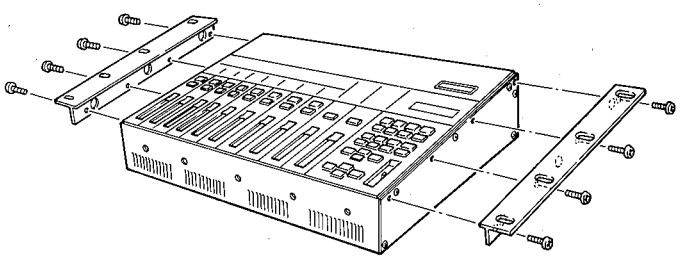
RACK-MOUNTING THE DMP7

The DMP7 is supplied with a rack-mounting kit which allows it to be mounted in any standard 19'' EIA equipment rack. To rack-mount the DMP7, follow the steps given below:

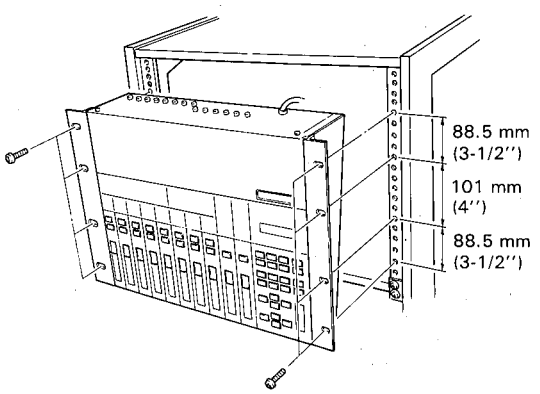
❶ Remove the left and right side-bracket of the DMP7 by first removing the four screws that hold each bracket. Remove the outer two of the five screws holding the handrest, loosen the remsaining three screws and you should be able to lift the handrest up and away from the main unit.



❷ Attack the rack-mount brackets to the left and right sides of the DMP7 using the screws removed in step 1, above.

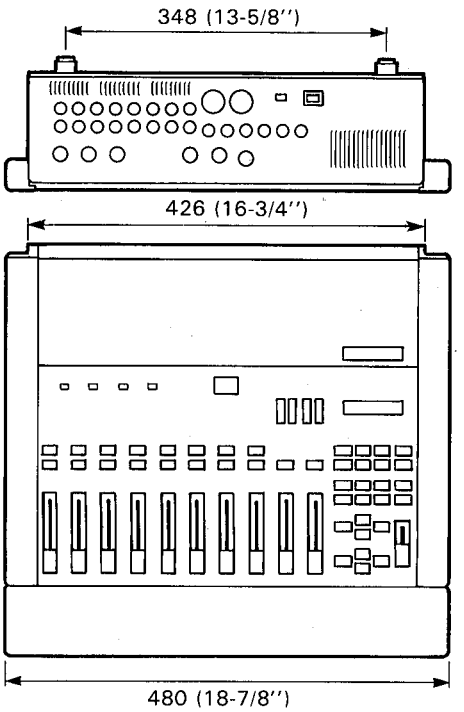


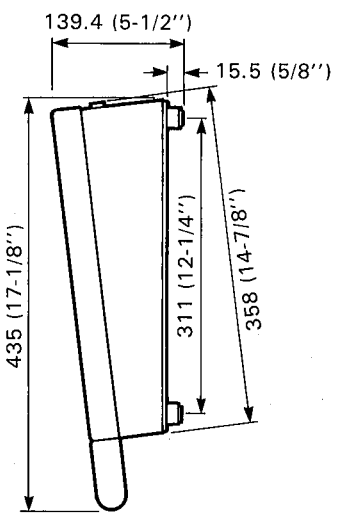
❸ Mount the assembly into the rack using appropriate screws. Use screws in all eight screw holes.



Note: to prevent possible overheating be sure to provide ventilation and leave sufficient space above, below and behind the unit for air circulation.

