GMega

SYNTHESIZER MODULE

OWNER'S MANUAL

KAWAI

Welcome

We'd like to take this opportunity to thank you for purchasing the KAWAI GMega Synthesizer Module.
The GMega is a top quality GM-compatible synthesizer module that built around the KAWAI proprietary DMS2 "Digital Multi Spectrum" tone generator. The great sounds in the DMS2 make it ideal as a sound source for a computer sequencer, or as an expansion module for a synthesizer or electric piano.

It's easy to create your own sounds that mimic the multi-frequency sonic complexity of the real world with the DMS2 tone generator in the GMega. Starting from 16-bit PCM or DC (digital cyclic) waveforms, creating beautiful sounds is simply a synthesis of the parameters which make up the tones.

We hope you'll thoroughly read this manual before using the GMega. It will help you get the most out of its great features for many years to come.

Macintosh is a registered trademark of Apple Computer, Inc.
GM is an abbreviation for General MIDI, a recommended standard format to be followed by all manufacturers, which specifies how MIDI functions are to be implemented in tone generators.

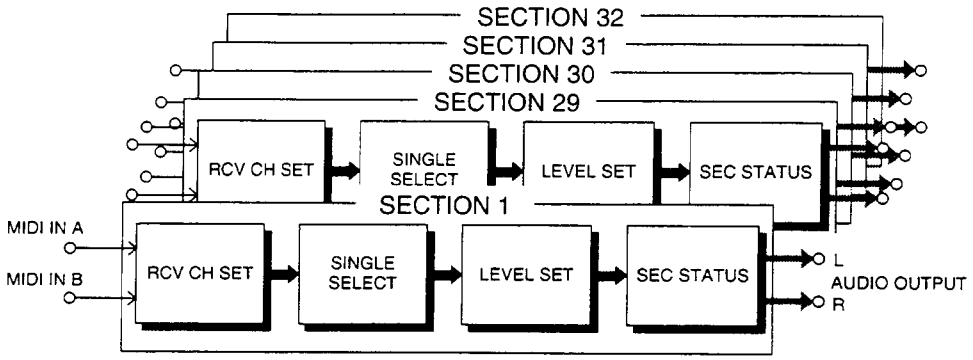
Features of the GMega

The GMega is a sound module built around the DMS2 tone module and compatible with the new GM System for standardizing certain MIDI functions on electronic musical instruments, regardless of manufacturer or country of origin.

This state-of-the-art sound module has lots of features that make it easy to synthesize high-quality original sounds. Add to that digital effects and built-in rhythm functions, and the ability to grow as you and your system grow.

1. **32 Parts Using 2 MIDI INs**

   The GMega has a maximum 32-voice polyphony, or 32 sections (16 channels x two MIDI INs, A and B) that can be played simultaneously, drums included, for a rich ensemble sound. This makes it eminently possible to play complex music with many parts, such as a classical piece, using the variable multi-timbral system to play each of the 32 parts independently.



2. **Built-in Computer Interface**

   The GMega is equipped with a serial interface compatible with Macintosh series computers. No extra MIDI interface is required, just a Mac, a sequencer program and a single GMega sound source is all you need to playback full band and orchestra pieces.

3. **Temperaments**

   The GMega has 55 preset temperaments. Each of the 32 sections can play with a different preset, which makes possible uncanny simulation of the slightly different temperaments of all the instruments gathered to create the sound of a real orchestra.

4. **High Quality Sounds**

   The GMega comes with 128 percussion sounds and 128 tones specially programmed to make the most of the features of the new DMS2 tone generator. So if you have no experience or interest in synthesizing new tones, you can simply select and enjoy incredible sounds from the wide variety already available to you.

5. **Sounds**

   As a MultiMedia accessory, 256 new looping tone waveforms and 256 new drum waveforms have been recorded in 48Mbit or WAVE data, and you can create some really high-quality sounds from these using the latest in waveform processing technology.

6. **Quality**

   The DMS2 tone generator has been redesigned with an 18-bit DAC (digital-to-analog converter) for 16-bit linear 44.1 kHz sampled waveform playback, giving CD-like audio quality to your sounds.

7. **Infinite Freedom in Creating Sounds**
   The GMega has a wealth of parameters you can use to synthesize and create any tone you can dream of, such as using up to two digital filters on a tone to get an analog kind of sound, but with a resonance effect. Or independent modulation by DCO, DCF and DCA filters, to breathe life into the sometimes "sterile" sound of electronic instruments. Up to 128 of the tones you have created (Single Patches) can be stored in the USER bank in memory. It all adds up to nearly infinite freedom in creating new sounds.

8. **Built-in Drum Section**
   Each Bank is equipped with seven different drum kits. Each one, e.g., GM Standard, POWER, CLASSIC, etc., can have up to 128 different percussion instrument sounds assigned to it, and each sound can be assigned any way you like to the 128 keys from C2 to G8. You can also of course make up new drum sounds all your own with synthesis, just like a Single Patch.

9. **Create Natural Broadening of Sound**
   The GMega comes with six kinds of digital effects like reverb and delay. With this you can recreate the presence and reverberation and natural spaciousness of a live venue like a concert hall.

10. **Play Back Other Kinds of Song Data Without Converting Patches**
    In addition to the 128 Single Patches and 128 Drum tones (in 7 Drum Kits) in the GM Bank, the GMega has an SP Bank compatible with the Computer Music System. This lets you play performance data on a computer with almost the same kind of sounds as originally written, but without the need to change patches or modify the files.

Reading This Manual

How the Manual is Organized

The manual for the GMega is divided into seven sections, organized as follows:

Section 1: Introduction

This section gives a brief overview of the GMega functions and how to hook it up with other devices.

Section 2: Let's Play Some Music!

This section explains how to play the GMega using tones from the GM Bank.

Section 3: Section Parameters That Control Timbre and Volume

How to make the settings you need to control certain important Section parameters.

Section 4: Creating New Sounds

How to create a Single Patch.

Section 5: Creating Drum Tones

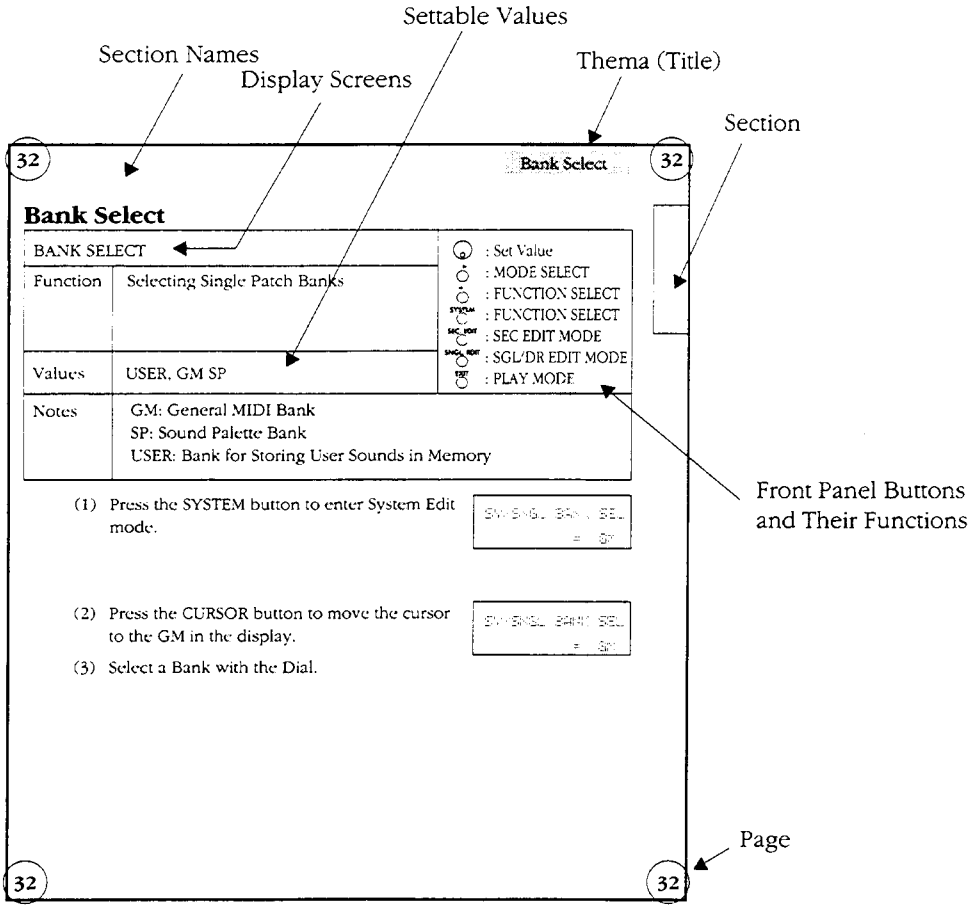
How to edit a Drum Patch.

Section 6: System Settings

How to make settings relating to the way the GMega works overall.

About the Modular Information Panels

You will see the following format on many of the pages in this manual to help explain features and procedures. To make it easier to use, there's a section index on the right edge of each page cross-referenced to the Functions Table of Contents, and the title of that section of the manual is displayed in the upper right (upper left for left--handed pages). You'll find the page number displayed in all four corners.



About the Functions Table of Contents

The Functions Table of Contents can be pulled out of the front of this book, as shown below, and folded over for ready reference while reading the text, with no flipping back and forth. A Section index, linked to the Function Table of Contents is also dispalyed on the right edge of each page of text.

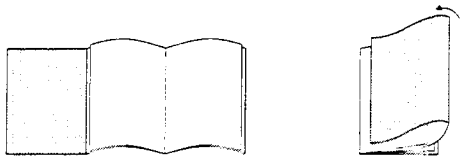


Table of Contents

Before You Try Out the GMega (Some Precautions for Use)

To get years of service from your GMega, please read and follow the following important instructions.

Location:

Avoid

- Direct sunlight, such as near a window;
- Temperature extremes, such as directly in front of a heater or out-of-doors;
- High humidity;
- Sandy or dusty locations; and
- Places that are subject to high vibration levels.

Power Supply:

- Make sure you are using the GMega with proper power supply, and with the AC adapter that came with it. Do not even think of using it with other adapters or at other voltages.
- Make sure that everything is properly hooked up before turning on the power. And, make sure that the power is turned off before hooking new things into the system.
- Try to plug into an outlet that is not also being used by devices that draw a lot of current or generate electrical noise.
- Unplug the GMega if you are not going to be using it for an extended period of time.
- Unplug the GMega when there's a danger of lightning strikes or other electrical disturbance.

Proper Procedure for Turning On the Power

- When connected to a computer and/or MIDI keyboard, turn on that device first; then turn on the GMega, then any audio devices (instrument amp, stereo system, etc.). Turn the power off in the reverse order.

Hooking Up

- When hooking up external devices to the GMega, turn off the power first on both sides to prevent damage to speakers or amps in the devices.

Effects from Other Devices

- The GMega is a high-speed, precision microprocessor devices. As such, it is very susceptible to malfunctions due to line noise or voltage spikes and fluctuations. If this occurs, try turning the GMega off, waiting a few seconds, then turning it on again.

MIDI Cables

- Be sure to use only standard MIDI cables.
- MIDI cables are limited to 15m in length. Using cables that are longer than this can induce errors in data transmission and faulty operation.

Handling and Transporting

- Make sure all cables are disconnected during transport.
- Be sure to pull on the end of the plug and not the cable itself when unplugging.
- Use only as much force as is needed with switches and plugs.

Keeping the GMega in Good Shape

- For regular cleaning, use a soft, dry cloth.
- If the GMega gets especially dirty, clean it with a mild, neutral detergent and wipe it down with a soft cloth immediately after.
- Whatever you do, don't use benzene-based cleaning solutions or thinners.

Data Backup Batteries

- The GMega is equipped with a special lithium backup battery to maintain data in memory even when the power is turned off. These batteries have a lifetime of five years or more, although this can depend somewhat on operating conditions. We recommend you replace them at about the five-year mark as a precaution. When it comes time to do this, ask at the store where you made your purchase about the nearest KAWAI Service Center.

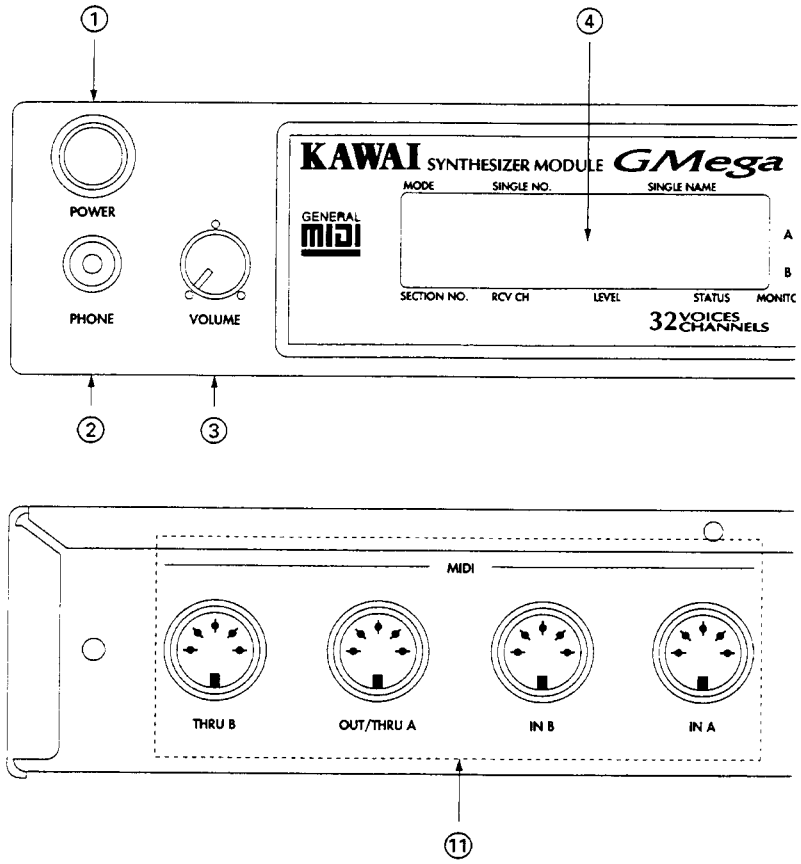
Protecting Your Data During Repairs

If you have to send out your GMega for repairs, we recommend you dump all your most important data into another MIDI device ahead of time. Try as we might, there is always the chance that this data could be lost during the repair process.

Modifications

Don't open up the case and internals, or otherwise try to modify the GMega; you might wind up hurting either yourself or the machine. And you'll void the warranty.

Part Names



Front Panel

① **POWER**
Switches the power on and off with each press of the button.

② **PHONES**
A stereo mini plug for headphones. The Volume knob controls headphone volume.

③ **VOLUME**
Adjusts the volume at the headphone jack and output jacks.

④ **DISPLAY**
A 16-character, 2-line LCD display showing settings and operations on the GMega.

⑤ **CURSOR**
These buttons move the cursor in the display.
Pressing the ◁ button moves the cursor toward the left, and ▷ to the right. Pressing both at once puts you into the MIDI Monitor mode.

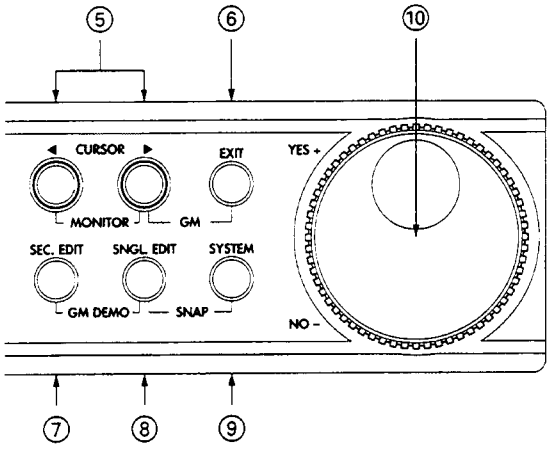
⑥ **EXIT**
Returns you to Play mode whenever you are in one of the Edit modes. Press the Exit button and the ▷ cursor button at the same time to perform a GM Reset. (This is not included in SYSTEM.)

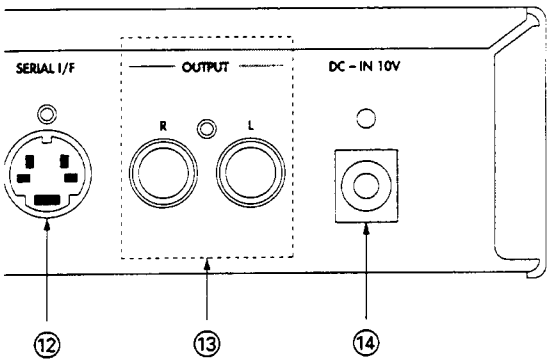
⑦ **SEC. EDIT**
Puts you in Section Edit mode.
Pressing ⑦ and ⑧ at the same time plays the Demo song.

⑧ **SINGLE EDIT**
Puts you in Single Edit/Drum Edit mode.

⑨ **SYSTEM**
Puts you in System Edit mode.
Pressing the SINGLE EDIT and SYSTEM buttons at the same time sends Bank Select (SysEX), Program Change/Volume/Pan setting of each section (MIDI Receive Channel 1A-16A). This operation is called "SNAP"

⑩ **INCREMENT DIAL**
Lets you set parameter values at the current cursor location or select options. Turning it to the right means YES, to the left NO. When controlling values, the numbers increase as you turn it to the right (clockwise), and decrease as you turn it to the left (counter-clockwise).





Rear Panel

⑪ **MIDI Jacks**

Jacks for hooking up external MIDI devices using MIDI cables.

MIDI IN A, B

For receiving MIDI data from other MIDI devices.

MIDI OUT/THRU A

Internally generated MIDI signals, or a copy of the signals arriving at the MIDI IN A jack, are output here.

MIDI THRU B

A copy of the signals arriving at the MIDI IN B jack are output here.

⑫ **SERIAL INTERFACE**

A Macintosh series computer can be connected via this jack.

⑬ **OUTPUT**

GMega audio output is sent to an instrument amp or audio system via these jacks.

⑭ **DC-IN**

This is where you plug in the AC adapter that came with the GMega.

SECTION 1 Introduction

1.1 The Stuff That Comes With Your GMega

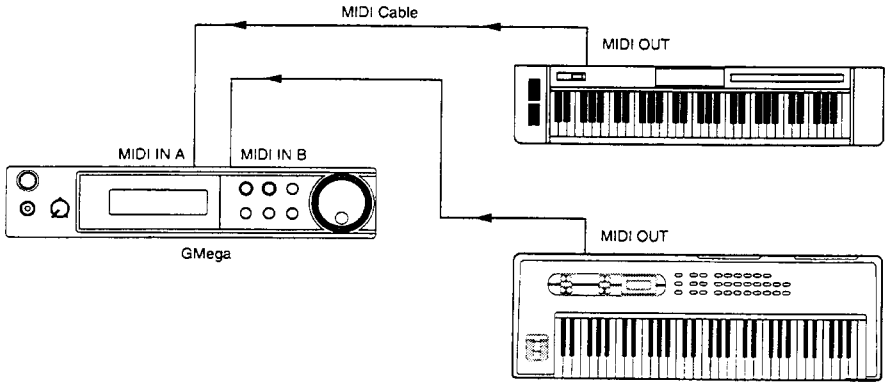
All the following neat stuff comes with your GMega. Check the box after opening to make sure you got it all.

- ◆ One (1) AC adapter
- ◆ One (1) 1.5m MIDI cable
- ◆ One (1) stereo audio cable
- ◆ Two (2) mini-stereo to 1/4" adapters
- ◆ Owner's Manual (what you're reading now)
- ◆ Wave List

1.2 Let's Get It Together

1) Hooking Up to a MIDI Keyboard

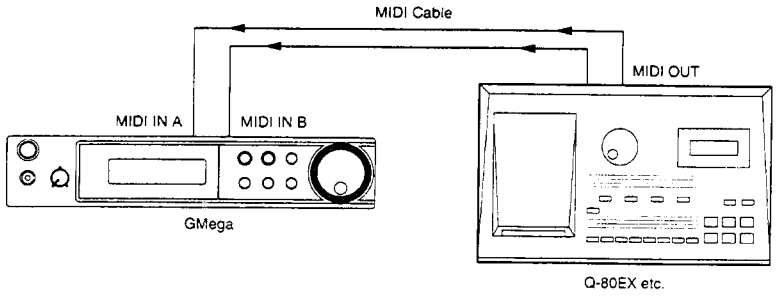
It's easy to hook up the GMega for use as an expansion module on an electronic piano or synthesizer like the KAWAI K-Series digital synths. Plug one end of your MIDI cable into the MIDI OUT of the MIDI keyboard, and the other end into MIDI IN A or MIDI IN B of the GMega. Actually, if you wanted to, you could hook up two MIDI synths, one in A and one in B!