DIMENSIONS





Unit : mm (Inch)

EFFECT CHART

NOTE

PARAMETER
PRESET VALUE
RANGE

• SEND 1 & SEND 2 EFFECTS

No.	Program Name	Parameter				
1	REV 1 HALL	RT	HI	ID	HPF	LPF
		2.6 s	× 0.6	30.0 ms	THRU	8.0 kHz
		0.3 s ~ 99.0 s	× 0.1 ~ × 1.0	0.1 ms ~ 1000.0 ms	THRU, 32 Hz ~ 1000 Hz	1.0 kHz ~ 18.0 kHz, THRU
2	REV 2 ROOM	RT	HI	ID	HPF	LPF
		1.5 s	× 0.7	20.0 ms	THRU	8.0 kHz
		0.3 s ~ 99.0 s	× 0.1 ~ × 1.0	0.1 ms ~ 1000.0 ms	THRU, 32 Hz ~ 1000 Hz	1.0 kHz ~ 18.0 kHz, THRU
3	REV 3 VOCAL	RT	HI	ID	HPF	LPF
		2.4 s	× 0.5	45.0 ms	80 Hz	8.0 kHz
		0.3 s ~ 99.0 s	× × 1.0	0.1 ms ~ 1000.0 ms	THRU, 32 Hz ~ 1000 Hz	1.0 kHz ~ 18.0 kHz, THRU
4	REV 4 PLATE	RT	HI	ID	HPF	LPF
		1.8 s	× 0.7	10.0 ms	40 Hz	10.0 kHz
		0.3 s ~ 99.0 s	× 0.1 ~ × 1.0	0.1 ms ~ 1000.0 ms	THRU, 32 Hz ~ 1000 Hz	1.0 kHz ~ 18.0 kHz, THRU
5	FLANGE A	MOD FREQ	MOD DPTH	MOD DLY	F B GAIN	
		2.5 Hz	50 %	1.2 ms	35 %	
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0.1 ms ~ 100.0 ms	0 % ~ 99 %	
6	FLANGE B	MOD FREQ	MOD DPTH	MOD DLY	F B GAIN	
		0.5 Hz	90 %	1.0 ms	40 %	
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0.1 ms ~ 100.0 ms	0 % ~ 99 %	
7	CHORUS A	MOD FREQ	DM	AM		
		0.2 Hz	50 %	40 %		
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0 % ~ 100 %		
8	CHORUS B	MOD FREQ	DM	AM		
		0.6 Hz	50 %	10 %		
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0 % ~ 100 %		
9	PHASING	MOD FREQ	MOD DPTH	MOD DLY		
		1.1 Hz	100 %	3.0 ms		
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0.1 ms ~ 5.8 ms		
10	TREMOLO	MOD FREQ	MOD DPTH			
		6.0 Hz	50 %			
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %			
11	SYMPHONIC	MOD FREQ	MOD DPTH			
		0.7 Hz	50 %			
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %			
12	EARLY REF. 1	TYPE	SIZE	LV	DLY	LPF
		HALL	2.0	5	10.0 ms	13.0 kHz
		HALL, RANDOM, REVERSE, PLATE	0.1 ~ 20.0	0 ~ 10	0.1 ms ~ 1000.0 ms	1.0 kHz ~ 18.0 kHz, THRU
13	EARLY REF. 2	TYPE	SIZE	LV	DLY	LPF
		HALL	2.0	5	10.0 ms	13.0 kHz
		HALL, RANDOM, REVERSE, PLATE	0.1 ~ 20.0	0 ~ 10	0.1 ms ~ 1000.0 ms	1.0 kHz ~ 18.0 kHz, THRU
14	GATE REVERB	TYPE	SIZE	LV	DLY	LPF
		RANDOM	2.0	5	20.0 ms	6.3 kHz
		HALL, RANDOM, REVERSE, PLATE	0.1 ~ 20.0	0 ~ 10	0.1 ms ~ 1000.0 ms	1.0 kHz ~ 18.0 kHz, THRU
15	REVERSE GATE	TYPE	SIZE	LV	DLY	LPF
		REVERSE	3.3	5	25.0 ms	13.0 kHz
		HALL, RANDOM, REVERSE, PLATE	0.1 ~ 20.0	0 ~ 10	0 1 ms ~ 1000.0 ms	1.0 kHz ~ 18.0 kHz, THRU
16	DELAY L & R	LD	LFG	RD	RFG	HI
		100.0 ms	0 %	200.0 ms	0 %	× 1.0
		0.1 ms ~ 1400.0 ms	0 % ~ 99 %	0.1 ms ~ 1400.0 ms	0 % ~ 99 %	× 0.1 ~ × 1.0
17	STEREO ECHO	LD	LFG	RD	RFG	HIGH
		170.0 ms	60 %	175.0 ms	58 %	× 0.9
		0.1 ms ~ 700.0 ms	0 % ~ 99 %	0.1 ms ~ 700.0 ms	0 % ~ 99 %	× 0.1 ~ × 1.0

• SEND 3 EFFECTS

No.	Program Name	Parameter				
1	STEREO ECHO	LD	LFG	RD	RFG	HIGH
		170.0 ms	60 %	175.0 ms	58 %	× 0.9
		0.1 ms ~ 175.0 ms	0 % ~ 99 %	0.1 ms ~ 175.0 ms	0 % ~ 99 %	× 0.1 ~ × 1.0
2	FLANGE	MOD FREQ	MOD DEPTH	MOD DLY	F B GAIN	
		2.5 Hz	50 %	1.2 ms	35 %	
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0.1 ms ~ 100.0 ms	0 % ~ 99 %	
3	CHORUS	MOD FREQ	DM	AM		
		0.2 Hz	50 %	40 %		
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0 % ~ 100 %		
4	PHASING	MOD FREQ	MOD DPTH	MOD DLY		
		1.1 Hz	100 %	3.0 ms		
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %	0.1 ms ~ 5.8 ms		
5	PANPOT	MOD FREQ	MOD DPTH			
		6.0 Hz	50 %			
		0.1 Hz ~ 20.0 Hz	0 % ~ 100 %			
6	EXTERNAL LEQ	F	G	Q		
		100 Hz	+0 dB	0.7		
		32 Hz ~ 800 Hz	− 15 dB ~ +15 dB	0.1 ~ 5.0		
7	EXTERNAL MEQ	F	G	Q		
		1.0 kHz	+0 dB	0.7		
		250 Hz ~ 8.0 kHz	− 15 dB ~ +15 dB	0.1 ~ 5.0		
8	EXTERNAL HEQ	F	G	Q		
		10.0 kHz	+0 dB	0.7		
		1.0 kHz ~ 18.0 kHz	− 15 dB ~ +15 dB	0.1 ~ 5.0		

INITIAL DATA CHART

MIXING PROGRAM

PARAMETER		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
PHASE		NORMAL	→	→	→	→	→	→	→
LOW EQ	FREQ.	100Hz	→	→	→	→	→	→	→
	GAIN	+0dB	→	→	→	→	→	→	→
	Q	0.7	→	→	→	→	→	→	→
	P/S	PEAK	→	→	→	→	→	→	→
MID EQ	FREQ.	1.0kHz	→	→	→	→	→	→	→
	GAIN	+0dB	→	→	→	→	→	→	→
	Q	0.7	→	→	→	→	→	→	→
HI EQ	FREQ.	10.0kHz	→	→	→	→	→	→	→
	GAIN	+0dB	→	→	→	→	→	→	→
	Q	0.7	→	→	→	→	→	→	→
	P/S	PEAK	→	→	→	→	→	→	→
EQ ON/OFF		ON	→	→	→	→	→	→	→
CH ON/OFF		ON	→	→	→	→	→	→	→
CH LEVEL		NOMINAL	→	→	→	→	→	→	→
PAN		CENTER	→	→	→	→	→	→	→
CH EFFECT SEND 1	PRE/POST	POST	→	→	→	→	→	→	→
	LEVEL	∞	→	→	→	→	→	→	→
CH EFFECT SEND 2	PRE/POST	POST	→	→	→	→	→	→	→
	LEVEL	∞	→	→	→	→	→	→	→
CH EFFECT SEND 3	PRE/POST	POST	→	→	→	→	→	→	→
	LEVEL	∞	→	→	→	→	→	→	→