2) Hooking Up to a Digital Sequencer

Just run the MIDI cable from the MIDI OUT of the sequencer to the MIDI IN, either A or B, of the GMega.

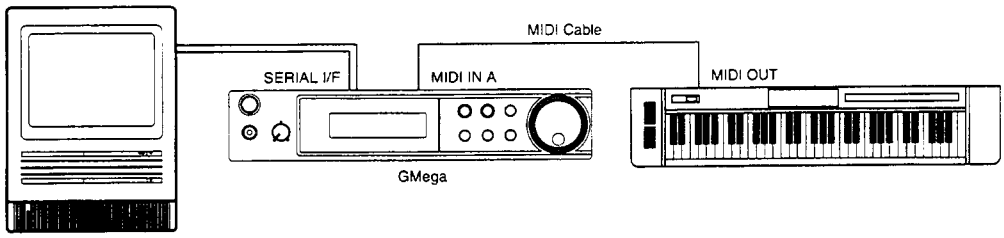
If you're using a KAWAI Q-80EX (a 32-track sequencer with 2 MIDI OUTs), you can plug one MIDI OUT into MIDI IN A or the GMega, and the other into MIDI IN B. This will let you control up to 32 sections simultaneously on the GMega.



3) Hooking Up to a Macintosh Series Computer

You can hook up the GMega directly to the modem or printer serial port of a Macintosh series computer. You'll need a DIN 8-pin cable (usually sold for use with printers) to make the connection. It's a good idea to take this manual or the GMega with you when you purchase the cable, so you can check the pin pattern and make sure you're buying the right thing.

When you have the right cord, just run it directly from the modem or printer serial port of your Mac to the SERIAL I/F port of the GMega. This eliminates the need for a separate MIDI interface card or module!

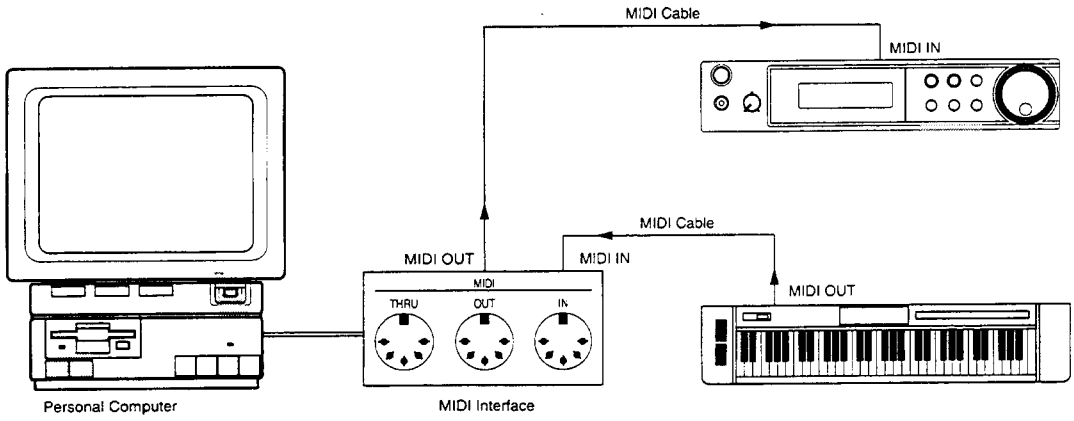


[Note]

- Set the MIDI port clock speed to 1MHz using the application software (sequencer, etc.) on your Mac.
- You can change the MIDI signal routing using the Ser. I/F Mode setting (OFF/OUT/SEQ/EDIT). For more about this, see the part about the MODE menu in "SECTION 6. System Settings" on page 100.

4) Connecting to a Personal Computer

You can connect the GMega to other kinds of personal computers too, you will just need to purchase a separate MIDI interface: either a card or external module.



[Note]

Refer to the manual for the particular MIDI interface you buy to find out how to mount it and hook up to other MIDI devices.

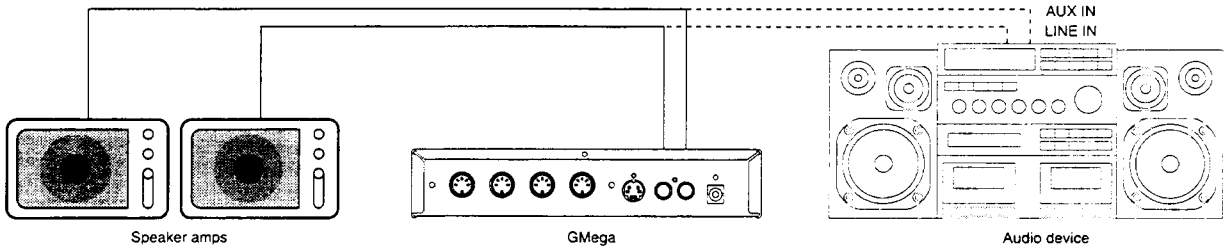
[Hint]

Almost all the button-pressing you do on the GMega panels can also be transmitted from the MIDI OUT using SysEx messages.

5) Connections to Audio System

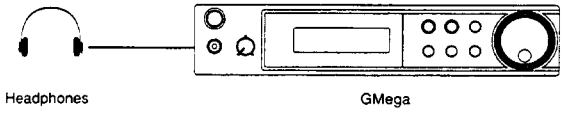
(1) OUTPUT Jacks

Connect the LINE OUT jacks (L/R) on the rear panel to the appropriate inputs of an instrument amp or audio system. In the case of an instrument amp, these inputs are likely to be 1/4" plugs, so you'll need to put the (included) stereo RCA-to-1/4" adapters on the end of the (included) audio cable to make the connection. These adapters will not be needed if you're connecting to an audio device like a stereo, just plug the audio cable directly into the AUX IN or LINE IN (However, we recommend using an instrument amp or other device specially made for electric instruments. The volume levels of the GMega could blow out the speakers on a home audio system if you're not careful.)



(2) Headphones

Just plug your headphones directly into the PHONE jack to monitor the sounds coming out of the GMega. The PHONE jack is compatible with standard 3.5mm diameter stereo mini plugs.



1.3 Overview of the GMega

1) Modes

The GMega is always in one of four modes.

PLAY MODE	This is the usual mode for playing song data. You can make full use of the GMega's 32 Section multi-timbral capabilities using both A and B MIDI IN ports. By "Section," we mean the combination of the various settings defining the tone, effects applied, etc. In this mode you can select a Single Patch for each Section, MIDI receive channel, volume level, and Section status (ON, OFF, SOLO).
SECTION EDIT MODE	This mode is where you can select the pan, effects, attack, release, and a dozen more features for editing or changing the sound of a section. As with all data, you should make frequent backups after making editing changes to these sections. You can also edit the data in the ROM banks (GM/SP) in Section Edit mode, but these changes are lost and everything is reset once you switch banks (you can, however, back up these changes to an external MIDI device with a bulk dump.)
SINGLE / DRUM EDIT MODE	In this mode you can edit (change the settings on) a User Bank Single Patch or Percussion patch. Create a sound for any image here with the 32 editing commands, including WAVE Select, Filter, and Envelope Generator. (However, you can't edit the GM/SP banks.)
SYSTEM MODE	This is where you make settings like Effect Type/Parameter and Unit Tune that effect the GMega itself, and others like Receive Channel, Program Change, System Exclusive Change Receive ON/OFF, etc. From this mode, you can also send these internal GMega settings via MIDI to be stored in an external MIDI device, or reinitialize the GMega from that device.

2) GMega Functions

Each mode on the GMega has the following functions associated with it.

PLAY MODE	SINGLE SELECT	Select a tone
	SEC SELECT	Select a Section (part)
	RCV CH SET	Select MIDI Receive channel
	LEVEL SET	Set audio output level
	SEC STATUS	Select ON/OFF/SOLO

SEC EDIT	PAN	Adjust Pan
	TRANSPOSE	Set Transpose interval
	TUNE	Adjust pitch
	EFFECT LEVEL	Set Effects level
	BEND DEPTH	Set amount of Pitch Bend variation
	CUTOFF OFFSET	Set harmonics Cutoff point
	DCA ATTACK OFFSET	Set Attack Time
	DCA RELEASE OFFSET	Set Release Offset
	ZONE LO/ZONE HI	Set voicing range
	MOD WHEEL VIB	Set amount of Modulation Wheel vibrato
	PRESS VIB	Set amount of Aftertouch vibrato
	RCV HOLD	Turn Hold ON/OFF
	TEMPERAMENT TYPE	Select Temperament type
	TEMPERAMENT KEY	Select tonic note for the Temperament

SINGLE EDIT	NAME 1st to 8th	Edit a Single Patch name
	MONITOR SOURCE	Set ON/MUTE for Source 1 or 2
	DCO WAVE SELECT	Select a Waveform
	KEY TRACK	Set the tone to follow pitch changes
	FIXED KEY	Set the pitch of a fixed note
	COARSE	Coarse tuning adjustment
	FINE	Fine tuning adjustment
	KEY ON DELAY	Set time between keypress and start of sound
	VIB DEPTH/SHAPE/SPEED	Set depth/waveform/speed of vibrato
	AM	Turn Ring Modulation ON/OFF
	DCF LINK	Select filter configuration
	DCF TYPE	Select filter
	CUTOFF	Set the Cutoff Frequency
	RESO DEPTH	Set Resonance Depth
	DCF KEY TRACK	Set filter action to follow Note Number
	DCF VEL CURVE/DEPTH/ASSIGN	Set filter curve/depth/assign to follow velocity
	DCF ENV DEPTH	Set filter envelope depth
	DCF ATTACK LEVEL/TIME	Set amount and rate of filter envelope attack
	DCF DECAY TIME	Sets Decay Time of filter envelope
	DCF SUS 1 LEVEL	Set Sustain 1 level
	DCF MOD TIME	Set time until EG reaches Sustain 2 level
	DCF SUS 2 LEVEL	Set Sustain 2 level
	DCF RELEASE TIME	Set Release Time
	DCA ATTACK LEVEL	Set attack of Source
	DCA VEL CURVE/DEPTH	Select velocity/volume curve and set depth of effect
	DCA ATTACK TIME	Set Attack Time
	DCA DECAY TIME	Set Decay Time
	DCA SUS 1 LEVEL	Set Sustain 1 level
	DCA MOD TIME	Set time until EG reaches Sustain 2 level
	DCA SUS 2 LEVEL	Set Sustain 2 level
	DCA RELEASE TIME	Set Release Time

DRUM EDIT	PC ASSIGN	Select key to edit and a percussion sound for that key
	PC NAME	Adjust Percussion Name
	DCA LEVEL	Adjust Volume
	PAN	Adjust Pan
	PC EFFECT LEVEL	Adjust Effects for each percussion sound
	WAVE SELECT	Select Waveform
	DCO PTICH	Modify Source pitch
	DCO FINE	Fine tuning adjustment
	DCF CUTOFF/RESO DEPTH	Set Filter Cutoff Frequency and Resonance
	DCF VEL CURVE/DEPTH/ASSIGN	Set filter curve/depth/assign to follow velocity
	DCF ATTACK TIME/DECAY TIME	Set attack rate and decay time of filter envelope
	DCA VEL CURVE/DEPTH	Select velocity/volume curve and set depth of effect
	DCA ATTACK TIME/DECAY TIME	Set attack and decay times
	GATE TIME	Set gate time for percussion sound
	DCF SUSTAIN LEVEL	Set sustain level
	DCF ENV DEPTH	Set depth of filter envelope

SYSTEM EDIT	SINGLE BANK SELECT	Select Bank (USER/GM/SP)
	EFFECT TYPE	Select Effect
	PARAMETER 1/2/3/4	Edit parameters of selected Effect
	UNIT TUNE	Fine tune overall pitch of GMega
	UNIT RCV CH	Set MIDI Receive channel
	UNIT RCV PGM	Turn Program Change Receive ON/OFF
	UNIT RCV EXCL	Turn SysEx Receive ON/OFF
	UNIT RCV MODE	Set Receive mode
	Ser. I/F MODE	Select SERIAL I/F mode
	DUMP ALL EXEC?	Dump all data to external device
	DUMP SEC/SYS EXEC?	Dump all SEC or System data to external device
	FACTORY RESET EXEC?	Reset to factory defaults

1.4 Power Up!

(1) Check all the connections between the GMega and peripheral devices. Turn down the volume on all playback devices (instrument amp, stereo).

(2) Turn on MIDI keyboard, then GMega, then computer, in that order.

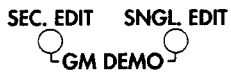
(3) When you press the GMega POWER button to turn it on, you'll see a screen like the one to the right.

(4) After you've turned on the playback devices, adjust the GMega volume and the playback device volume to get the proper volume level.

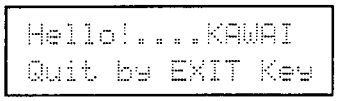
1.5 Play the Demo Song

The GMega comes with a song already in memory that shows off the sparkling sounds of the DMS2 tone generator.

(1) In Play mode, press the SEC EDIT and SINGLE EDIT buttons at the same time to start the Demo song.



(2) You'll see a message from KAWAI in the display.



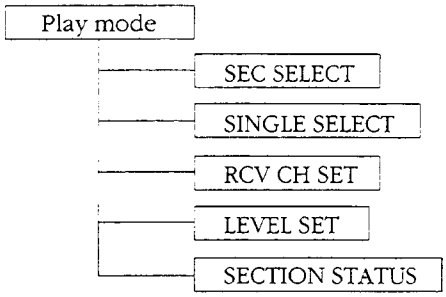
(3) Press the EXIT button to quit the Demo, after which you'll be returned to Play mode.

[Note]
The Single Bank is set to GM and the Section and Effect setting will be reset when the Demo song is played. (The user Bank Tones and Sections are backed up.)

SECTION 2 Let's Play Some Music!

2.1 About the Play Mode Functions

Play mode is, as the name implies, the mode you'll use when playing the GMega. From here you can set the Single Patch, MIDI receive channel, level, and status for each of the 32 Sections.



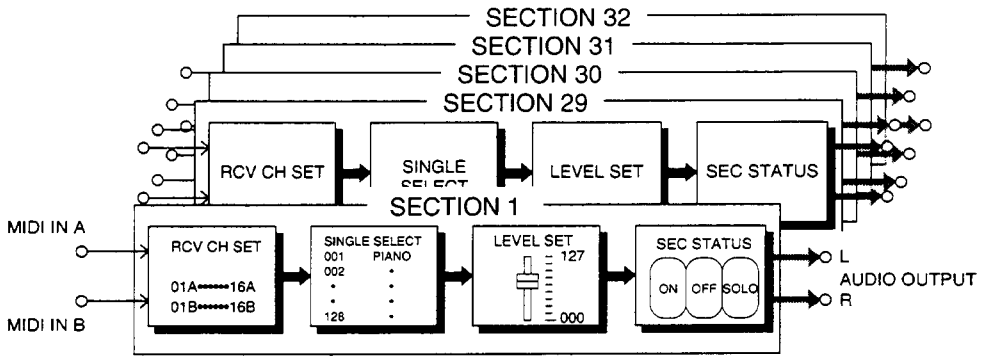
Select a Section (part)

Select a Single Patch

Set the MIDI receive channel

Set the volume level for the Section

Set the OFF/ON/SOLO status for the Section



2.2 Try to Play a Few Notes

Check connections, then turn on the equipment in this order: MIDI keyboard, GMega, then audio devices.

1) **MIDI Keyboard**
When you play a MIDI keyboard, sound is played only by the Section whose MIDI receive channel is set the same as the MIDI send channel of the keyboard. For example, when a keyboard plugged into the MIDI IN A port is set to send over channel 1, it will play the Section that has 01A set in the MIDI channel part of the display.

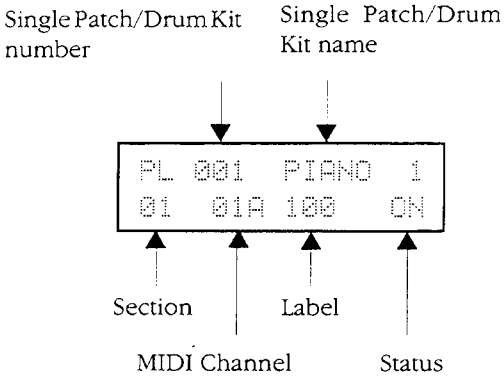
2) **Digital Sequencer/Computer**
Up to 32 Sections can be played at once using a digital sequencer or computer. The performance data for each section is transmitted over a different channel, with 16 channels coming through MIDI IN A, and 16 over MIDI IN B.

[Hint]
You should select a Tone Bank (page 105) that is appropriate for the performance data you are playing back. However, Tone Bank is a System setting, which means MIDI IN A and MIDI IN B will be set identically.

PLAY

2.3 Using Some of the Functions and Listening to the Results

Move the cursor to the "Single Patch No." entry in the display and select the patch number you want by turning the Increment Dial. As you do so, the name in the display will change and you'll hear the instrument sound change as well.

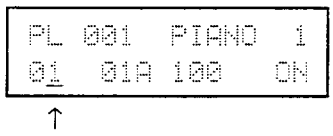


You can change any one of the parameters (entries) in this Play mode screen, like Section and Tone, by moving the cursor to that location and changing the value with the Increment Dial. Turning the Increment Dial either way works to change the values, it just depends whether you want them to increase or decrease.

Section Select

SEC SELECT		: Set values : CH SELECT : SNGL SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SNGL/DR EDIT MODE EXIT : SECTION SELECT
Function	Selects the Section for which you want to make settings	
Values	01 to 32	
Notes	A different Single Patch and MIDI channel, for example, can be set for each Section.	

(1) Move the cursor to the Section location in the display, and select the desired Section with the Increment Dial.



What is a Section?

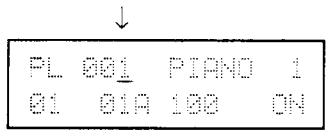
You could think of a Section on the GMega as basically the same thing as a channel on a mixing board. That is to say, each channel has a different instrument on it, and you can do various things to the sound of that instrument in that channel: control volume, pan, amount of effects, etc. On a mixer you would make these changes by twiddling a knob or moving a slider; on the GMega you do it by selecting and changing ("editing") the appropriate parameter in the Section Edit screen.

The "instrument," in the case of the GMega, is called a "Single" for a looped melody/chord sound, or a "Drum Kit" for a one-shot percussion/rhythm sound.

Single Select

SINGLE SELECT		: Set values : SEC SELECT : MODE SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SNGL/DR EDIT MODE EXIT : SEC SELECT
Function	Selects a Single Patch or Drum Kit	
Values	001 to 128 or DR1 to DR7	
Notes	The GMega has a bank of 128 Single Patches and 7 Drum Kits available. See page 106 for a listing of these.	

(1) Move the cursor to the Single Select location in the display, and select the desired Single or Drum Kit with the dial.



PLAY

Program Changes

A Program Change is another way of changing the tones being played on the GMega. It is all accomplished using special MIDI-standard signals from a sequencer or other MIDI device, rather than using the knobs on the front panel. This can be done on any or all of the 32 channels. The received Program Change No. corresponds to a Single Patch number or Drum Kit number as shown below:

Single Patch

Program Change No.	0	1	2	3	4	–	–	–	–	–	–	127
Single Patch No.	1	2	3	4	5	–	–	–	–	–	–	128

Drum Kit

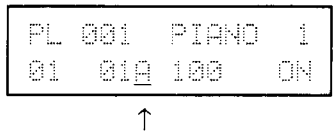
Kit No.	DR1	DR2	DR3	DR4	DR5	DR6	DR7
Program Change No.	0	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	–	–	–
	32	–	–	–	–	33	34
	35	36	37	38	39	40	41
	–	–	–	–	–	–	–

[Note]
Double Tones (with two Sources) have a ≈ next to the Single tone numbers. These use up twice as many voices, naturally, so you can have only 16 of these playing at one time (maximum polyphony of 16).

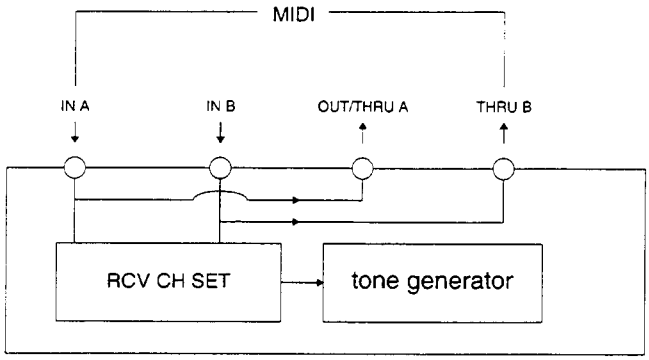
Receive Channel Set

RCV CH SET		: Set values : LEVEL SET : SEC SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : SNGL/DR EDIT MODE EXIT : SEC SELECT
Function	Sets the MIDI receive channel for a Section	
Values	01A to 16B, 01B to 16B (looping)	
Notes	MIDI INs A and B each have 16 independent channels available. If you have a MIDI keyboard set to transmit over channel 1 connected to MIDI IN B, for example, then this should be set to 01B.	