PARAMETER	SEND 1 (RETURN 1)	SEND 2 (RETURN 2)	SEND 3 (RETURN 3)
EFFECT SELECT	1 REV 1 HALL	7 CHORUS A	1 STEREO ECHO
EFFECT PARAMETER SETTING	RT = 2.6s	MOD FREQ = 0.2Hz	LD = 170.0ms
	HI = x0.6	DM = 50%	LFG = 60%
	ID = 30.0ms	AM = 40%	RD = 175.0ms
	HPF = THRU		RFG = 58%
	LPF = 8.0kHz		HIGH = x0.9
EFFECT RETURN LEVEL	∞	→	→
EFFECT RETURN ON/OFF	ON	→	→

PARAMETER		
STEREO LEVEL		NOMINAL
STEREO ON/OFF		ON
COMPRESSOR	ON/OFF	OFF
	RATIO	50%

CONTROL NUMBER & PARAMETER NUMBER

CNTL	0	PRM	205	CNTL	43	PRM	35	CNTL	86	PRM	156
CNTL	1	PRM	132	CNTL	44	PRM	36	CNTL	87	PRM	157
CNTL	2	PRM	133	CNTL	45	PRM	37	CNTL	88	PRM	158
CNTL	3	PRM	255	CNTL	46	PRM	38	CNTL	89	PRM	159
CNTL	4	PRM	135	CNTL	47	PRM	39	CNTL	90	PRM	160
CNTL	5	PRM	255	CNTL	48	PRM	40	CNTL	91	PRM	161
CNTL	6	PRM	134	CNTL	49	PRM	41	CNTL	92	PRM	162
CNTL	7	PRM	255	CNTL	50	PRM	42	CNTL	93	PRM	163
CNTL	8	PRM	0	CNTL	51	PRM	43	CNTL	94	PRM	164
CNTL	9	PRM	1	CNTL	52	PRM	44	CNTL	95	PRM	165
CNTL	10	PRM	2	CNTL	53	PRM	45	CNTL	96	PRM	166
CNTL	11	PRM	3	CNTL	54	PRM	46	CNTL	97	PRM	167
CNTL	12	PRM	4	CNTL	55	PRM	47	CNTL	98	PRM	255
CNTL	13	PRM	5	CNTL	56	PRM	48	CNTL	99	PRM	255
CNTL	14	PRM	6	CNTL	57	PRM	49	CNTL	100	PRM	255
CNTL	15	PRM	7	CNTL	58	PRM	50	CNTL	101	PRM	255
CNTL	16	PRM	8	CNTL	59	PRM	51	CNTL	102	PRM	169
CNTL	17	PRM	9	CNTL	60	PRM	52	CNTL	103	PRM	170
CNTL	18	PRM	10	CNTL	61	PRM	53	CNTL	104	PRM	171
CNTL	19	PRM	11	CNTL	62	PRM	54	CNTL	105	PRM	172
CNTL	20	PRM	12	CNTL	63	PRM	55	CNTL	106	PRM	173
CNTL	21	PRM	13	CNTL	64	PRM	138	CNTL	107	PRM	174
CNTL	22	PRM	14	CNTL	65	PRM	139	CNTL	108	PRM	175
CNTL	23	PRM	15	CNTL	66	PRM	140	CNTL	109	PRM	176
CNTL	24	PRM	16	CNTL	67	PRM	141	CNTL	110	PRM	177
CNTL	25	PRM	17	CNTL	68	PRM	142	CNTL	111	PRM	178
CNTL	26	PRM	18	CNTL	69	PRM	143	CNTL	112	PRM	179
CNTL	27	PRM	19	CNTL	70	PRM	144	CNTL	113	PRM	180
CNTL	28	PRM	20	CNTL	71	PRM	145	CNTL	114	PRM	181
CNTL	29	PRM	21	CNTL	72	PRM	147	CNTL	115	PRM	182
CNTL	30	PRM	22	CNTL	73	PRM	148	CNTL	116	PRM	183
CNTL	31	PRM	23	CNTL	74	PRM	149	CNTL	117	PRM	184
CNTL	32	PRM	24	CNTL	75	PRM	150	CNTL	118	PRM	186
CNTL	33	PRM	25	CNTL	76	PRM	136	CNTL	119	PRM	187
CNTL	34	PRM	26	CNTL	77	PRM	137	CNTL	120	PRM	188
CNTL	35	PRM	27	CNTL	78	PRM	146	CNTL	121	PRM	189
CNTL	36	PRM	28	CNTL	79	PRM	151	CNTL	122	PRM	190
CNTL	37	PRM	29	CNTL	80	PRM	168	CNTL	123	PRM	191
CNTL	38	PRM	30	CNTL	81	PRM	185	CNTL	124	PRM	192
CNTL	39	PRM	31	CNTL	82	PRM	152	CNTL	125	PRM	193
CNTL	40	PRM	32	CNTL	83	PRM	153	CNTL	126	PRM	194
CNTL	41	PRM	33	CNTL	84	PRM	154	CNTL	127	PRM	195
CNTL	42	PRM	34	CNTL	85	PRM	155				