(1) Move the cursor to the Receive Channel location in the display, and select the desired channel with the dial.



GMega Internal MIDI Signal Routing

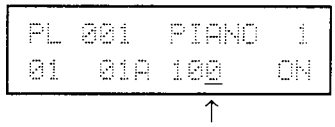


[Note]
This routing can be changed using the Ser I/F (Serial Interface) Mode setting. For more details about this, see the "I/F MODE" entry in SECTION 6 "System Settings" on page 100.

Level Set

LEVEL SET		: Set values : SEC STATUS : RCV CH SET SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SNGL/DR EDIT MODE EXIT : SEC SELECT
Function	Sets the Volume of a Section	
Values	000 to 127	
Notes	This changes the volume of a Section and, of course, its balance with the other parts. The volume set here is in fact multiplied by the Expression pedal volume before output, although this won't change the value in the display when Expression is applied: the display will continue to show the set volume only. This level can however be changed by Control Change #7 messages (see MIDI Inplementation Chart).	

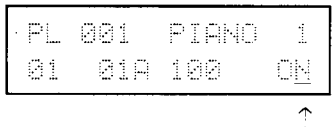
(1) Move the cursor to the Level Set location in the display, and set the level as desired with the dial.



Section Status

SECTION STATUS		: Set values : MODE SELECT : LEVEL SET SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SNGL/DR EDIT MODE EXIT : SEC SELECT
Function	Sets whether a given Section will play or not.	
Values	OFF/ON/SOLO	
Notes	SOLO means only one Section will play. The SOLOing section will have a ≈ at the top of its Status display, and the other 31 Sections will be Muted, i.e., not sound.	

(1) Move the cursor to the Status location in the display and select OFF, ON or SOLO.



PLAY

2.4 Monitor Mode

The GMega is able to handle MIDI signals over 32 channels because it is equipped with two MIDI ports, A and B. In Monitor mode, you can see in the display what channels of the A and B port are ready to receive MIDI data.

(1) In Play mode, press both the Cursor buttons (◁▷) at the same time.

(2) This puts you in Monitor mode, and the display will change to the following.

(3) In this example, channels 1, 2, 3, 6, 8, and 10 of port A and channels 2, 4, 7, 12, and 16 of port B are able to receive MIDI data.

(4) Press the EXIT button to return to Play mode.

2.5 About MIDI

In order to make the most of the GMega's potential, there are a few basic things you should know about MIDI.

1) What is MIDI?

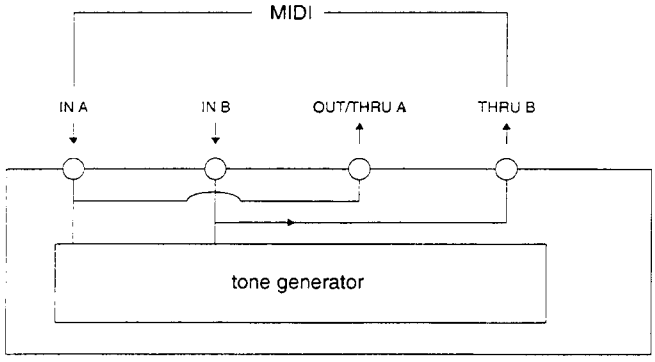
MIDI (pronounced "middy") stands for Musical Instrument Digital Interface. It is a standard for interfaces that control electronic musical instruments such as synthesizers and sound modules. Most electronic instruments today are equipped with MIDI ports, and the standard is being applied around the world.

In the MIDI standard, all the actions that are used in a synthesizer performance are translated into standard digital signals that describe what note was played on the keyboard, for how long, when bender was applied and released, and so on. These messages are sent along a MIDI cable to other MIDI devices that can read and play back these messages. You might say MIDI instruments can "talk" to one another.

Instruments that conform to the MIDI standard typically have three kinds of ports: IN, OUT, and THRU.

MIDI IN
Receives MIDI signals transmitted by external MIDI devices.
MIDI OUT
Sends MIDI signals to external MIDI devices.
MIDI THRU
Sends out an exact copy of the MIDI signals coming in the MIDI IN port.

In fact, the GMega has two MIDI IN ports, with a signal routing as shown below.



[Note]
The MIDI signal sent from the MIDI OUT/THRU A can be changed by setting the Ser. I/F MODE. For more about this, see the entry for "Ser. I/F MODE" in SECTION 6 "System Settings" on page 100.

2) MIDI Messages

- **MIDI Channel**
  You can link and control many MIDI-capable instruments at once with MIDI messages. To keep them all straight, each instrument is given a number from 1 to 16. This number is added to the front of every MIDI message that gets sent, so that it's readily apparent what instrument is supposed to play that message, and it's called the "MIDI channel number."
  There are also "multi-timbral" instruments (like the GMega) that can assign one Section (part) to each channel, and so play each Section like an independent instrument.
- **Mode**
  Mode is important when you are transmitting or receiving MIDI data. There are two modes, Poly and Mono, that control whether performance messages sent to the MIDI receive channels are received polyphonically or monophonically. There is also an indicator for Omni On/Off. If it's On, the GMega will play all MIDI messages on all channels, regardless of what the actual receive channel setting is.
- **Note Messages**
  This is the most basic of the messages by which MIDI transmits musical performance data. Each message contains information about which key was pressed (Note Number), how hard (Velocity), and exactly when it was pressed (Note On) and released (Note Off).
- **Note Number**
  Each key on the keyboard has been assigned a number, called its "Note Number." Middle C (C3) has a note number of 60, and this increases by one for every half-step up the scale, or decreases by one for every half-step down. Note Numbers 1-127 correspond then to all the notes from C2 to G8 on the keyboard, in that order.
- **Velocity**
  This message transmits how hard the key was struck.
- **Release Velocity**
  This message transmits how sharply you let up on the key. It's also sometimes called the "Off Velocity."
- **Pressure**
  After you have struck a key, but before you release it, you can add interesting effects that are controlled by the amount of pressure applied to that key. This message transmits that information. It's also called "aftertouch."
- **Program Change**
  Most MIDI devices these days, complicated as they are, come equipped with "programs" that store and remember for later use a certain set up, certain tones, and certain parameter settings. A controlling device can send a message to switch between these programs on a controlled device. Naturally enough, this is called a "Program Change" message.
  Since the MIDI standard is not very explicit about Program Change numbers (except to say that they are numbered from 0 to 127), the way these numbers correspond to tones stored in memory will be different for different MIDI instruments.
- **Control Change**
  MIDI devices can deal with a lot more than just Note On and Off messages; there's also Volume and Vibrato, Hold, Damper Pedal and Soft Pedal On/Off, and Pressure, just to name a few. These are encoded in the form of Control Change messages. (Pitch Bend messages make for very dense streams of data, and so there is a separate message type just for pitch bend data.)
- **Pitch Bend**
  This message describes how far the pitch bend wheel is moved. The effect of a pitch bend wheel movement can be set differently on every synthesizer (usually with an adjustment called "Pitch Bend Range" or something similar). So the effect of a Pitch Bend message will also be different on different synths, and will depend on this setting.
- **System Exclusive Messages**
  MIDI is a unified world standard, true, but each instrument manufacturer also has their own special features they would like to implement within the MIDI specification to give their instruments new capabilities. This kind of proprietary, outside-of-the-MIDI-standard data (called "System Exclusive messages") makes it possible to swap tones between instruments of the same type or manage tone data with a computer.

- **Local Control On/Off**
  Local Control means the messages sent from the keyboard to control the sound module within the MIDI instrument itself. Turning this to Off sends all data from the keyboard directly to the MIDI OUT port, bypassing the internal tone generator and so not making a sound. Meanwhile, the internal sound module can still be played by signals coming in the MIDI IN port. This is useful when you want to an external device to control a keyboard and use it like a sound source, or use just the keyboard to control other MIDI keyboards.
- **All Notes Off**
  This sends a Note Off to all currently sounding notes. Very useful when for some reason the Note Off message didn't get through and a note or notes becomes "stuck."
- **Active Sensing**
  This message helps prevent stuck notes caused by a bad cable or connection.
- **Reset**
  This message initializes the device to its power on settings.
- **Common**
  This message contains info about song select and position pointer when playing in sync with a sequencer and/or drum machine.
- **Real Time**
  This message transmits timing clock and start/stop commands when playing in sync with a sequencer and/or drum machine.

3) Implementation Charts

MIDI devices can only transmit and receive the messages they have in common. That is, MIDI will not give a device the ability to do something (say, aftertouch) which it wasn't already designed to do. And it just doesn't make sense to give every device the capability to do everything the MIDI standard allows; nobody would be able to afford them. So if, for example, a device that can't do aftertouch receives an aftertouch message, it simply ignores it.
Every MIDI device comes with something called a "MIDI Implementation Chart" that summarizes what data that device is capable of "implementing" or acting on. By matching up the Implementation Charts of two different devices, you can see at a glance what kinds of messages they both can use, and so what messages can be received and transmitted.

4) Drum Kits

Drum Kits can handle a variety of sounds all at once. With only 16 channels to go around, you can't be giving every percussion instrument its own channel. So instead, up to 128 rhythm instruments are gathered together into one channel and each instrument is assigned a Note number (or numbers) that plays it. That's called a Drum Kit.
There are seven different Drum Kits in one Bank on the GMega. Each kit is assembled with a certain music genre in mind, such as "Standard," "Power," and so on.

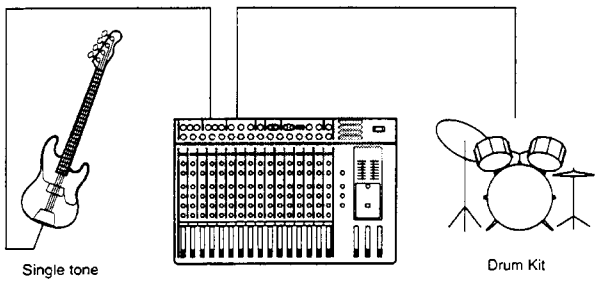
SECTION 3 Section Parameters That Control Timbre and Volume

3.1 Section Parameters

1) How Section Parameters are Organized

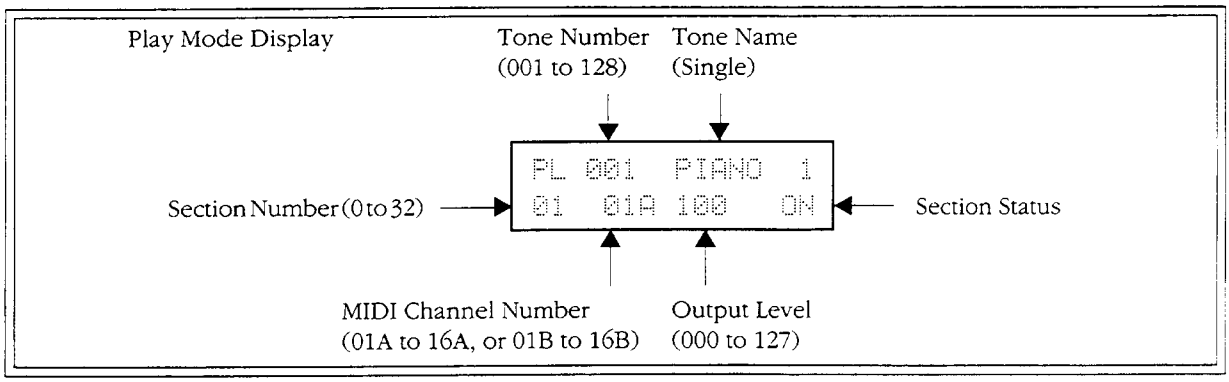
As mentioned earlier, you could think of a Section as something akin to a channel on a mixing board. There are 32 such Sections on the GMega, and each one has a variety of things you can set and change. So really it's like a 32-channel mixer where you can change what instrument is playing on what channel however you like, and make fine adjustments to boot. Pretty amazing!

On a mixer, you plug an instrument into a channel to get a new sound; on the GMega, you select a "Single" for a Section. On a mixer, you use the knobs to control the pan, effects levels, etc. for an instrument; on the GMega, you use the Section Edit functions to select and adjust the parameters from the display screen.



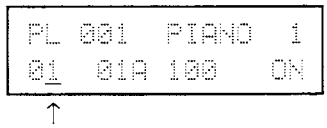
2) How to Select a Section

(1) In Play mode, Tone number and Tone name are shown in the Section display.



(2) Press the cursor buttons ◁ or ▷ to move the cursor to the Section Number location.

(3) Select a new Section Number using the Increment Dial.

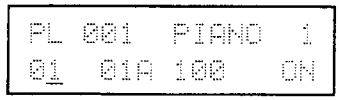


3.2 How to Edit

"Editing" just means changing the values of certain settings to create something new. You can edit the settings for a Section in, naturally enough, "Section Edit mode."

1) Entering Section Edit Mode

It's done with the SEC EDIT button.
While still in Play mode, select the Section that you want to edit.

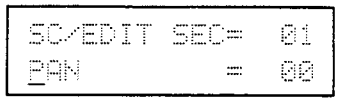


2) Calling Up Functions and Value Settings

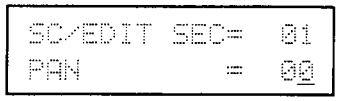
It's all determined by the GMega's internal settings, what kind of sounds are played or what kind of tones are created in response to messages from a digital sequencer or MIDI keyboard. Each item that can be set is called a "function," and the numerical setting itself is called the "value" of that function.

(1) Get into Section Edit mode (see above).

(2) The FUNCTION will change every time you press the SEC EDIT button, so you can switch to the function you want to edit.



(3) When you're there, press the ♁ cursor button to move the cursor over to the place where the Value is set, and change this number by moving the Increment Dial.



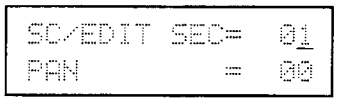
SEC

[Note]
On the GMega, as soon as you edit something (change the Value), that new value is saved and the previous value is erased, unless you did a WRITE operation to save it (more on that later).

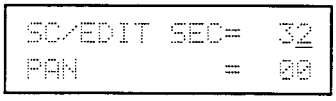
3) Changing the Section You Are Editing

You can check on the settings in other Sections or change the Section you are editing from within Section Edit mode itself, without having to go back to Play mode.

(1) Press the ♁ and ♁ buttons to move the cursor over to the Section Number position.



(2) Change the Section Number with the Increment Dial.

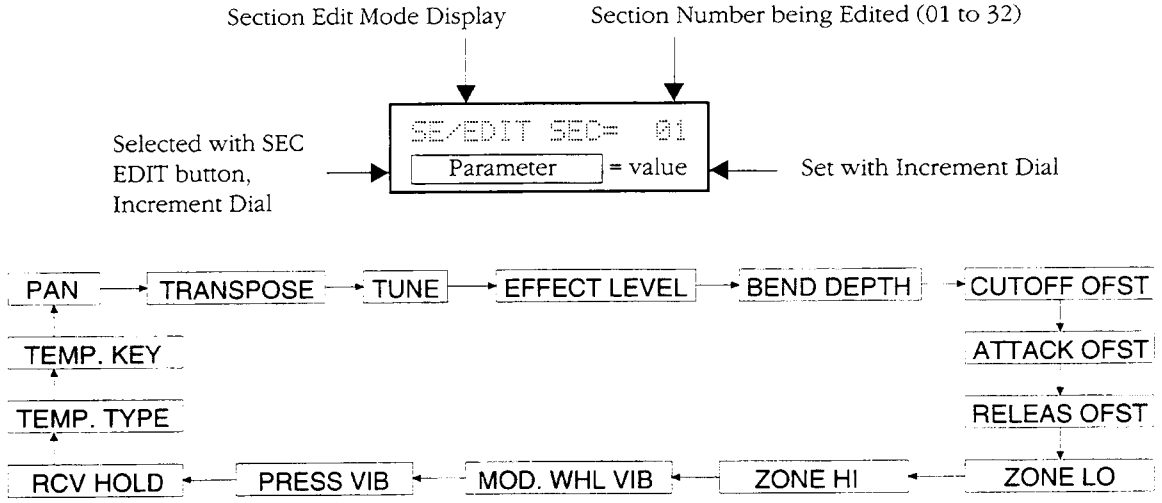


3.3 Editing Section Parameters

The Section parameters that you can select and edit from Play mode include Single, MIDI Receive Channel, Output Level (i.e., Section Volume), and Section Status. There are 17 more parameters you can edit in Section Edit mode that affect the sound itself and its resonance, including such things as Pan, Transpose, and Bend Depth.

[Note]
In Section Edit, you're not really directly editing and changing the values associated with a Single Patch, but rather just making relative changes to them for that Section only.

Section Edit Mode Parameters



- When you move the cursor over to FUNCTION, you can then select the function you want with the Increment Dial. Back up through the list by reversing the dial, or fast forward through the functions.
- When you land on the function you want, just press the Cursor button to move the cursor over to the Value and change it with the Increment Dial.

[Note]
Turn the value dial gently when editing a Section in Play mode.

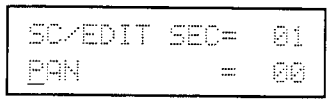
SEC

Pan

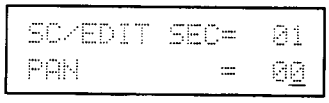
PAN		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC EDIT : TRANSPOSE SNGL EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Adjusts the stereo position of the audio output from the OUTPUT (R, L) jacks and PHONES jack.	
Values	L64 to 00 to R64, RND	
Notes	00 means the sound is centered in the stereo field. RND means there is a different, random Pan applied every time a key is pressed (for every new Note On message received). AUTO means the sound shifts leftward at a constant rate.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

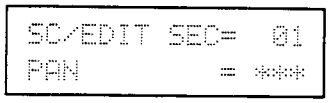
(2) Press the SEC EDIT button or spin the Increment Dial to select PAN.



(3) Move the cursor over to VALUE and change the Pan setting.



[Note]
You won't be able to change the Pan if that Section is currently assigned to a Drum Kit.



SEC

Transpose

TRANSPOSE	
Function	Transpose all the notes in a Section in half-tone increments.
Values	-024 to 000 to +024
Notes	

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : TUNE
SNGL. EDIT : SNGL/DR EDIT MODE
EXIT : PLAY MODE

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select PAN.

```
SC/EDIT SEC=  01
PAN           =  00
```

⇓

(3) Move the cursor over to VALUE and change the Pan setting.


```
SC/EDIT SEC=  01
TRANSPOSE  =  000
```

[Note]
You won't be able to change the Transpose setting if that Section is currently assigned to a Drum Kit.

```
SC/EDIT SEC=  01
TRANSPOSE  =  ****
```

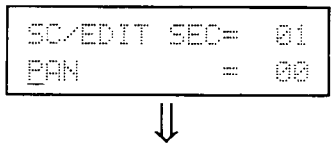
SEC

Tuning

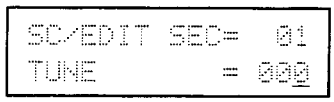
TUNE		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : EFFECT LEVEL SNGL. EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Make fine adjustments to the pitch of the Section.	
Values	-128 to 000 to +127	
Notes	The pitch can be changed roughly 50 cents down (-127) or 50 cents up (+127) or anywhere in-between. If you have the same tones on different Sections and give each a slight offset in tuning, when you play them at once the combination will sound "thicker" and you'll get a sound with more "weight."	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select TUNE.



(3) Move the cursor over to VALUE and change the TUNE setting.



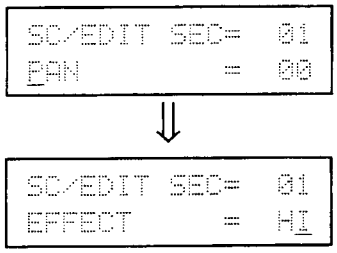
SEC

Effect Level

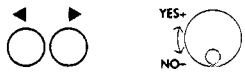
EFFECT LEVEL		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC EDIT : BEND DEPTH SNGL EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Set the effects for each Section to HI or LO.	
Values	HI, LO	
Notes	This sets how effect is to be applied. The effect (Reverb, Delay) is set using System Edit; see "System Edit" on page 92 for more about the effect types and settings.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select EFFECT.



(3) Move the cursor over to VALUE and set EFFECT to HI or LO.



[Note]
For the Drum Kits in a Section, the effect on the output is shown in the table to the right.

SEC	PERCUS	OUTPUT
HI	HI	→HI
	LO	→LO
LO	HI	→LO
	LO	→LO

SEC

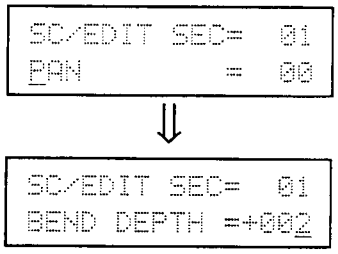
Bend Depth

BEND DEPTH	
Function	Sets independently for each Section the amount by which the pitch will change by moving the pitch bend wheel.
Values	-024 to 000 to +024
Notes	The maximum values represent a pitch change of up or down two octaves, in units of half-step intervals. Minus settings work in the opposite direction from positive settings.

: Set values
: MODE SELECT
: FUNCTION SELECT
: SYSTEM EDIT MODE
: CUTOFF OFSET
: SNGL/DR EDIT MODE
: PLAY MODE

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select BEND DEPTH.



(3) Move the cursor over to VALUE and set the Bend Depth however you want.

SEC

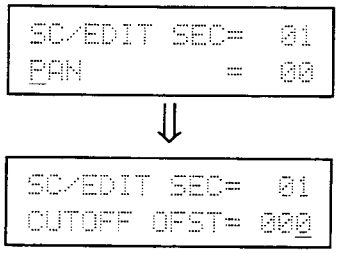
Cutoff Offset

CUTOFF OFFSET	
Function	Sets a frequency at which harmonics will be cutoff for the selected Single Patch in the selected Section.
Values	-064 to 000 to +063
Notes	This setting adds a relative offset to the DCF CUTOFF value for the selected Single Patch. Higher values will make the sound brighter and more crisp by including more high harmonics.

: Set values
: MODE SELECT
: FUNCTION SELECT
: SYSTEM EDIT MODE
: ATTACK OFFSET
: SNGL/DR EDIT MODE
: PLAY MODE

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select CUTOFF OFST.



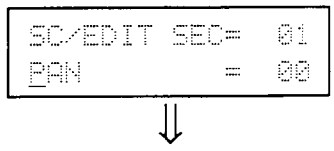
(3) Move the cursor over to VALUE and set the CUTOFF OFST there.

DCA Attack Offset

DCA ATTACK OFFSET		: Set values : MODE SELECT : FUNCTION SELECT : SYSTEM EDIT MODE : RELEASE OFFSET : SNGL/DR EDIT MODE : PLAY MODE
Function	Sets the attack (onset of the sound) for the selected Single Patch in the selected Section.	
Values	-064 to 000 to +063	
Notes	This setting adds a relative offset to the DCF ENV ATTACK value for the selected Single Patch. Higher values give you a faster (sharper) attack.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select ATTACK OFST.



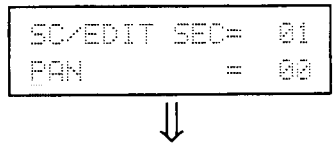
(3) Move the cursor over to VALUE and set ATTACK OFST.

DCA Release Offset

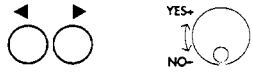
DCA RELEASE OFFSET		: Set values : MODE SELECT : FUNCTION SELECT : SYSTEM EDIT MODE : ZONE LO : SNGL/DR EDIT MODE : PLAY MODE
Function	Sets the release time for the selected Single Patch in the selected Section.	
Values	-064 to 000 to +063	
Notes	This setting adds a relative offset to the DCA RELEASE OFFSET value for the selected Single Patch. Higher values give you longer sustain until the sound dies away after you let up on (release) the key. This has no effect on Drum Kits.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select RELEAS OFST.



(3) Move the cursor over to VALUE and set RELEAS OFST.



SEC

Zone LO/HI

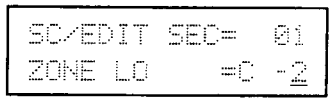
ZONE LO/HI	
Function	Sets the upper and lower limits of the range of notes in a Section. Values: C2 to G8
Values	C-2 to G8
Notes	ZONE defines the highest and lowest notes. If you set ZONE LO higher than ZONE HI, no notes at all will sound.

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC EDIT : ZONE HI/MOD WHL ASG
SNGL EDIT : SNGL/DR EDIT MODE
EXIT : PLAY MODE

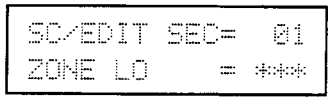
(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select ZONE LO or ZONE HI.

(3) Move the cursor over to VALUE and set the note you'll use for ZONE LO and ZONE HI.



[Note]
When a Drum Kit is assigned to a Section, the ZONE HI/LO setting is disabled.



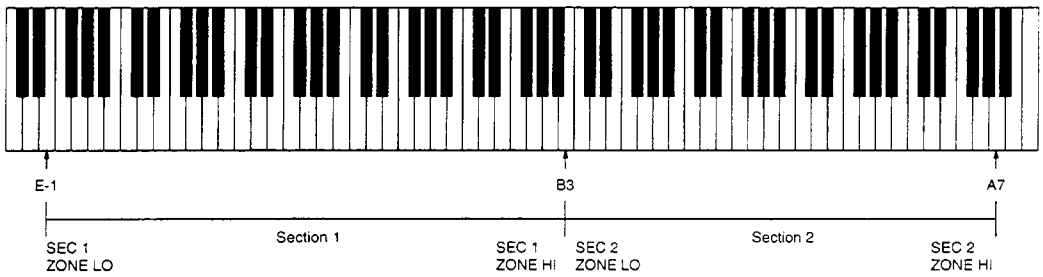
SEC

Zone Lo/Hi Setting and Effect

Zone Lo/Hi lets you combine different sounds from different Sections onto the same MIDI channel using splits (each sound is assigned its own part of the keyboard) or layering (sounds are combined because they are played by the same keys).

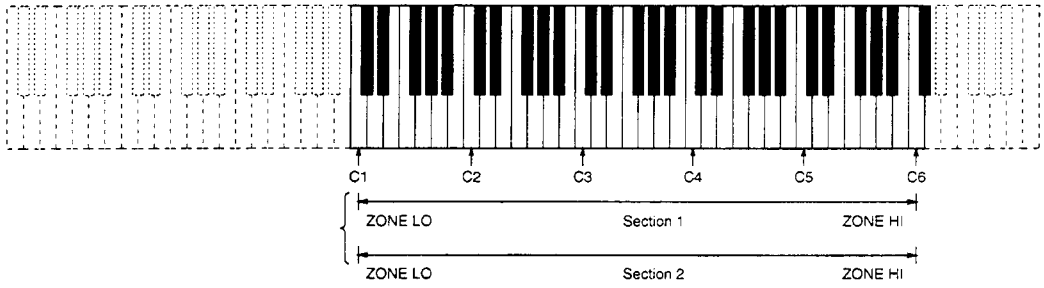
Example 1 Split

Setting ZONE HI to B3 in Section 1 and ZONE LO to C4 in Section 2 breaks the keyboard neatly in half. The Section 1 sound is played by pressing a key anywhere from B4 down to E1, and the Section 2 sound by pressing a key anywhere from C4 up to A7.



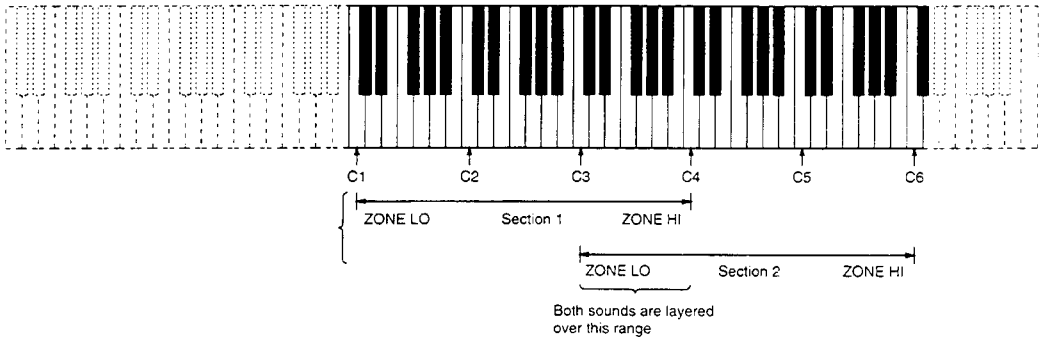
Example 2 Layer

Setting ZONE LO/HI the same for Sections 1 and 2 means pressing a key in that range will play both tones simultaneously.



Example 3 Split/Layer

If you set ZONE LO/HI slightly differently for Section 1 and 2, there will be a range in the middle where they overlap, creating a layered sound, and a range on the high and low ends where only one sound or the other is played.

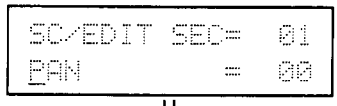


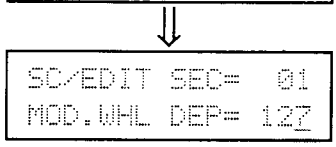
Modulation Wheel Vibrato Depth

MOD. WHEEL VIB		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : PRESS ASSIGN SNGL. EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Sets the amount of change in the assigned vibrato caused by movements of the wheel.	
Values	000 to 127	
Notes	When Vibrato is also assigned to Pressure, Modulation Wheel and Pressure Depth settings are added together.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the dial to select MOD.WHL DEP.





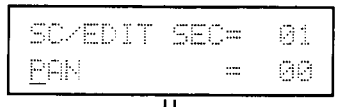
(3) Move the cursor over to VALUE and change the setting for the amount of change in Vibrato.

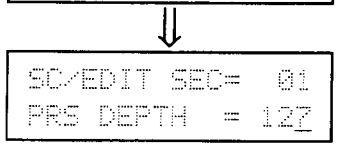
Pressure Vibrato Depth

PRESS VIB		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : RCV. HOLD SNGL. EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Sets the amount of change in the assigned effect caused by Aftertouch.	
Values	000 to 127	
Notes	When Vibrato is also assigned to Modulation Wheel, Pressure Depth and Modulation Wheel settings will be added together.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select PRS DEPTH.





(3) Move the cursor over to VALUE and change the setting.

SEC

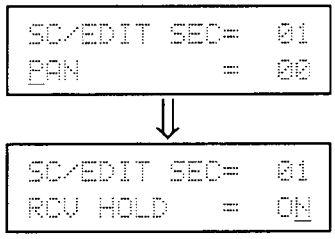
Receive Hold

RECEIVE HOLD	
Function	Turns the Hold function on and off.
Values	ON/OFF
Notes	When ON, the sound is held out or sustained for as long as the Hold signal is received. When OFF, all Hold signals are cancelled. Hold will not work if if the Section is currently assigned to a Drum Kit.

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : TEMP. TYPE
SNGL. EDIT : SNGL/DR EDIT MODE
EXIT : PLAY MODE

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select RCV HOLD.



(3) Move the cursor over to VALUE and change the ON/OFF setting.

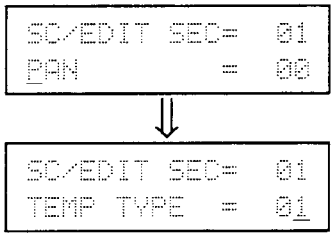
Temperament Type

TEMPERAMENT TYPE	
Function	Select from 55 different temperament types, ranging from major, minor, and chromatic to ethnic modes.
Values	01 to 55
Notes	See page 110 for a list of the preset temperament types.

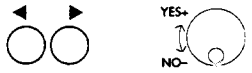
: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : TEMP. KEY
SNGL. EDIT : SNGL/DR EDIT MODE
EXIT : PLAY MODE

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select TEMP.TYPE.



(3) Move the cursor over to VALUE and change the Tune number to the one you want.



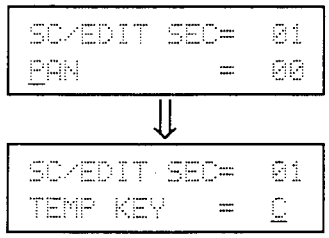
SEC

Temperament Key

TEMPERAMENT KEY		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : PAN SNGL. EDIT : SNGL/DR EDIT MODE EXIT : PLAY MODE
Function	Set the basic key (tonic) for the selected Temperament.	
Values	C, C≠ to A≠, B	
Notes	There are scales for which the tonic is somewhere in the middle or there is no tonic at all. This sets the tonic appropriate to the selected Temperament. See page 110 for a list of the presets.	

(1) Press the SEC EDIT button to switch into SC/EDIT mode.

(2) Press the SEC EDIT button or spin the Increment Dial to select TEMP.KEY.



(3) Move the cursor over to VALUE and set the tonic note.

[Note]
When a Drum Kit is assigned to a Section, the TEMPERAMENT TYPE and TEMPERAMENT KEY settings are disabled.

[Note]
On the GMega, the pitch of the note set as the tonic will not change when you change the Temperament. Thus even if you have A4 set to 440Hz, this will change if you change the Temperament in a key other than A.

SEC

SECTION 4 Creating New Sounds

4.1 Creating a Single Patch

A Single is basically just a tone. In addition to the 128 tones in each of the GM and SP Banks, there are also 128 slots in the User Bank where you can record original tones that you have made up yourself. This is the place where edit (create) these new tones to store in the User Bank: Single Edit mode. (Effects are set in Section Edit mode.)

1) General Procedure for Creating New Sounds

(1) Find a starting tone you like.

Even though it's called "creating a new sound," starting from scratch is pretty difficult. You'll get better results sooner by starting from a tone that is close to the sound you're looking for and modifying it. The preset sounds of the GMega were programmed and designed with this in mind, so that by editing you could also see the techniques needed for making new sounds on the GMega.

(2) Think about the ways you could change the sound.

If you clearly envision how you want the sound to be different, this will determine what parameters you need to change to get it. For example, changing the DCA will affect when the sound starts and its volume; DCF affects the tone "color," it's "brilliance" or "mellowness;" and so on.

(3) Try changing the waveform.

Even if all the other parameters are kept the same, you can really change the character of a sound simply by changing the waveform. Changing to a waveform similar to the original will change the tone only subtly; a waveform that is very different will change the tone dramatically.

(4) Add effects.

Almost all the sounds you hear on radio and CD these days have effects applied. A good effect can make an otherwise ho-hum tone into a killer sound.

(5) Tweak the patch.

There are a number of things you can do at this point with Velocity, Modulation, etc., to make a patch sound more realistic, or trick it up for a special effect.

2) Before the Sound is Output

There are three different sound building blocks to play with on the GMega: DCO (digitally controlled oscillator), DCF (filter) and DCA (amplifier).

DCO

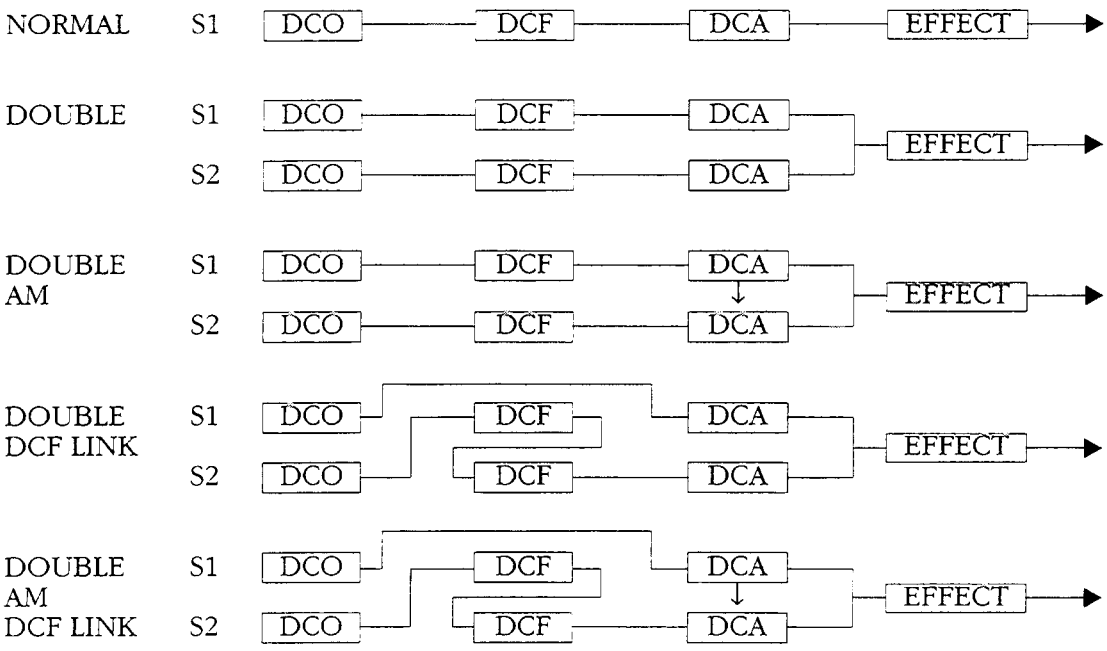
This is where you start: select the basic waveform (source) from which you'll make a new sound, and fix the pitch at which the sound plays back.

DCF

The tone output by the DCO is sent next to the DCF, where the tone quality is adjusted. Settings here involve time-based tonal modulations.

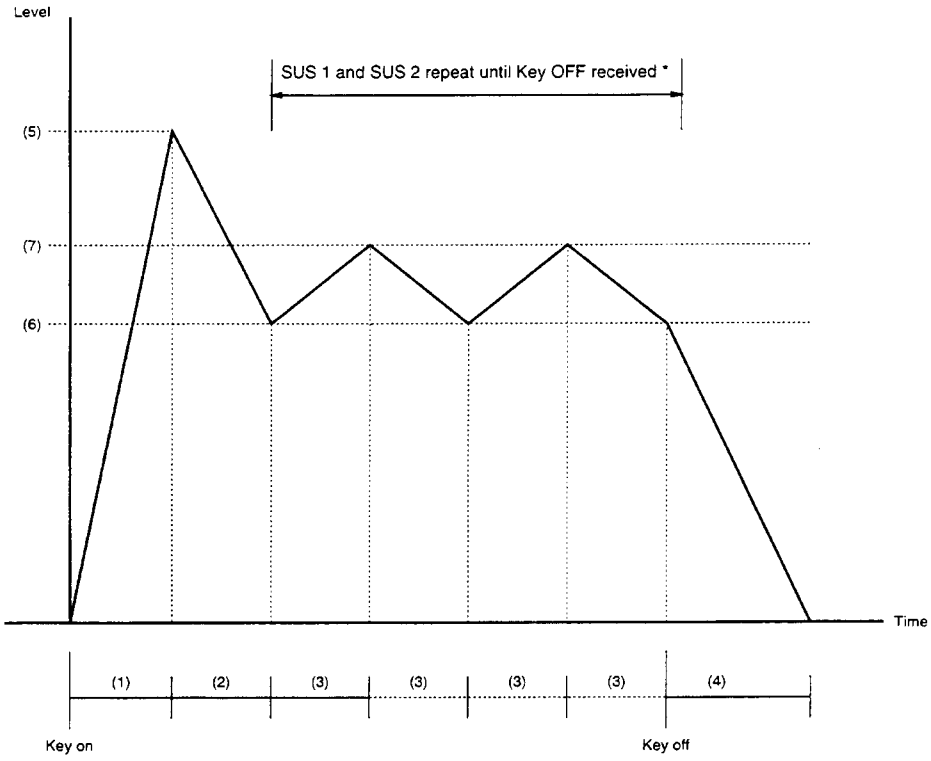
DCA

From the DCF, the tone is sent finally to the DCA where volume adjustments are made. This includes more than just output volume; complex adjustments can also be made to the way the volume levels change over time using the Envelope Generator (EG).



3) Envelopes

The GMega uses a very detailed envelope to create all kinds of tones that can be expressively modulated in real time.



(1) Attack Time	**(5) Attack Level**
(2) Decay Time	**(6) Sustain 1 Level**
(3) Modulation Time	**(7) Sustain 2 Level**
(4) Release Time	

* After the sound decays to the Sustain 1 level and until a Key OFF is received, the volume of the tone will oscillate between the Sustain 1 and Sustain 2 levels with a period equal to the Modulation Time.

4) The Tone Generator: How It Works

(1) The GMega Tone Generator

The GMega creates sounds using the DMS2 (Digital Multi Spectrum) System. Most sounds in the real world are complex, shifting patterns of many constituent sounds. Trying to come up with convincing natural sounds by linear processing of the simple waveforms produced by conventional synthesizers was a difficult, painstaking procedure at best; you might even say it was impossible.

The DMS2 system makes it easy to create tones with complex, natural-sounding variation in character by analyzing the basic building blocks of the tone (the attack period, the sustain period, etc.) and breaking them down into adjustable parameters than can then be mixed and matched.

(2) Built-In Waveforms

The GMega makes it possible to create state-of-the-art sounds using a combination of PCM and DC waveforms.

PCM Waveforms

The first synthesizers came equipped with triangle waves and sawtooths that had relatively simple and regular harmonic structures. This made it very difficult to mimic sounds with complex overtone structures, such as the clanging of metal.

The GMega gets over this difficulty by using PCM waveforms to introduce the harmonic complexity needed to make convincing new sounds. PCM stands for Pulse Code Modulation, basically just a way of recording acoustic instruments and converting that into digital signals for playback. With 16-bit resolution and a sampling frequency of 44.1 kHz, the PCM format used on the GMega has a CD-like audio quality.