NOTE NUMBER & PARAMETER NUMBER

NOTE	PRM
0	255
1	255
2	255
3	255
4	255
5	255
6	255
7	255
8	255
9	255
10	255
11	255
12	255
13	255
14	255
15	255
16	56
17	57
18	58
19	59
20	60
21	61
22	62
23	63
24	64
25	65
26	66
27	67
28	68
29	69
30	70
31	71
32	72
33	73
34	74
35	75
36	76
37	77
38	78
39	79
40	82
41	83
42	84
43	85
44	86
45	87
46	88
47	89
48	90
49	91
50	92
51	93
52	94
53	95
54	96
55	97
56	98
57	99
58	100
59	101
60	102
61	103
62	104
63	105
64	106
65	107
66	108
67	109
68	110
69	111
70	112
71	113
72	114
73	115
74	116
75	117
76	118
77	119
78	120
79	121
80	122
81	123
82	124
83	125
84	126
85	127
86	128
87	129
88	80
89	81
90	130
91	131
92	196
93	197
94	198
95	199
96	200
97	201
98	202
99	203
100	204
101	255
102	255
103	255
104	255
105	255
106	255
107	255
108	255
109	255
110	255
111	255
112	255
113	255
114	255
115	255
116	255
117	255
118	255
119	255
120	255
121	255
122	255
123	255
124	255
125	255
126	255
127	255

BLANK CHART

YAMAHA DMP7 MIXING PROGRAM

MEMORY NO.: _____ PROGRAM TITLE: _____

DATE: _____ PROGRAMMER: _____

Parameter		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
PHASE									
LOW EQ	FREQ.								
	GAIN								
	Q								
	P/S								
MID EQ	FREQ.								
	GAIN								
	Q								
HI EQ	FREQ.								
	GAIN								
	Q								
	P/S								
EQ ON/OFF									
CH ON/OFF									
CH LEVEL									
PAN									
CH EFFECT SEND 1	PRE/POST								
	LEVEL								
CH EFFECT SEND 2	PRE/POST								
	LEVEL								
CH EFFECT SEND 3	PRE/POST								
	LEVEL								

Parameter	SEND 1 (RETURN 1)	SEND 2 (RETURN 2)	SEND 3 (RETURN 3)
EFFECT SELECT			
EFFECT PARAMETER SETTING			
EFFECT RETURN LEVEL			
EFFECT RETURN ON/OFF			