DC (Digital Cyclic) Waveforms

PCM waveforms can be used to make up the most harmonically complex portions of the sound (e.g., the attack), then the rest rounded out with DC waveforms. These DC waveforms are sustained tones that have been re-synthesized using the harmonic structure analyzed from Fast Fourier Transforms of original PCM waveforms.

(3) AM (Ring Modulation)

AM is a system that combines two input signals to form one output signal. The modulation of one waveform by another, that is, using one waveform to cause changes in the other can produce new, more complex harmonic structures, from the simpler structures in the original waveforms. In this way it's different from a DCF, which can actually eliminate harmonics and reduce harmonic complexity. AM can be use to create brash, overtone-rich sounds like metallic clangs and distortion.

[Warning]

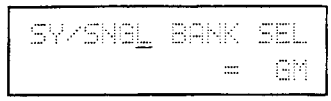
The amount of modulation is determined by the level of each function in the Source 1 DCA filter. This is an important point to keep in mind when applying AM.

4.2 Single Edit Procedures

1) Getting Into Single Edit Mode

Creating new sounds (Single Edit) is done in the User Bank. First, select the USER bank in SINGLE BANK SELECT in System Edit screen.

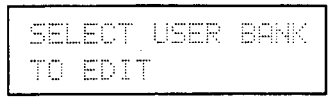
(1) Press the SYSTEM button to enter System Edit mode.



(2) Press the r cursor ô button to move the cursor to the BANK position, and select USER with the Increment Dial.

(3) Now press the SINGLE EDIT button to enter Single Edit mode. DR will be displayed in the Single Edit position if you selected a Drum Kit while in Play mode before entering Single Edit mode. The displayed tone name will be the one which was selected when you were in Play mode.

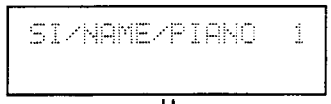
[Note]
Just pressing SINGLE EDIT button will not put you in Single Edit mode, unless you have first selected the USER bank. You'll see this bank-switching message in the display and then be returned to the situation just before you pressed the SINGLE EDIT button.



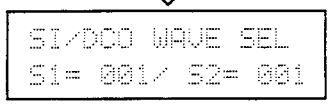
2) How to Call Up Parameters and Change Their Values

In Single Edit mode, you will create new sounds by editing (changing the values of) the basic constituent elements of the sound (the parameters). There are 10 such parameters associated with and controlling the DCO, 15 with the DCF, and 9 with the DCA, for a total of 34.

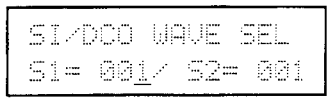
(1) Press the SINGLE EDIT button to enter Single Edit mode.



(2) Pressing the SINGLE EDIT button again steps you through the parameters that can be edited. Or, you can move the cursor over to the parameter position and select with the Increment Dial.



(3) Now, the values can be changed by pressing the ô button to move the cursor to the value position in the display, and setting or selecting with the Increment Dial.

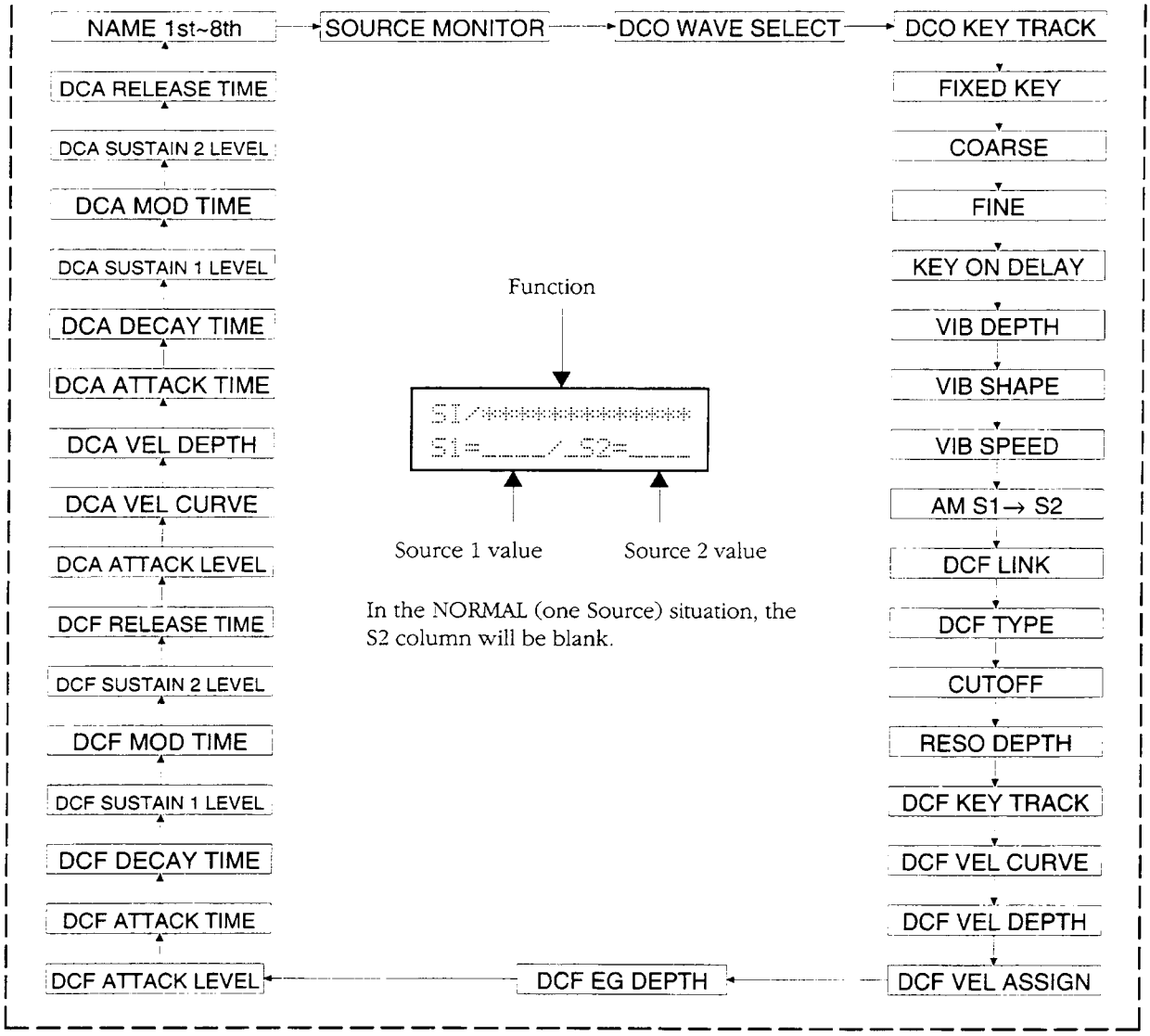


[Note]
On the GMega, as soon as you edit something (change the Value), that new value is automatically saved and the previous value erased, unless you did a WRITE operation to save it (more on that later).

[Hint]
A Single Patch can include a Source 1 and a Source 2. Each Source can be muted independently. Source 1 has 32-voice polyphony, and Source 2 has 16-voice polyphony.

You can't choose to exchange Source 1 and Source 2 for all Singles, however, you can exchange within an individual tone patch (EXCHANGE: P. 49).

SNGL



- Move the cursor to the FUNCTION position and select the function you want with the Increment Dial. You can back up through the selections or fast forward with the dial to find the function you want.
- Press the cursor button to move the cursor to the value part of the display, then use the Increment Dial to set or select the values for each of the functions.

[Note]
Avoid editing during play as much as possible.

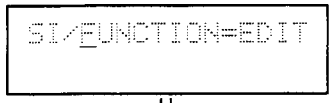
SNGL

3) Single Copy

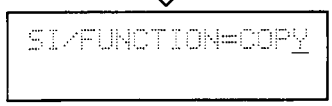
GM Bank tones are set in the USER Bank. You can start your editing from these, or copy a starting tone into the USER bank and work from there.

Single Copying can be done by the Source, Single, or a complete Bank could be copied all at once. And you can swap Source 1 and 2 using the EXCH (Exchange) function.

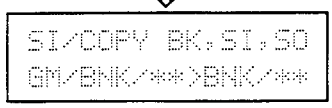
(1) Press the SINGLE EDIT button to enter Single Edit mode.



(2) Press the ○ button to move the cursor over to EDIT, then select COPY with the Increment Dial.

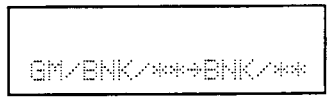


(3) Pressing SINGLE EDIT takes you to Copy mode.



Copy from Copy to

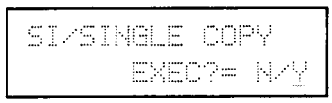
(4)

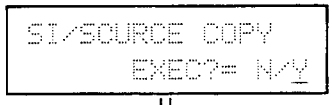


1	**GM, SP, USER**	Selects the "Copy From:" Bank.
2	**BNK, 001 to 128**	Selects the "Copy From:" tone.
3	**AL, S1, S2**	Selects what is to be copied from that "Copy From:" tone. AL means "Copy the Single Patch from the patch number selected in 2, above." S1 and S2 mean "Copy from a Source only (1 or 2)." If you have selected BNK in 2, the display will show a ***.
4	**BNK, 001 to 128**	This selects what number to which the tone will be copied in the USER Bank. If you have selected BNK in 2, this will automatically be set to BNK.
5	**AL, S1, S2**	If you have selected BNK in 2, the display will show a ***. If you have selected S1 in 3, this will automatically be set to S1 for you.

(5) Check all your settings for the Copy operation, then press the SINGLE EDIT button. The display will say EXEC?, meaning, "Should I execute your orders now?"

Depending on what is being copied, you'll see SINGLE or SOURCE displayed here.





Flip the Increment Dial to the right to indicate YES. The GMega will ask if you're sure. Flipping the Increment Dial once to the left will signal No and cancel the operation right here.

(6) But we're sure, so flip it to the right to answer YES and do the copy operation. You can flip it left at any time to cancel.

[Note]
If you are copying a Source to a Tone that has AM and DCF LINK set, these settings will be turned off.

SNGL

4) Exchanging Sources

You can change between NORMAL (one Source) and DOUBLE (two Sources) Single Patch with the Exchange function.

(1) Press the SINGLE EDIT button to enter Single Edit mode.

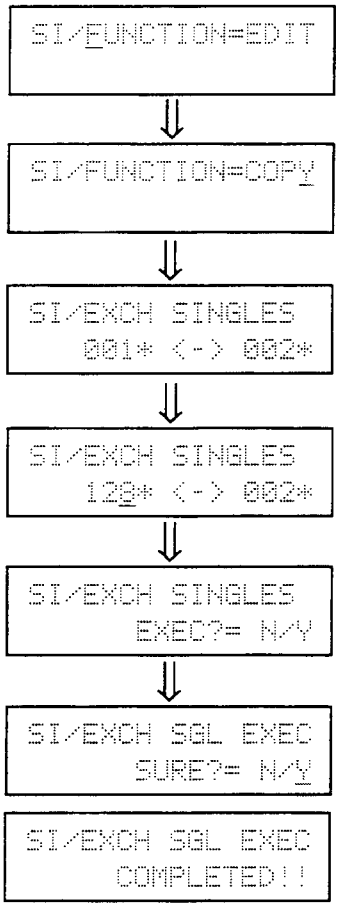
(2) Press the ○ button to move the cursor over to EDIT, then select COPY with the Increment Dial.

(3) Press the SINGLE EDIT button again to enter Exchange mode. DOUBLE tones are indicated with a * to the left of the tone number.

(4) Press the ○ button to move the cursor to the tone number position in the display, then use the Increment Dial to select the patch you want to Exchange.

(5) When you press SINGLE EDIT again the display will say "EXEC?" You can respond YES by flipping the Increment Dial to the right. The display will check again by saying "SURE?" in the display.

(6) Flip the Dial right once more to start the Exchange.



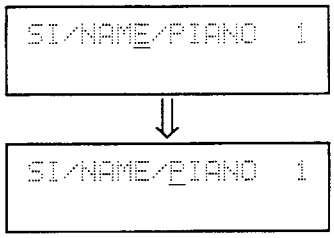
SNGL

4.3 Single Patch Editing

Name 1 ~ 8

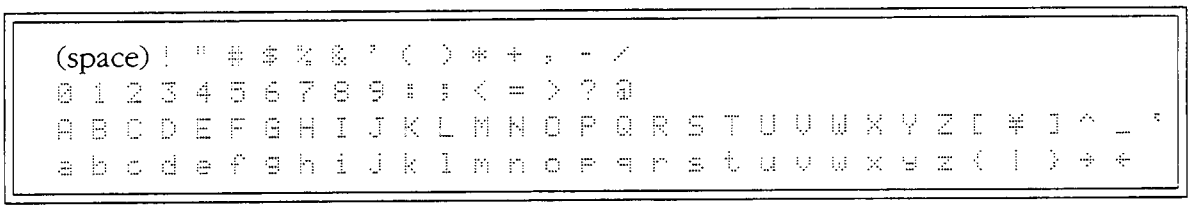
NAME 1st to 8th		: Set values : NAME NEXT No. : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : SOURCE MONITOR : PLAY MODE
Function	Give a name to the Single currently being edited.	
Values	Letters, numbers and symbols	
Notes		

(1) Enter Single Edit mode and use the button to move the cursor over to the NAME entry.



(2) Use the Dial to specify the tone name by setting it one character at a time, up to eight characters.

These are the letters, numbers, and symbols you can use.



SNGL

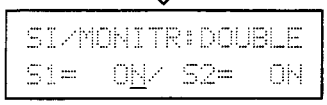
Source Monitor

SOURCE MONITOR		: Set values : MODE SELECT→S2 : FUNCTION SEL←S1 SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : WAVE SELECT EXIT : PLAY MODE
Function	Check the current Source mode and set Source S1 and S2 to MUTE or ON.	
Values	ON, MUTE	
Notes	The current Source mode is displayed: DOUBLE if there are two sources, and NORMAL if only one. In NORMAL you will not be able to edit it.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select MONITR with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and select ON or MUTE with the Dial. You can switch between S1 and S2 with the cursor button.



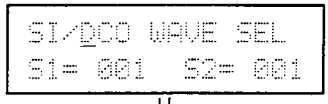
[Hint]
EXCHANGE (see page 49) can be used to change from NORMAL (one Source) to DOUBLE (two Sources), or vice versa.

DCO Wave Select

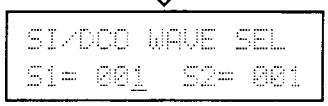
DCO WAVE SELECT		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : KEY TRACK EXIT : PLAY MODE
Function	Select a Wave (waveform) for each Source.	
Values	000 to 255	
Notes	You have 256 different waveforms from which to choose, including 77 DCs (numbered 000 to 076) and 179 PCMs (numbered 077 to 255). Not all of these waveforms will have a clearly defined pitch. Even if all the other parameters remain the same, you can dramatically alter the sound by putting in a different waveform. (For descriptions of the different waveforms.)	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select WAVE SEL with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and select a Wave number. You can switch between S1 and S2 with the cursor button.



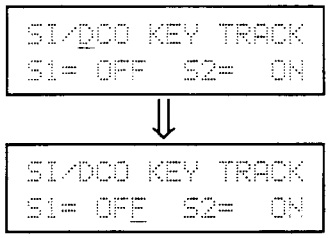
[Hint]
In addition to these Single tones, there are another 256 waveforms stored in the GMega that are specifically for use in making percussion sounds.

DCO Key Track

DCO KEY TRACK	
Function	Set Key Track to ON or OFF.
Values	ON, OFF
Notes	This selects whether to have the pitch of the sample correspond to the key played (Note Number). When ON, the pitch corresponding to that Note Number will be played. When OFF, a fixed pitch will be played regardless of what key is pressed. Repeating ON and OFF may noticeably change the Tone as compared to the pre-EDIT.

: Set values
: S2 EDIT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SEC EDIT MODE
SNGL. EDIT : FIXED KEY
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Single Edit mode.
(2) Select KEY TRACK with the SINGLE EDIT button or the Increment Dial.



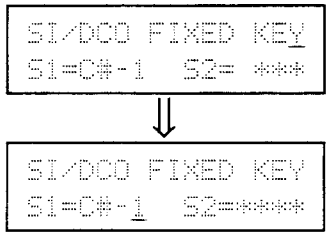
(3) Press the button to move the cursor over to the Value entry and select ON or OFF with the Dial. You can switch between S1 and S2 with the cursor button.

Fixed Key

FIXED KEY	
Function	Sets the fixed pitch for each Source when KEY TRACK is OFF.
Values	C-2 to G8
Notes	This sets the fixed pitch for each Source when KEY TRACK is set to off. The pitch cannot be fixed when KEY TRACK is ON. (See "Key Track" .)

: Set values
: S2 EDIT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SEC EDIT MODE
SNGL. EDIT : COARSE
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Single Edit mode.
(2) Select FIXED KEY with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and set the fixed pitch with the Dial. You can switch between S1 and S2 with the cursor button.

[Note]
If a Source has KEY TRACK ON, it will display in this screen as ****, and you will not be able to edit it.

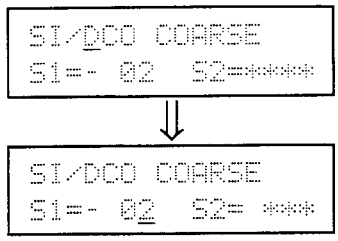
SNGL

DCO Coarse

DCO COARSE		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : FINE EXIT : PLAY MODE
Function	Sets the pitch of each Source in half-tone increments.	
Values	-036 to 000 to +036	
Notes	Can be set up or down three octaves. When KEY TRACK is OFF, you can fix the Source pitch by calling up the FIXED KEY parameter. (See "Key Track" on page 52.)	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCO COARSE with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and select COARSE with the Dial. You can switch between S1 and S2 with the cursor button.

[Note]
If a Source has KEY TRACK ON, it will display in this screen as ***, and you will not be able to edit it.

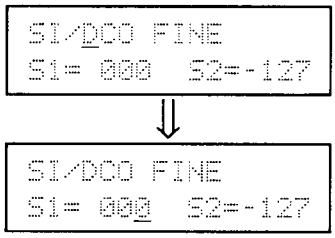
SNGL

DCO Fine

DCO FINE		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : KEY ON DELAY EXIT : PLAY MODE
Function	Makes fine adjustments to the Source pitch.	
Values	-128 to 000 to +127	
Notes	-128 is a full half-step down, +127 a full half-step up. This can only be set when KEY TRACK is ON. When it is OFF, the FIXED KEY parameter must be called up to set and fix the pitch of the Source. (See "Key Track" on page 52.)	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCO FINE with the SINGLE EDIT button or the Increment Dial.



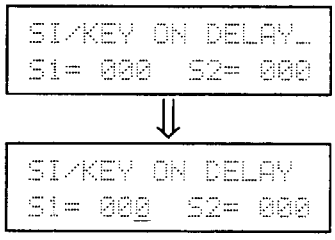
(3) Press the ○ button to move the cursor over to the Value entry and set this to FINE with the Dial. You can switch between S1 and S2 with the cursor button.

Key On Delay

KEY ON DELAY		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : VIB DEPTH EXIT : PLAY MODE
Function	Sets the time between receiving a Note On message and the start of the sound.	
Values	000 to 255	
Notes	The larger the value, the longer the delay. The value will be reset to "000" when the AM (p.57) or DCF LINK (p.58) is set to ON.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select KEY ON DELAY with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and set the amount of delay with the Increment Dial. You can switch between S1 and S2 with the cursor button.

SNGL

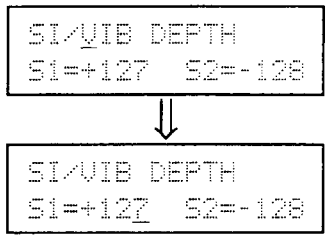
Vibrato Depth

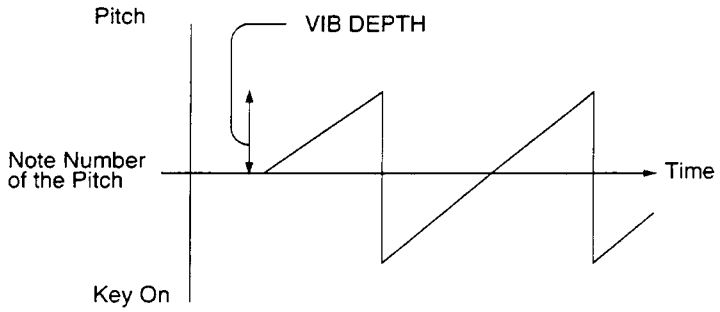
VIB DEPTH		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : FUNCTION SELECT SNGL EDIT : VIB SHAPE EXIT : PLAY MODE
Function	Sets how widely the pitch will vary during Vibrato.	
Values	-128 to 000 to +127	
Notes	Vibrato is a slight periodic undulation or waver in the pitch caused by modulating the DCO with an LFO (low frequency oscillator). A setting of 00 means no Vibrato is applied, and the Vibrato gets "wider" the larger this value. The - and + indicate oppositely phased Vibrato. Vibrato is a very useful, almost indispensable effect for long-sustain instrument sounds like winds and strings.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select VIB DEPTH with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and select VIB DEPTH with the Increment Dial. You can switch between S1 and S2 with the cursor button.





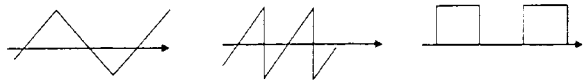
[Note]
Settings can be made only when KEY TRACK (p. 52) is ON, and have no effect if it is turned OFF.

SNGL

Vibrato Shape

VIB SHAPE		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : VIB SPEED : PLAY MODE
Function	Selects what type of waver will be applied to the pitch.	
Values	TRI, SAW, SQR, RND	
Notes	This sets what kind of LFO waveform will modulate the DCO output to produce pitch variations.	

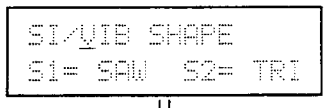
TRI **SAW** **SQR**



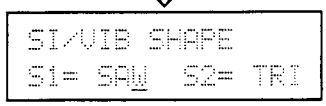
RND
Random variations in pitch

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select VIB SHAPE with the SINGLE EDIT button or the Increment Dial.



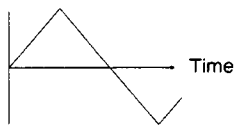
(3) Press the button to move the cursor over to the Value entry and select the SHAPE you want with the Increment Dial. You can switch between S1 and S2 with the cursor button.



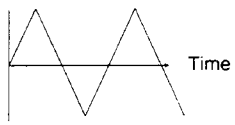
Vibrato Speed

VIB SPEED		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : AM : PLAY MODE
Function	Sets the speed of the vibrato.	
Values	001 to 016	
Notes	This sets the rate at which the pitch varies.	

Slow Vibrato



Fast Vibrato



(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select VIB SPEED with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and set the SPEED with the Dial. You can switch between S1 and S2 with the cursor button.

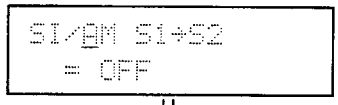
SNGL

AM (Ring Modulation)

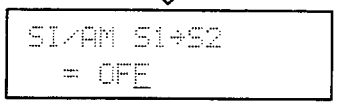
AM		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCF LINK EXIT : PLAY MODE
Function	Sets whether or not to modulate the Source 1 waveform with the Source 2 waveform.	
Values	ON, OFF	
Notes	Ring modulation is used to make clangorous, strident sounds that used to be hard to produce because of their rich overtones. The effect can be increased by increasing the ENV LEVEL of the modulating waveform (Source 1). If AM is ON, copying a Source from another Single will turn it OFF.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select AM with the SINGLE EDIT button or the Increment Dial.

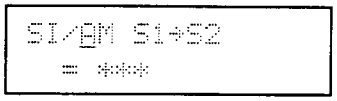


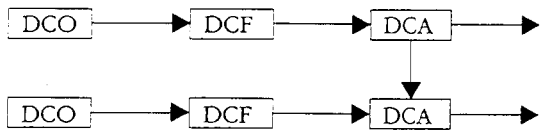
(3) Press the ○ button to move the cursor over to the Value entry and turn it ON or OFF with a flick of the Increment Dial.



[Note]

- A ＊＊＊＊ is displayed and you will be unable to do anything with this setting when the tone is set to NORMAL (one Source).
- AM is applied even if Source 2 is currently Muted.





[Note]

The KEY ON DELAY (p.54) value will be reset to 000 when setting this parameter ON.

SNGL

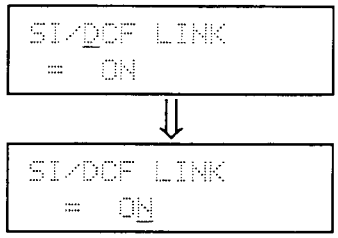
57

DCF Link

DCF LINK		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC_EDIT : SEC EDIT MODE SNGL_EDIT : DCF TYPE EXIT : PLAY MODE
Function	Links and unlinks the Source 1 DCF (F1) and Source 2 (F2) DCF filters.	
Values	ON, OFF	
Notes	When set to ON, both Source 1 and Source 2 DCFs (F1 and F2) will be applied to the Source 2 sound. The Source 1 sound is passed directly from the DCO to the DCA. You can also use a combination of LPF and HPF as a bandpass filter. When DCF Link is ON, copying a Source from another Single will turn it OFF.	

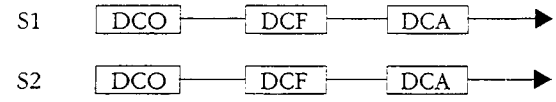
(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF LINK with the SINGLE EDIT button or the Increment Dial.

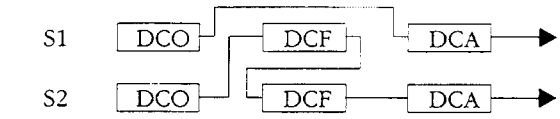


(3) Press the ▷ button to move the cursor over to the Value entry and turn it ON or OFF with a flick of the Dial.

Set to OFF



Set to ON



[Note]
You won't be able to change the DCF LINK setting if the Single contains only one Source (NORMAL mode).

[Note]
The KEY ON DELAY (p.54) value will be reset to 000 when setting this parameter ON.

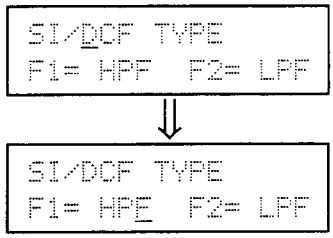
SNGL

DCF Type

DCF TYPE		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : CUTOFF : PLAY MODE
Function	Selects the filter type.	
Values	LPF, HPF	
Notes	This selects the type of filter that will process the sound source waveform output from the Source. The LPF cuts out harmonics above the set Cutoff Frequency to tone down and mellow the sound. The HPF cuts out the fundamental and harmonics below the given Cutoff Frequency so that the tone is defined only by its higher harmonics.	

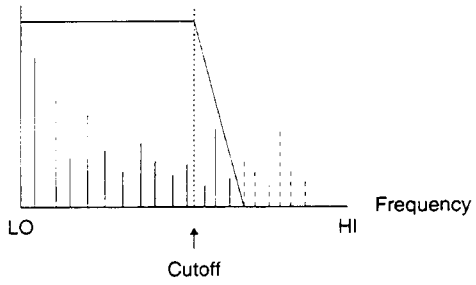
(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF TYPE with the SINGLE EDIT button or the Increment Dial.

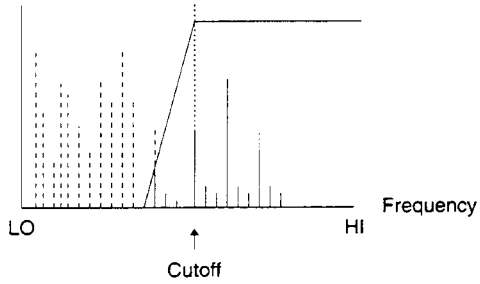


(3) Press the button to move the cursor over to the Value entry and select LPF or HPF with the Dial. You can switch between F1 and F2 with the cursor button.

LPF



HPF



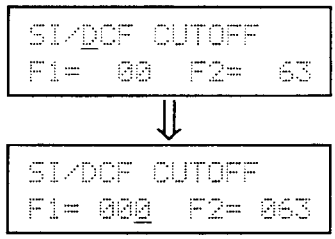
SNGL

DCF Cutoff

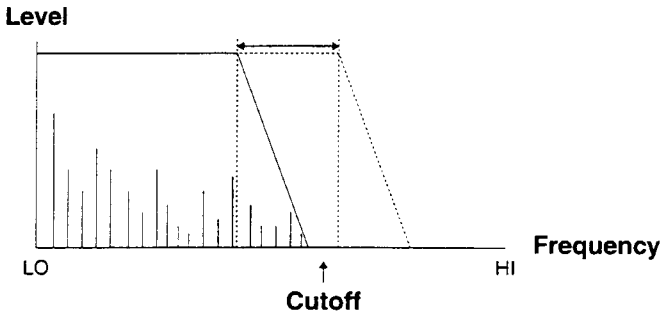
DCF CUTOFF		
Function	Sets the cutoff frequency for the DCF filter.	: Set values : F2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC EDIT : SEC EDIT MODE SNGL EDIT : RESO DEPTH EXIT : PLAY MODE
Values	000 to 255	
Notes	The larger the value the higher the cutoff frequency, and the more brilliant and hard-edged the sound when DCF TYPE is set to LPF. If this value is set too low on an LPF (or too high on HPF), it might produce no sound at all.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF CUTOFF with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and set CUTOFF with the Increment Dial. You can switch between F1 and F2 with the cursor button.



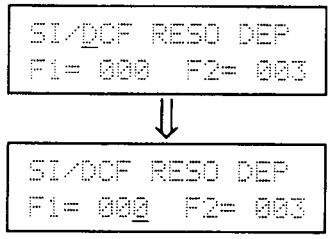
SNGL

DCF Resonance Depth

DCF RESO DEPTH		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF KEY TRACK : PLAY MODE
Function	Sets the level at the cutoff point.	
Values	000 to 003	
Notes	The higher the value, the more the harmonics right around the cutoff frequency are emphasized. This lends a characteristic "synthy" quality to the sound which is even more pronounced when Source mode is set to DOUBLE.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF RESO DEP with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and set the Resonance Depth by spinning the Increment Dial. You can switch between F1 and F2 with the cursor button.

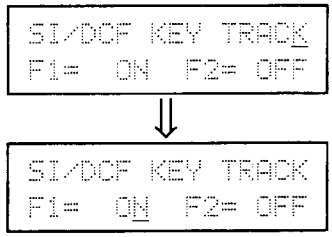
DCF Key Track

DCF KEY TRACK		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF VEL CURVE : PLAY MODE
Function	Turns Filter Key Tracking ON and OFF.	
Values	ON, OFF	
Notes	When set to ON, the filter cutoff point will change depending on the key that is played (Note Number). Repeating ON and OFF may noticeably change the Tone as compared to the pre-EDIT.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF KEY TRACK with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and turn DCA KEY TRACK to ON or OFF with a flick of the Dial. You can switch between F1 and F2 with the cursor button.



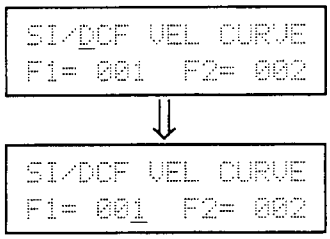
DCF Velocity Curve

DCF VEL CURVE		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF VEL DEPTH : PLAY MODE
Function	Selects the curve used to specify the cutoff point as a function of how hard a key is struck (the "attack velocity"). The intensity of the modulation applied by this curve is adjusted by DCF VEL DEPTH (see page 63).	
Values	001, 002	
Notes		

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF VEL CURVE with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and select either Curve 1 or Curve 2. You can switch between F1 and F2 with the cursor button.



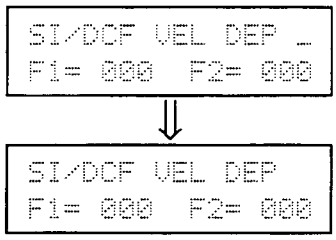
SNGL

DCF Velocity Depth

DCF VEL DEPTH		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF VEL ASSIGN : PLAY MODE
Function	Sets how far the cutoff point moves in response to how hard a key is struck.	
Values	000 to 063	
Notes	When Filter Type is LPF and this is set to a positive value, the harder you play the brighter the sound will be. This change will depend on how hard the key is struck ("attack velocity") as specified by the DCF Velocity Curve (see page 62).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF VEL DEP with the SINGLE EDIT button or the Increment Dial.



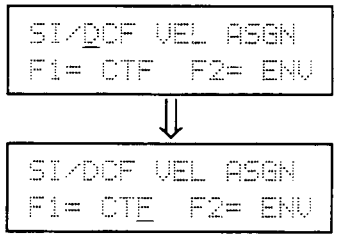
(3) Press the button to move the cursor over to the Value entry and set DCF Velocity Depth with the Dial. You can switch between F1 and F2 with the cursor button.

DCF Velocity Assign

DCF VEL ASSIGN		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF EG DEPTH : PLAY MODE
Function	Sets whether velocity-dependent changes in the tone will control the cutoff frequency (CTF) or the DCF Envelope Depth (ENV).	
Values	CTF, ENV	
Notes	When making the tone vary with the velocity of the player's attack (how hard a key is struck), this selects whether the cutoff frequency will be directly controlled by velocity, or indirectly via changes to the DCF Envelope Depth parameter.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF VEL ASIGN with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and select CTF or ENV with the Dial. You can switch between F1 and F2 with the cursor button.

SNGL

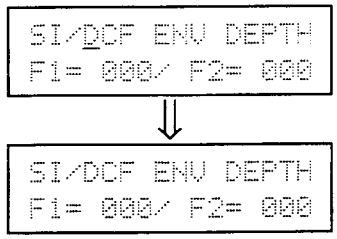
DCF Envelope Depth

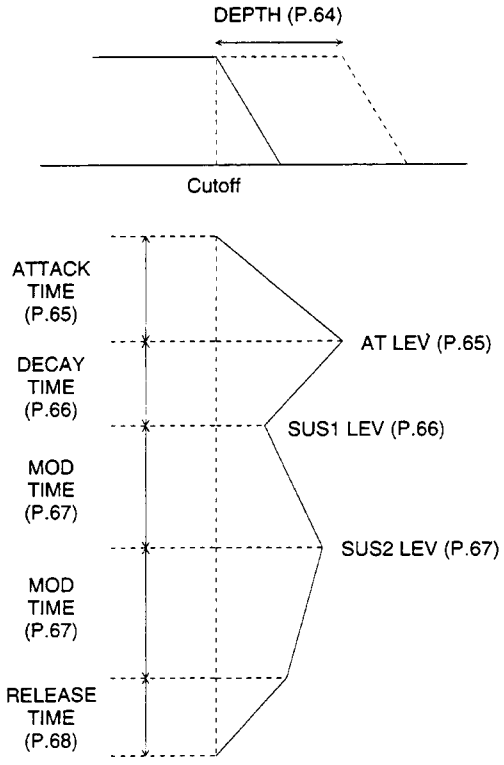
DCF ENV DEPTH		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF ATK LEVEL : PLAY MODE
Function	A factor for how much the tone will vary in response to changes in the envelope.	
Values	000 to 063	
Notes	The higher the Envelope Curve level, the higher the cutoff frequency (the brighter and crisper the sound).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG DEP with the SINGLE EDIT button or the Increment Dial.

(3) Press the ☆ button to move the cursor over to the Value entry and set the EG DEP with the Increment Dial. You can switch between F1 and F2 with the cursor button.





* After the initial attack and decay, the envelope will continue to oscillate from SUS1 to SUS2 with a period equal to the MOD TIME for as long as the key is pressed.

SNGL

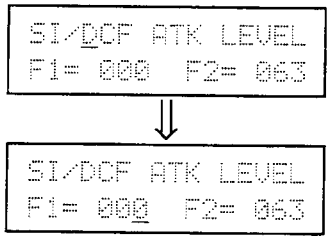
DCF Envelope Attack Level

DCF ATK LEVEL		◯ : Set values ○ : F2 EDIT ○ : FUNCTION SELECT SYSTEM ○ : SYSTEM EDIT MODE SEC. EDIT ○ : SEC EDIT MODE SNGL. EDIT ○ : DCF ATTACK TIME EXIT ○ : PLAY MODE
Function	Specifies the cutoff point associated with the peak envelope level during the attack portion of the sound.	
Values	-064 to 000 to +063	
Notes	The larger this value, the higher the cutoff frequency (the brighter the sound).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG AT LEV with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set EG AT LEV with the Increment Dial. You can switch between F1 and F2 with the cursor button.



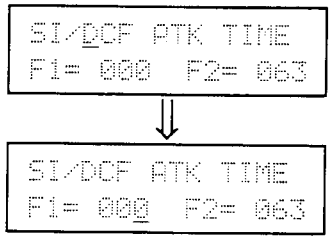
DCF Envelope Attack Time

DCF ATTACK TIME		◯ : Set values ○ : F2 EDIT ○ : FUNCTION SELECT SYSTEM ○ : SYSTEM EDIT MODE SEC. EDIT ○ : SEC EDIT MODE SNGL. EDIT ○ : DCF DECAY TIME EXIT ○ : PLAY MODE
Function	Specifies the rate of increase in envelope level during the attack portion of the sound.	
Values	000 to 063	
Notes	The larger this value, the slower the change in envelope level.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG ATTACK with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and use the Dial to set the EG AT LEV. You can switch between F1 and F2 with the cursor button.



SNGL

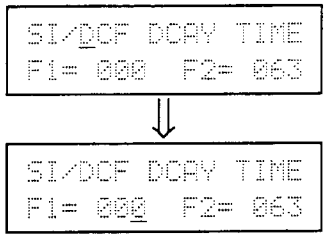
DCF Envelope Decay Time

DCF DECAY TIME		: Set values : F2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC_EDIT : SEC EDIT MODE SNGL EDIT : DCF SUS1 LEVEL EXIT : PLAY MODE
Function	Specifies the amount of time between the Attack and when the Decay Level 1 frequency is reached.	
Values	000 to 063	
Notes	The smaller the values the shorter the Decay Time.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG DECAY with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry. Set Decay Time with the Increment Dial. You can switch between F1 and F2 with the cursor button.



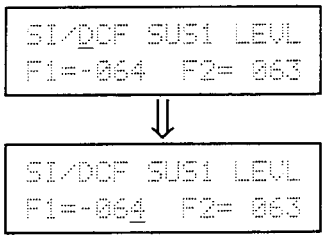
DCF Envelope Sustain 1 Level

DCF SUSTAIN 1 LEVEL		: Set values : F2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC_EDIT : SEC EDIT MODE SNGL EDIT : DCF MOD TIME EXIT : PLAY MODE
Function	Specifies the Cutoff Frequency 1 that will be in effect until the key is released (Note Off is received).	
Values	-064 to 000 to +063	
Notes	You may notice some modulation during a sustain sound on certain Waveforms, even when you have Sustain 1 and 2 levels set the same. If this happens, try setting a longer Modulation Time (P. 67).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG SUS1 with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and set Sustain 1 with the Dial. You can switch between F1 and F2 with the cursor button.



SNGL

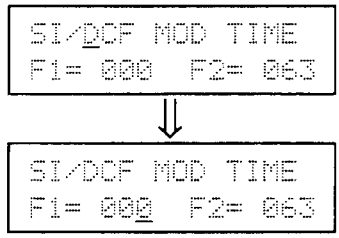
DCF Envelope Modulation Time

DCF MOD TIME		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF SUS2 LEVEL : PLAY MODE
Function	Sets the amount of time it takes to go from the Sustain 1 Level to the Sustain 2 Level cutoff frequency.	
Values	000 to 063	
Notes		

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG MOD T with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Modulation Time with the Increment Dial. You can switch between F1 and F2 with the cursor button.



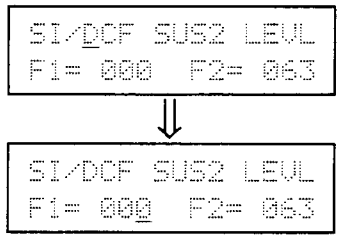
DCF Envelope Sustain 2 Level

DCF SUSTAIN 2 LEVEL		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF RELEASE TIME : PLAY MODE
Function	Specifies the Cutoff Frequency 2 that will be in effect until the key is released.	
Values	-064 to 000 to +063	
Notes		

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG SUS2 with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and set it with the Increment Dial. You can switch between F1 and F2 with the cursor button.



SNGL

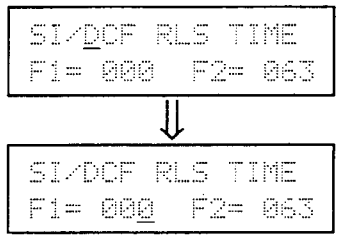
DCF Envelope Release Time

DCF RELEASE TIME		: Set values : F2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCA ATK LEVEL : PLAY MODE
Function	Specifies the time it will take from the release of the key to a volume level of zero.	
Values	000 to 063	
Notes	If the key is released before the envelope has reached its Sustain 1 or Sustain 2 level, the decay starts immediately from the level at which the key was released and decays to zero in the time set by this parameter.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCF EG RELEAS with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and set Release with the Dial. You can switch between F1 and F2 with the cursor button.