Parameter		
STEREO LEVEL		
STEREO ON/OFF		
COMPRESSOR	ON/OFF	
	RATIO	

YAMAHA DMP7 PROGRAM NAME

DATE: _____ PROGRAMMER: _____

Memory No.	PROGRAM NAME	Memory No.	PROGRAM NAME	Memory No.	PROGRAM NAME
1		34		67	
2		35		68	
3		36		69	
4		37		70	
5		38		71	
6		39		72	
7		40		73	
8		41		74	
9		42		75	
10		43		76	
11		44		77	
12		45		78	
13		46		79	
14		47		80	
15		48		81	
16		49		82	
17		50		83	
18		51		84	
19		52		85	
20		53		86	
21		54		87	
22		55		88	
23		56		89	
24		57		90	
25		58		91	
26		59		92	
27		60		93	
28		61		94	
29		62		95	
30		63		96	
31		64		97	
32		65			
33		66			

YAMAHA DMP7

PROGRAM CHANGE NUMBER & MEMORY NUMBER

DATE: _____ PROGRAMMER: _____

PGM 1	MEM	PGM 44	MEM	PGM 87	MEM
PGM 2	MEM	PGM 45	MEM	PGM 88	MEM
PGM 3	MEM	PGM 46	MEM	PGM 89	MEM
PGM 4	MEM	PGM 47	MEM	PGM 90	MEM
PGM 5	MEM	PGM 48	MEM	PGM 91	MEM
PGM 6	MEM	PGM 49	MEM	PGM 92	MEM
PGM 7	MEM	PGM 50	MEM	PGM 93	MEM
PGM 8	MEM	PGM 51	MEM	PGM 94	MEM
PGM 9	MEM	PGM 52	MEM	PGM 95	MEM
PGM 10	MEM	PGM 53	MEM	PGM 96	MEM
PGM 11	MEM	PGM 54	MEM	PGM 97	MEM
PGM 12	MEM	PGM 55	MEM	PGM 98	MEM
PGM 13	MEM	PGM 56	MEM	PGM 99	MEM
PGM 14	MEM	PGM 57	MEM	PGM 100	MEM
PGM 15	MEM	PGM 58	MEM	PGM 101	MEM
PGM 16	MEM	PGM 59	MEM	PGM 102	MEM
PGM 17	MEM	PGM 60	MEM	PGM 103	MEM
PGM 18	MEM	PGM 61	MEM	PGM 104	MEM
PGM 19	MEM	PGM 62	MEM	PGM 105	MEM
PGM 20	MEM	PGM 63	MEM	PGM 106	MEM
PGM 21	MEM	PGM 64	MEM	PGM 107	MEM
PGM 22	MEM	PGM 65	MEM	PGM 108	MEM
PGM 23	MEM	PGM 66	MEM	PGM 109	MEM
PGM 24	MEM	PGM 67	MEM	PGM 110	MEM
PGM 25	MEM	PGM 68	MEM	PGM 111	MEM
PGM 26	MEM	PGM 69	MEM	PGM 112	MEM
PGM 27	MEM	PGM 70	MEM	PGM 113	MEM
PGM 28	MEM	PGM 71	MEM	PGM 114	MEM
PGM 29	MEM	PGM 72	MEM	PGM 115	MEM
PGM 30	MEM	PGM 73	MEM	PGM 116	MEM
PGM 31	MEM	PGM 74	MEM	PGM 117	MEM
PGM 32	MEM	PGM 75	MEM	PGM 118	MEM
PGM 33	MEM	PGM 76	MEM	PGM 119	MEM
PGM 34	MEM	PGM 77	MEM	PGM 120	MEM
PGM 35	MEM	PGM 78	MEM	PGM 121	MEM
PGM 36	MEM	PGM 79	MEM	PGM 122	MEM
PGM 37	MEM	PGM 80	MEM	PGM 123	MEM
PGM 38	MEM	PGM 81	MEM	PGM 124	MEM
PGM 39	MEM	PGM 82	MEM	PGM 125	MEM
PGM 40	MEM	PGM 83	MEM	PGM 126	MEM
PGM 41	MEM	PGM 84	MEM	PGM 127	MEM
PGM 42	MEM	PGM 85	MEM	PGM 128	MEM
PGM 43	MEM	PGM 86	MEM		