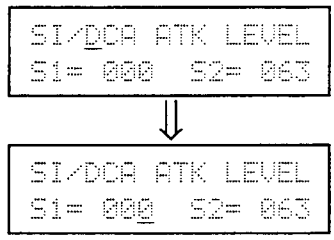
DCA Attack Level

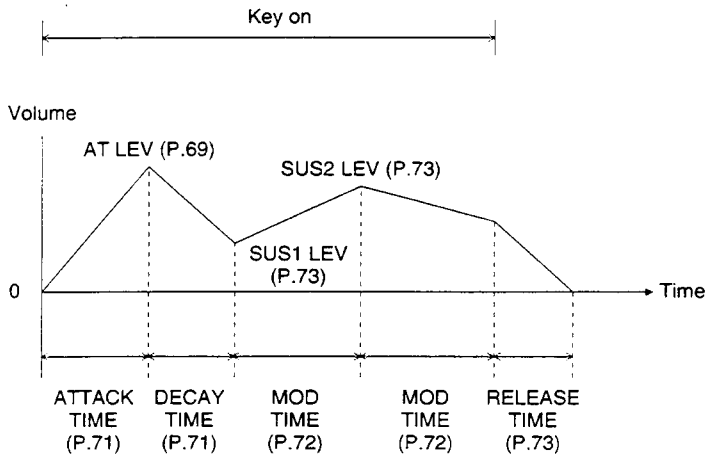
DCA ATK LEVEL		: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA VEL CURVE EXIT : PLAY MODE
Function	Specifies the volume at the envelope peak during the attack portion of the sound.	
Values	000 to 063	
Notes	The larger this value, the higher the volume at the envelope peak.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA AT LEV with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and twist the Increment Dial to set this Level. You can switch between S1 and S2 with the cursor button.





* After the initial attack and decay, the envelope will continue to oscillate from SUS1 to SUS2 with a period equal to the MOD TIME for as long as the key is pressed.

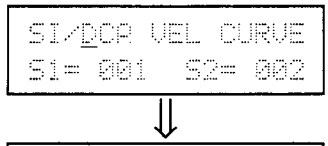
SNGL

DCA Velocity Curve

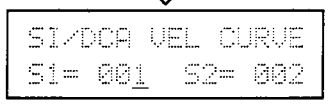
DCA VEL CURVE		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCA VEL DEPTH : PLAY MODE
Function	Selects how the envelope volume and sustain vary when these are controlled by how hard a key is struck (the "attack velocity").	
Values	001, 002	
Notes		

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA VEL CURVE with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and select either Volume Curve 1 or 2 with the Increment Dial. You can switch between S1 and S2 with the cursor button.

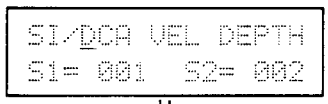


DCA Velocity Depth

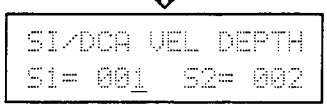
DCA VEL DEPTH		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCA ATTACK TIME : PLAY MODE
Function	A factor for how much the volume and sustain will vary in response to changes in the envelope.	
Values	000 to 063	
Notes	The way the volume actually changes as a function of velocity is set by the DCA Velocity Curve (see above).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA VEL DEPTH with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and set the Velocity Depth factor with the Dial. You can switch between S1 and S2 with the cursor button.



SNGL

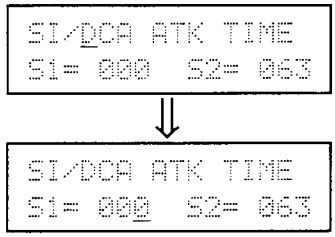
DCA Envelope Attack Time

DCA ATTACK TIME		
Function	Specifies the rate of increase in envelope level during the attack portion of the sound.	: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA DECAY TIME EXIT : PLAY MODE
Values	000 to 063	
Notes	The smaller this value, the sharper (faster) the attack.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG ATTACK with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Attack with the Dial. You can switch between S1 and S2 with the cursor button.



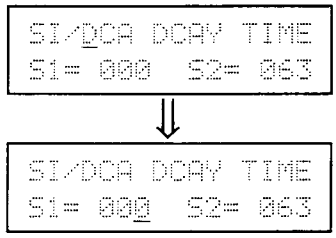
DCA Envelope Decay Time

DCA DECAY TIME		
Function	Specifies the amount of time between the Attack and when the Sustain Level 1 volume level is reached.	: Set values : S2 EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA SUS1 LEVEL EXIT : PLAY MODE
Values	000 to 063	
Notes	The smaller the values the shorter the Decay Time.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG DECAY with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Decay time with a twist of the Increment Dial. You can switch between S1 and S2 with the cursor button.



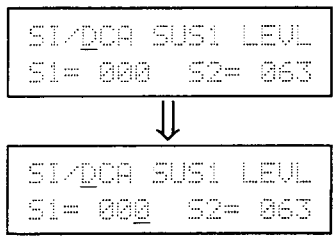
SNGL

DCA Envelope Sustain 1 Level

DCA SUSTAIN 1 LEVEL		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCA MOD TIME : PLAY MODE
Function	Sets the Sustain 1 volume level.	
Values	000 to 063	
Notes	There will be no sustain if you have this set to 000, regardless of the Modulation Time and Sustain 2 settings. In addition, you may notice some modulation during a sustain sound on certain Waveforms, even when you have Sustain 1 and 2 levels set the same. If this happens, try setting a longer MOD TIME (pg. 72).	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG SUS1 with the SINGLE EDIT button or the Increment Dial.



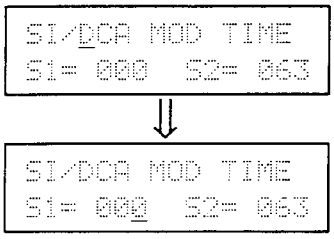
(3) Press the ○ button to move the cursor over to the Value entry and set Sustain 1 with the Dial. You can switch between S1 and S2 with the cursor button.

DCA Envelope Modulation Time

DCA MOD TIME		: Set values : S2 EDIT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCA SUS2 LEVEL : PLAY MODE
Function	Sets the amount of time it takes to go from the Sustain 1 Level to the Sustain 2 Level.	
Values	000 to 063	
Notes	There is no sustain if DCA Sustain 1 level is set to 000, regardless of the setting here.	

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG MOD T with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and set EG MOD T with the Dial. You can switch between S1 and S2 with the cursor button.

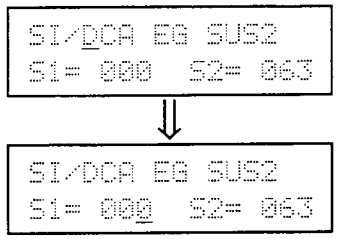
DCA Envelope Sustain 2 Level

DCA SUSTAIN 2 LEVEL	
Function	Sets the Sustain 2 level.
Values	000 to 063
Notes	

: Set values
: S2 EDIT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SEC EDIT MODE
SNGL. EDIT : DCA RELEASE TIME
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG SUS2 with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and set Sustain 2 with the Dial. You can switch between S1 and S2 with the cursor button.

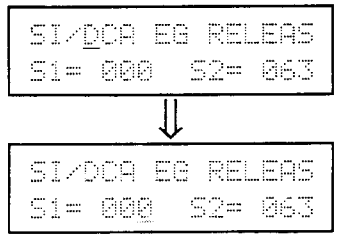
DCA Envelope Release Time

DCA RELEASE TIME	
Function	Specifies the time it will take from the release of the key to the sound completely dying away (volume level of zero).
Values	000 to 063
Notes	

: Set values
: S2 EDIT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SEC EDIT MODE
SNGL. EDIT : FUNCTION SELECT
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Single Edit mode.

(2) Select DCA EG RELEAS with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and use the Dial to set DCA EG RELEAS. You can switch between S1 and S2 with the cursor button.

SNGL

SECTION 5 Editing Percussion Voices

5.1 Editing

1) The Drum Patches

The drums on the GMega are all kept in one Bank, 128 different tones or "percussion voices." These are collected into 7 "Drum Kits" on the GMega, and each Kit has its own way that the instruments are assigned to keys on the keyboard. Percussion voices can be edited by pressing the SINGLE EDIT button from the USER bank, just like Singles.

* Here's a listing of the Drum Kits in the GM Bank.

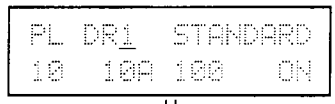
DR1	STANDARD
DR2	ROOM
DR3	POWER
DR4	ELECTRO
DR5	BOB
DR6	JAZZ
DR7	ORCHESTR

See page 77 for a summary of how percussion voices are assigned in these Kits.

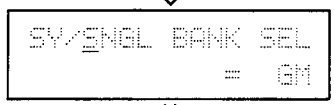
2) Getting into Drum Edit Mode

The procedure for getting into Drum Edit mode is identical to that for getting into Single Edit mode, with the only difference being the lead-up. If you select a Single in Play mode, you'll wind up in Single Edit mode; and if you select a Drum Kit (DR1 to DR7) you'll wind up in Drum Edit mode. Beyond that, the same: select USER from the System Edit SINGLE BANK SELECT screen, etc.

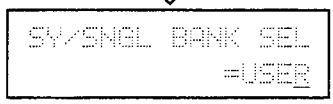
(1) From Play mode, select the Drum Kit you want to edit.



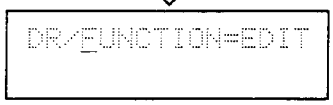
(2) Press the SYSTEM button to enter System Edit mode.



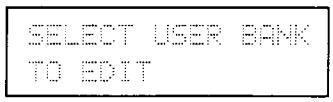
(3) Press the ○ button to move the cursor to the Bank entry, and change this to USER with the Dial.



(4) Press the SINGLE EDIT button to get into Drum Edit mode.



[Note]
Just pressing SINGLE EDIT button will not put you in Single Edit mode, unless you have first selected the USER bank. You'll see this bank-switching message in the display and then be returned to the situation just before you pressed the SINGLE EDIT button.



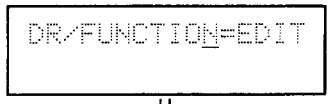
3) Drum Copy

With Drum Copy, you copy a percussion voice Patch, rather than a set of key assignments.

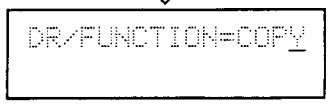
Copying a Percussion Patch

With this you can copy percussion patch (tone) data to a different percussion voice.

(1) Press the SINGLE EDIT button to get into Drum Edit mode.

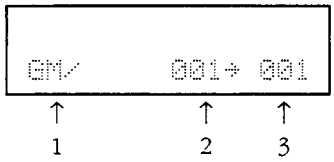


(2) Press the ○ button to move the cursor to EDIT, and select COPY using the Increment Dial.



(3) After selecting COPY and pressing the SNGL EDIT button, rotate the Increment Dial toward the Functions to change the display over to Copy mode.

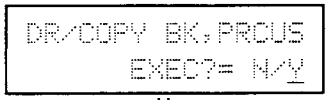
(4)



1	GM, SP	Selects "Copy From:" Bank
2	ALL, 001 to 128	"Copy From:" Percussion No.
3	ALL, 001 to 128	"Copy To:" Percussion No.

(5) Check all your settings for the Copy operation, then press the SINGLE EDIT button. The display will say EXEC?, meaning, "Should I execute now?"

Turning the Increment Dial to the right indicates YES. The GMega will ask if you're sure. Flipping the Increment Dial once to the left will signal No and cancel the operation right here.



(6) But we're sure, so flip it to the right to answer YES and do the copy operation. You can flip it left at any time to cancel.

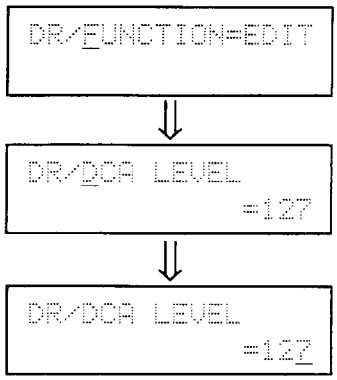
DRUM

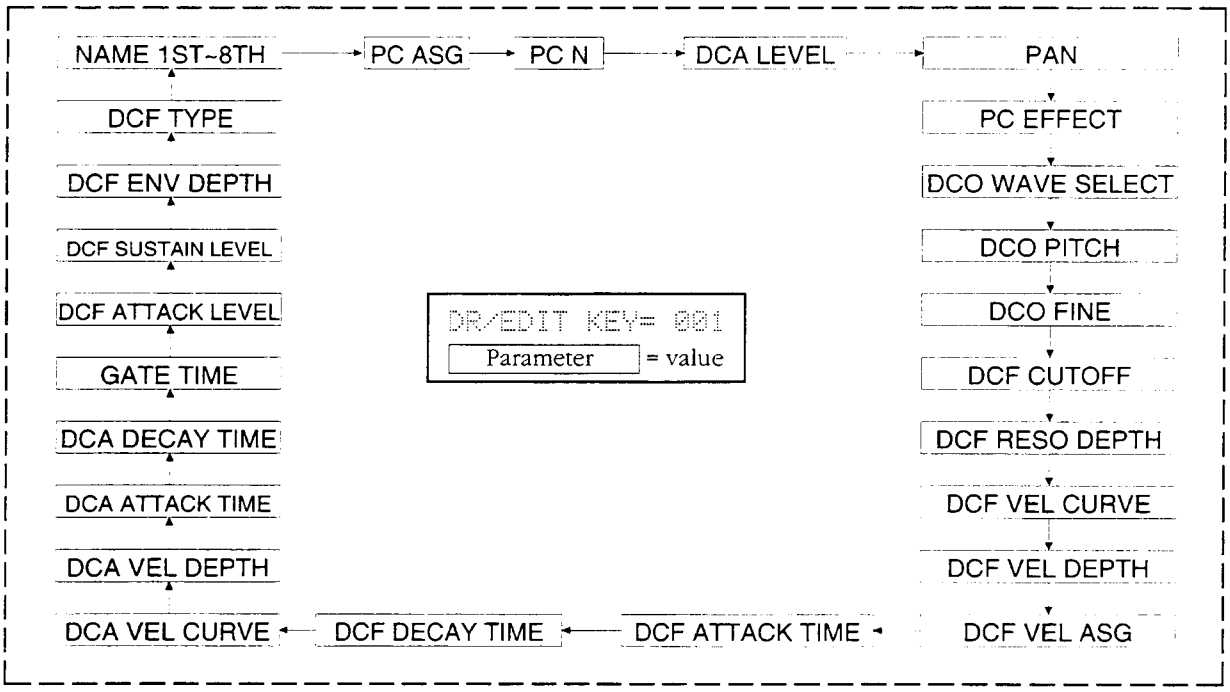
4) Calling Up Functions and Value Settings

(1) You can change to the function you want to edit by pressing the SINGLE EDIT button after you're in Drum Edit mode.

(2) Or move the cursor to the function position you want to edit and select the function with a turn of the Increment Dial.

(3) Press the ○ cursor button to move to the Value entry, then set or select your values with the Increment Dial. You can step through the parameters one at a time by pressing the SINGLE EDIT button.





[Note]
Avoid editing during play as much as possible.

DRUM

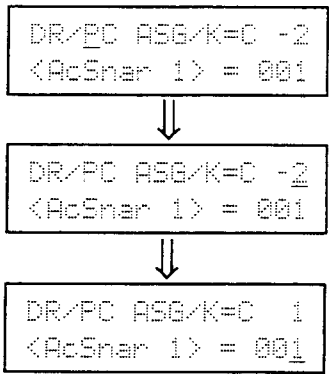
5.2 Editing a Percussion

Percussion Assign/Key Select

PC ASG/KEY SELECT		: Set values : VALUE EDIT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : PC NAME EXIT : PLAY MODE
Function	Select the key you want to edit and the Percussion voice assigned to that key.	
Values	C-2 to G8, or 001 to 128	
Notes	If you select a key that already has a Percussion voice assigned to it, the edit you make will "overwrite" the old voice.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select PC ASG mode with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Key Name entry and select the key you want to edit with the Increment Dial.

(4) One more press of the button takes you to the entry where you select the Percussion voice number.

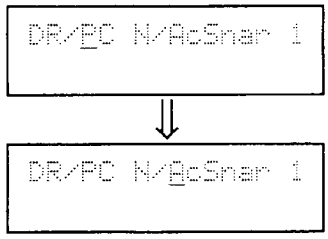
DRUM

Percussion Name

PC N		: Set values : NAME NEXT No. : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA LEVEL EXIT : PLAY MODE
Function	Give a name to the Percussion voice currently being edited.	
Values	Letters, numbers and symbols	
Notes		

(1) Press the SINGLE EDIT button to get into Drum Edit mode.

(2) Select PC N with the SINGLE EDIT button or the Increment Dial.



(3) Use the Dial to specify the tone name by setting it one character at a time, up to eight characters.

These are the letters, numbers, and symbols you can use.

```
(space) ! " # $ % & ' ( ) * + , - /
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 [ ¥ ] ^ _ `
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 { | } → ←
```

DRUM

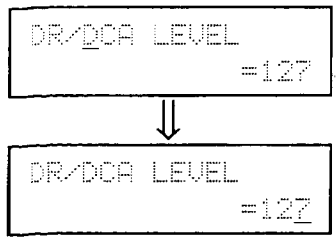
DCA Level

DCA LEVEL		: Set values : MODE SELECT : EDIT KEY SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : PAN EXIT : PLAY MODE
Function	Controls the volume of the Percussion voice.	
Values	000 to 127	
Notes	This adjusts the volume of the Percussion voice. The overall balance of all the Percussion voices together is adjusted with the Play mode level (see page 24).	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA LEVEL with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set the level with the Dial.



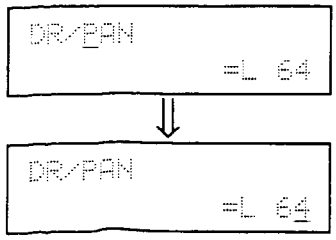
Pan

PAN		: Set values : MODE SELECT : EDIT KEY SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : KEY EFFECT EXIT : PLAY MODE
Function	Set the stereo position of the Percussion voices within the selected Drum Kit.	
Values	L64 to 000 to R63	
Notes		

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select PAN with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set the Pan with the Increment Dial.



DRUM

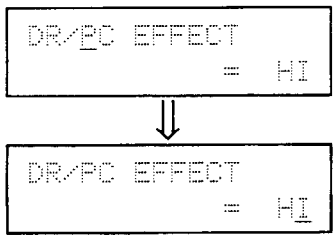
Percussion Effect Level

PC EFFECT LEVEL		◯ : Set values MODE : MODE SELECT EDIT KEY : EDIT KEY SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCO WAVE SELECT EXIT : PLAY MODE
Function	Sets the effects level on the Percussion voices.	
Values	HI, LO	
Notes		

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select PC EFFECT with the SINGLE EDIT button or the Increment Dial.

(3) Press the MODE button to move the cursor over to the Value entry and set the level to HI or LO with a flick of the Increment Dial.



SEC	PERCUS	OUTPUT
HI	HI	HI
	LO	LO
LO	HI	LO
	LO	LO

DRUM

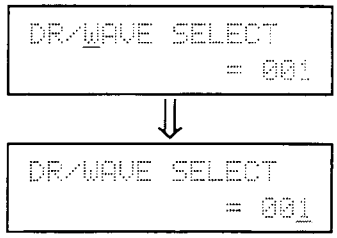
Wave Select

WAVE SELECT		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCO COARSE EXIT : PLAY MODE
Function	Select the Source Wave (waveform) for the Percussion voice.	
Values	000 to 255	
Notes	You have 256 different waveforms from which to choose, including 6 DCs (numbered 000 to 005) and 250 PCMs (numbered 006 to 255). Not all of these waveforms will have a clearly defined pitch. Even if all the other parameters remain the same, you can dramatically alter the sound by putting in a different waveform for the Percussion sound. (For descriptions of the different waveforms.)	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select WAVE SELECT with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and select the Wave Number you want with the Increment Dial.



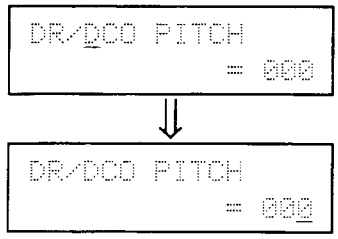
DCO Pitch

DCO PITCH		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCO FINE EXIT : PLAY MODE
Function	Changes the pitch of the Source.	
Values	000 to 127	
Notes	Higher numbers mean higher pitch.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCO PITCH with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set the value for the pitch with the Increment Dial.



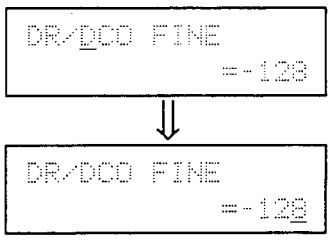
DRUM

DCO Fine

DCO FINE		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCF CUTOFF EXIT : PLAY MODE
Function	Makes fine adjustments to the pitch of a Source.	
Values	-128 to 000 to +127	
Notes	-128 shifts the pitch by roughly 100 cents down, and +127 by roughly 100 cents up.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCO FINE with the SINGLE EDIT button or the Increment Dial.