YAMAHA DMP7

CONTROL NUMBER & PARAMETER NUMBER

DATE: _____ PROGRAMMER: _____

CNTL 0	PRM	CNTL 43	PRM	CNTL 86	PRM
CNTL 1	PRM	CNTL 44	PRM	CNTL 87	PRM
CNTL 2	PRM	CNTL 45	PRM	CNTL 88	PRM
CNTL 3	PRM	CNTL 46	PRM	CNTL 89	PRM
CNTL 4	PRM	CNTL 47	PRM	CNTL 90	PRM
CNTL 5	PRM	CNTL 48	PRM	CNTL 91	PRM
CNTL 6	PRM	CNTL 49	PRM	CNTL 92	PRM
CNTL 7	PRM	CNTL 50	PRM	CNTL 93	PRM
CNTL 8	PRM	CNTL 51	PRM	CNTL 94	PRM
CNTL 9	PRM	CNTL 52	PRM	CNTL 95	PRM
CNTL 10	PRM	CNTL 53	PRM	CNTL 96	PRM
CNTL 11	PRM	CNTL 54	PRM	CNTL 97	PRM
CNTL 12	PRM	CNTL 55	PRM	CNTL 98	PRM
CNTL 13	PRM	CNTL 56	PRM	CNTL 99	PRM
CNTL 14	PRM	CNTL 57	PRM	CNTL 100	PRM
CNTL 15	PRM	CNTL 58	PRM	CNTL 101	PRM
CNTL 16	PRM	CNTL 59	PRM	CNTL 102	PRM
CNTL 17	PRM	CNTL 60	PRM	CNTL 103	PRM
CNTL 18	PRM	CNTL 61	PRM	CNTL 104	PRM
CNTL 19	PRM	CNTL 62	PRM	CNTL 105	PRM
CNTL 20	PRM	CNTL 63	PRM	CNTL 106	PRM
CNTL 21	PRM	CNTL 64	PRM	CNTL 107	PRM
CNTL 22	PRM	CNTL 65	PRM	CNTL 108	PRM
CNTL 23	PRM	CNTL 66	PRM	CNTL 109	PRM
CNTL 24	PRM	CNTL 67	PRM	CNTL 110	PRM
CNTL 25	PRM	CNTL 68	PRM	CNTL 111	PRM
CNTL 26	PRM	CNTL 69	PRM	CNTL 112	PRM
CNTL 27	PRM	CNTL 70	PRM	CNTL 113	PRM
CNTL 28	PRM	CNTL 71	PRM	CNTL 114	PRM
CNTL 29	PRM	CNTL 72	PRM	CNTL 115	PRM
CNTL 30	PRM	CNTL 73	PRM	CNTL 116	PRM
CNTL 31	PRM	CNTL 74	PRM	CNTL 117	PRM
CNTL 32	PRM	CNTL 75	PRM	CNTL 118	PRM
CNTL 33	PRM	CNTL 76	PRM	CNTL 119	PRM
CNTL 34	PRM	CNTL 77	PRM	CNTL 120	PRM
CNTL 35	PRM	CNTL 78	PRM	CNTL 121	PRM
CNTL 36	PRM	CNTL 79	PRM	CNTL 122	PRM
CNTL 37	PRM	CNTL 80	PRM	CNTL 123	PRM
CNTL 38	PRM	CNTL 81	PRM	CNTL 124	PRM
CNTL 39	PRM	CNTL 82	PRM	CNTL 125	PRM
CNTL 40	PRM	CNTL 83	PRM	CNTL 126	PRM
CNTL 41	PRM	CNTL 84	PRM	CNTL 127	PRM
CNTL 42	PRM	CNTL 85	PRM		

YAMAHA DMP7

NOTE NUMBER & PARAMETER NUMBER

DATE: _____ PROGRAMMER: _____

NOTE 0	PRM	NOTE 43	PRM	NOTE 86	PRM
NOTE 1	PRM	NOTE 44	PRM	NOTE 87	PRM
NOTE 2	PRM	NOTE 45	PRM	NOTE 88	PRM
NOTE 3	PRM	NOTE 46	PRM	NOTE 89	PRM
NOTE 4	PRM	NOTE 47	PRM	NOTE 90	PRM
NOTE 5	PRM	NOTE 48	PRM	NOTE 91	PRM
NOTE 6	PRM	NOTE 49	PRM	NOTE 92	PRM
NOTE 7	PRM	NOTE 50	PRM	NOTE 93	PRM
NOTE 8	PRM	NOTE 51	PRM	NOTE 94	PRM
NOTE 9	PRM	NOTE 52	PRM	NOTE 95	PRM
NOTE 10	PRM	NOTE 53	PRM	NOTE 96	PRM
NOTE 11	PRM	NOTE 54	PRM	NOTE 97	PRM
NOTE 12	PRM	NOTE 55	PRM	NOTE 98	PRM
NOTE 13	PRM	NOTE 56	PRM	NOTE 99	PRM
NOTE 14	PRM	NOTE 57	PRM	NOTE 100	PRM
NOTE 15	PRM	NOTE 58	PRM	NOTE 101	PRM
NOTE 16	PRM	NOTE 59	PRM	NOTE 102	PRM
NOTE 17	PRM	NOTE 60	PRM	NOTE 103	PRM
NOTE 18	PRM	NOTE 61	PRM	NOTE 104	PRM
NOTE 19	PRM	NOTE 62	PRM	NOTE 105	PRM
NOTE 20	PRM	NOTE 63	PRM	NOTE 106	PRM
NOTE 21	PRM	NOTE 64	PRM	NOTE 107	PRM
NOTE 22	PRM	NOTE 65	PRM	NOTE 108	PRM
NOTE 23	PRM	NOTE 66	PRM	NOTE 109	PRM
NOTE 24	PRM	NOTE 67	PRM	NOTE 110	PRM
NOTE 25	PRM	NOTE 68	PRM	NOTE 111	PRM
NOTE 26	PRM	NOTE 69	PRM	NOTE 112	PRM
NOTE 27	PRM	NOTE 70	PRM	NOTE 113	PRM
NOTE 28	PRM	NOTE 71	PRM	NOTE 114	PRM
NOTE 29	PRM	NOTE 72	PRM	NOTE 115	PRM
NOTE 30	PRM	NOTE 73	PRM	NOTE 116	PRM
NOTE 31	PRM	NOTE 74	PRM	NOTE 117	PRM
NOTE 32	PRM	NOTE 75	PRM	NOTE 118	PRM
NOTE 33	PRM	NOTE 76	PRM	NOTE 119	PRM
NOTE 34	PRM	NOTE 77	PRM	NOTE 120	PRM
NOTE 35	PRM	NOTE 78	PRM	NOTE 121	PRM
NOTE 36	PRM	NOTE 79	PRM	NOTE 122	PRM
NOTE 37	PRM	NOTE 80	PRM	NOTE 123	PRM
NOTE 38	PRM	NOTE 81	PRM	NOTE 124	PRM
NOTE 39	PRM	NOTE 82	PRM	NOTE 125	PRM
NOTE 40	PRM	NOTE 83	PRM	NOTE 126	PRM
NOTE 41	PRM	NOTE 84	PRM	NOTE 127	PRM
NOTE 42	PRM	NOTE 85	PRM		

SINCE 1887

YAMAHA

HAMAMATSU, JAPAN

SERVICE

This product is supported by Yamaha's worldwide network of factory trained and qualified dealer service personnel. In the event of a problem, contact your nearest Yamaha dealer.

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