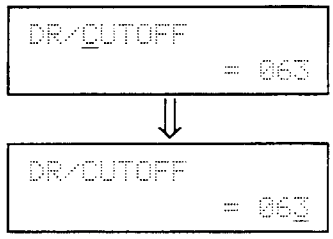
(3) Press the button to move the cursor over to the Value entry and tune the Source with a turn of the Increment Dial.

DCF Cutoff

DCF CUTOFF		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCF RESO DEPTH EXIT : PLAY MODE
Function	Set the DCF filter cutoff point.	
Values	000 to 255	
Notes	Larger values move the cutoff point to higher frequencies. Setting the value too low might eliminate the sound entirely. (When DCF TYPE is LPF.)	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF CUTOFF with the SINGLE EDIT button or the Increment Dial.



(3) Press the button to move the cursor over to the Value entry and set the DCF cutoff point with the Increment Dial.

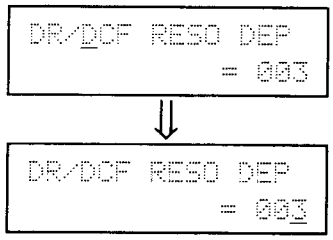
DCF Resonance Depth

DCF RESO DEPTH		◯ : Set values ○ : MODE SELECT ○ : FUNCTION SELECT SYSTEM ○ : SYSTEM EDIT MODE SEC. EDIT ○ : SEC EDIT MODE SNGL. EDIT ○ : DCF VEL CURVE EXIT ○ : PLAY MODE
Function	Sets the level in the vicinity of the cutoff point.	
Values	000 to 003	
Notes	The higher the value, the more the harmonics right around the cutoff frequency are emphasized. This lends a characteristic "synthy" quality to the sound.	

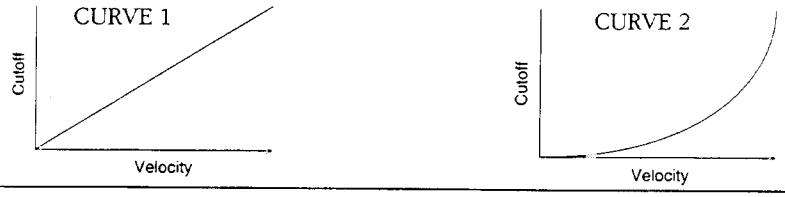
(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF RESO DEP with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set the Resonance Depth by spinning the Increment Dial.



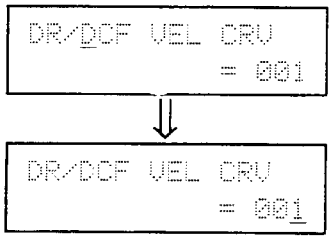
DCF Velocity Curve

DCF VEL CURVE		◯ : Set values ○ : MODE SELECT ○ : FUNCTION SELECT SYSTEM ○ : SYSTEM EDIT MODE SEC. EDIT ○ : SEC EDIT MODE SNGL. EDIT ○ : DCF VEL DEPTH EXIT ○ : PLAY MODE
Function	Selects the curve used to specify the cutoff point as a function of how hard a key is struck (the "attack velocity"). The intensity of the modulation applied by this curve is adjusted by DCF VEL DEPTH (see page 87).	
Values	001, 002	
Notes		

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF VEL CURVE with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and select either Curve 1 or Curve 2.



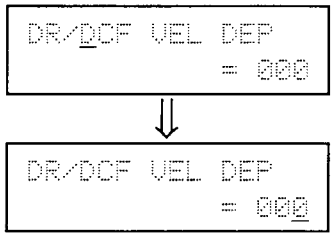
DRUM

DCF Velocity Depth

DCF VEL DEPTH		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : DCF VEL ASIGN EXIT : PLAY MODE
Function	Sets how far the cutoff frequencies moves in response to how hard a key is struck.	
Values	000 to 063	
Notes	When this is set to a positive value, the harder you play the brighter the sound will be. This change will depend on how hard the key is struck ("attack velocity") as specified by the DCF Velocity Curve (see page 83).	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF VEL DEP with the SINGLE EDIT button or the Increment Dial.



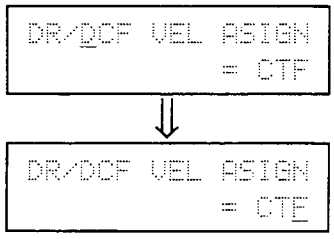
(3) Press the ○ button to move the cursor over to the Value entry and set DCF Velocity Depth with the Dial.

DCF Velocity Assign

DCF VEL ASSIGN		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : DCF ATTACK TIME EXIT : PLAY MODE
Function	Sets whether velocity-dependent changes in the tone will control the cutoff frequency (CTF) or the DCF Envelope Depth (ENV).	
Values	CTF, ENV	
Notes	When making the tone vary with the velocity of the player's attack (how hard a key is struck), this selects whether the cutoff frequency will be directly controlled by velocity, or indirectly via changes to the DCF Envelope Depth parameter.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF VEL ASIGN with the SINGLE EDIT button or the Increment Dial.



(3) Press the ○ button to move the cursor over to the Value entry and select CTF or ENV with the Dial.

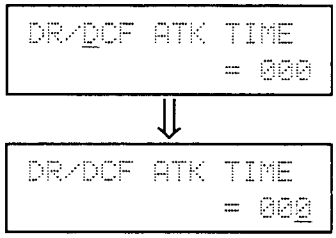
DCF Envelope Attack Time

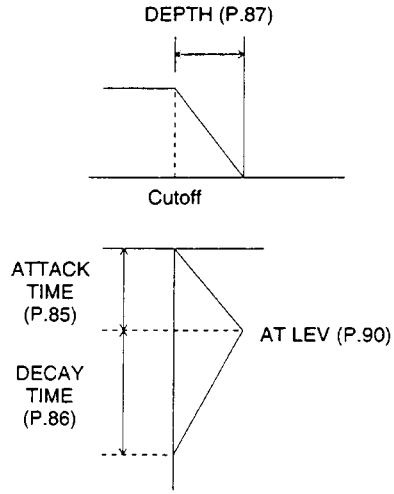
DCF ATK TIME		: Set values : MODE SELECT : FUNCTION SELECT : SYSTEM EDIT MODE : SEC EDIT MODE : DCF DECAY TIME : PLAY MODE
Function	Specifies the rate of increase in envelope level during the attack portion of the sound.	
Values	000 to 063	
Notes	The larger this value, the slower the change in envelope level.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF EG ATTACK with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and use the Dial to set the EG AT LEV.





DRUM

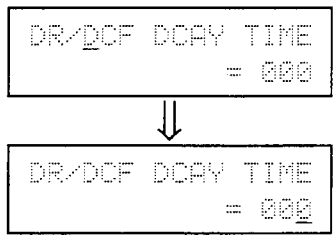
DCF Envelope Decay Time

DCF DECAY TIME		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA VEL CURVE EXIT : PLAY MODE
Function	Specifies the amount of time between the Attack and the point at which the Sustain Level frequency is reached.	
Values	000 to 063	
Notes	The smaller the values the shorter the Decay Time.	

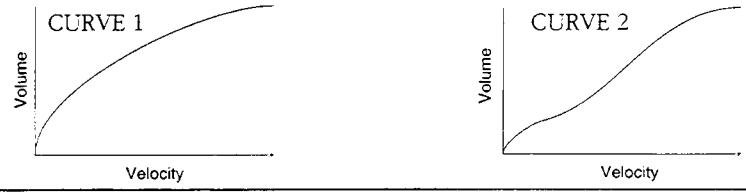
(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCF EG DECAY with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and set the Decay Time with the Increment Dial.



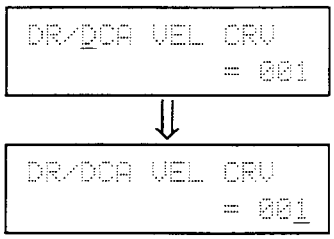
DCA Velocity Curve

DCA VEL CURVE		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCA VEL DEPTH EXIT : PLAY MODE
Function	Selects how the envelope volume and sustain vary when these are controlled by how hard a key is struck (the "attack velocity"). The intensity of this effect is adjusted using the parameter DCA VEL DEPTH (see next page).	
Values	001, 002	
Notes		

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA VEL CURVE with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and select either Volume Curve 1 or 2 with the Increment Dial.



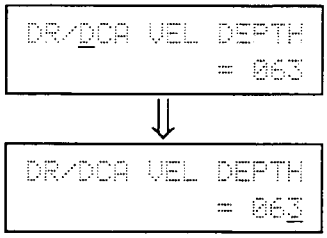
DCA Velocity Depth

DCA VEL DEPTH		: Set values : MODE SELECT : FUNCITON SELECT SYSTEM : SYSTEM EDIT MODE SEC_EDIT : SEC EDIT MODE SNGL EDIT : DCA ATTACK TIME EXIT : PLAY MODE
Function	A factor for how much the volume and sustain will vary in response to changes in the envelope.	
Values	000 to 063	
Notes	Negative values mean the harder the attack the lower the volume. The way the volume actually changes as a function of velocity is set by the DCA Velocity Curve (see previous page).	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA VEL DEPTH with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and set the Velocity Depth factor with the Dial.



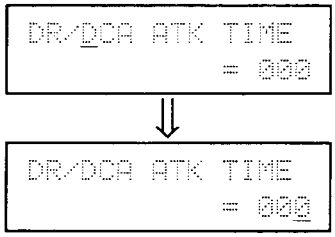
DCA Envelope Attack Time

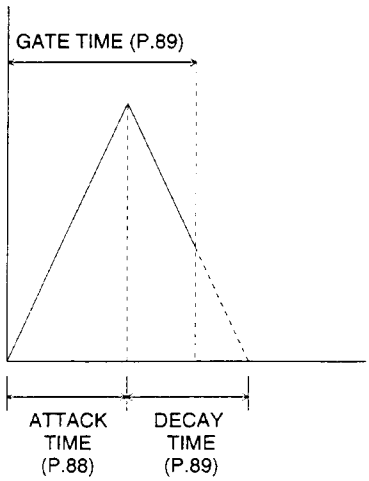
DCA ATTACK TIME		◯ : Set values ○ : MODE SELECT ○ : FUNCTION SELECT SYSTEM ○ : SYSTEM EDIT MODE SEC_EDIT ○ : SEC EDIT MODE SNGL_EDIT ○ : DCA DECAY TIME EXIT ○ : PLAY MODE
Function	Specifies the rate of increase in envelope level during the attack portion of the sound.	
Values	000 to 063	
Notes	The smaller this value, the sharper (faster) the attack.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA EG ATTACK with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and adjust the Attack with the Dial.





DRUM

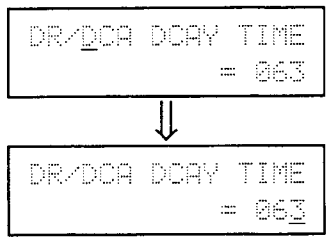
DCA Envelope Decay Time

DCA DECAY TIME		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : GATE TIME EXIT : PLAY MODE
Function	Specifies the amount of time between the Attack and the point at which the Sustain Level volume is reached.	
Values	000 to 063	
Notes	The smaller the values the shorter the Decay Time.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

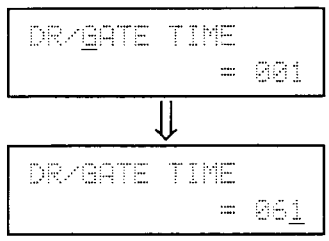
(2) Select DCA EG DECAY with the SINGLE EDIT button or the Increment Dial.

(3) Press the ○ button to move the cursor over to the Value entry and adjust the Decay time with a twist of the Increment Dial.



Gate Time

GATE TIME		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : DCF ATK LEVEL EXIT : PLAY MODE
Function	This sets how long a Percussion voice will sound, regardless of the Decay setting.	
Values	001 to 255	
Notes	The larger the values the longer the Gate Time.	



DRUM

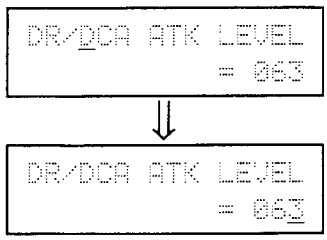
DCF Attack Level

DCF ATK LEVEL		
Function	Specifies the volume at the envelope peak during the attack portion of the sound.	: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SECTION EDIT MODE SNGL. EDIT : DCF SUS LEVEL EXIT : PLAY MODE
Values	-064 to 063	
Notes	The larger this value, the higher the volume at the envelope peak.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA ATK LEVEL with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Attack level with a twist of the Increment Dial.



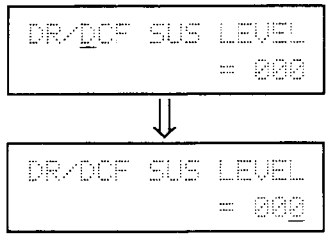
DCF Sustain Level

DCF SUS LEVEL		
Function	Sets the cutoff frequency up to the end of the Gate Time.	: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : SYSTEM EDIT MODE SEC. EDIT : SECTION EDIT MODE SNGL. EDIT : DCF ENV DEPT EXIT : PLAY MODE
Values	-064 to 063	
Notes	The larger this value, the higher the volume at the envelope peak.	

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA ATK LEVEL with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Attack level with a twist of the Increment Dial.



DRUM

DCF Envelope Depth

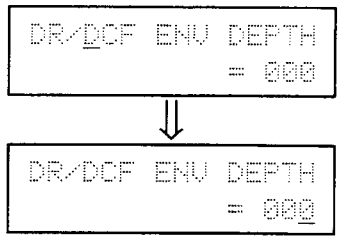
DCF ENV DEPTH	
Function	Sets how much the Tone will be altered by the Envelope.
Values	000 to 063
Notes	The higher the Envelope Curve level, the higher the cutoff frequency (the brighter and crisper the sound).

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SECTION EDIT MODE
SNGL. EDIT : DCF TYPE
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA ATK LEVEL with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Attack level with a twist of the Increment Dial.



DCF Type

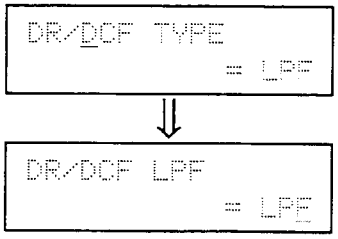
DCF TYPE	
Function	Selects the filter type.
Values	LPF, HPF
Notes	This selects the type of filter that will process the sound source waveform output from the Source. The LPF cuts out harmonics above the set Cutoff Frequency to tone down and mellow sounds with high harmonic content. The HPF cuts out the fundamental and harmonics below the given Cutoff Frequency so that the tone is defined only by its higher harmonics.

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : SYSTEM EDIT MODE
SEC. EDIT : SECTION EDIT MODE
SNGL. EDIT : FUNCTION SELECT
EXIT : PLAY MODE

(1) Press the SINGLE EDIT button to enter Drum Edit mode.

(2) Select DCA ATK LEVEL with the SINGLE EDIT button or the Increment Dial.

(3) Press the button to move the cursor over to the Value entry and adjust the Attack level with a twist of the Increment Dial.



DRUM

SECTION 6 System Settings

Now we'll talk about settings that control the GMega as a whole. These functions fall into six basic groups:

SYSTEM EDIT

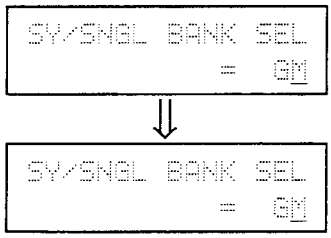
BANK SELECT	Selecting a Single Patch Bank
EFFECT TYPE	Selecting an effect type and selecting parameters
UNIT RCV FILTER	Settings related to receiving MIDI signals
Ser. I/F MODE	Serial interface mode settings
DUMP	Transmitting and storing GMega data to an external MIDI device
POWER ON MODE	Sets the mode for the GMega when the power is turned on

[Note]
Turn the value dial gently when editing a Section in Play mode.

Bank Select

BANK SELECT		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : EFFECT TYPE SEC. EDIT : SEC EDIT MODE SNGL EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	Selects a Single Patch Bank.	
Values	USER, GM, SP	
Notes	GM: a Bank compatible with General MIDI specifications. SP: a Bank for Sound Palette sounds USER: a Bank for storing sounds created by the user. It may take a few seconds for the Bank to switch. Please do not switch during a song is playing.	

(1) Press the SYSTEM button to enter System Edit mode.



(2) Set the value with the Dial.

[Note]
A Bank switch will reset all Sections except the USER Section.

[Hint]
Almost all the button-pressing you do on the GMega panels can also be transmitted from the MIDI OUT using SysEx messages.

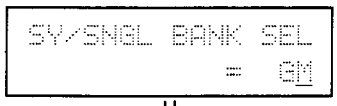
SYSTEM

Effect Type

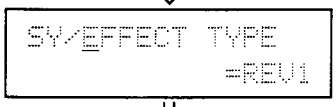
SYS EFFECT TYPE	
Function	Selects the type of effect that will be used.
Values	REV 1 to 6
Notes	The effect type selected here will be applied equally to the Section and Drum Kit. You can however set EFFECT LO or HI independently for each Section or Drum Kit (see page 34). The effect of the selected effect can also be changed by a variety of parameters. It may take a few seconds for the Effect to switch.

: Set values
: MODE SELECT
: FUNCTION SELECT
: EFFECT PARAMETER
: SEC EDIT MODE
: SGL/DR EDIT MODE
: PLAY MODE

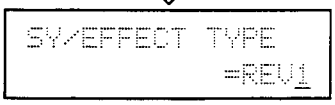
(1) Press the SYSTEM button to enter System Edit mode.



(2) Select the Effect Type with the SYSTEM button, or by pressing the ○ button and rotating the Dial.



(3) Press the ○ button to move the cursor over to the Effect Type entry and set it with the Dial.



[Note]
Please do not switch the Effect Type during a song is playing.

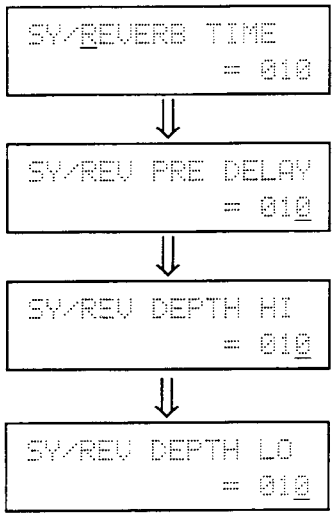
SYSTEM

Effect Parameters (for REV 1 to 6)

EFFECT PARAMETERS 1 to 6			
Function	Set the parameters for each of the Reverb effects 1, 2 and 3.		◯ : Set values ↻ : MODE SELECT ↺ : FUNCTION SELECT SYSTEM : UNIT TUNE SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Values	PARAMETER 1	REVERB TIME	000 to 010: Common setting for REV1 to 6
	PARAMETER 2	REV HI DUMP	000 to 010: Common setting for REV1 to 6
	PARAMETER 3	REV DEPTH HI	001 to 010: Common setting for REV1 to 6
	PARAMETER 4	REV DEPTH LO	001 to 010: Common setting for REV1 to 6
Notes	REVERB TIME:	The larger this value, the longer the reverb.	
	REV PRE DELAY:	The higher the setting, the longer the delay time.	
	REV DEPTH:	The larger this value, the more intense the effect.	

(1) Select Effect Type, then press the System button, or press the ↻ button and rotate the Dial, to select the parameter to be set.

(2) Move the cursor over to the Value entry and set it with the Increment Dial.

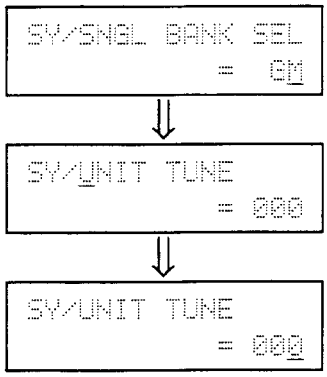


SYSTEM

Unit Tune

UNIT TUNE		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : UNIT RCV CH SEC. EDIT : SEC EDIT MODE SNGL EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	Adjusts the tuning of the GMega as a unit.	
Values	-128 to 000 to +127	
Notes	This can be used for tuning to the pitch of pianos and other instruments. The maximum values are a full half step (about 50 cents).	

(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SYSTEM button, or press the ○ button and rotate the Dial, until you see the UNIT TUNE screen in the display.

(3) Press the ○ button to move the cursor over to the Value entry and set it with the Increment Dial.

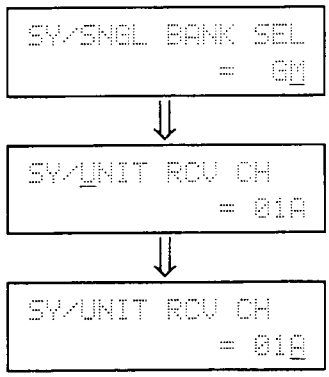
SYSTEM

Unit Receive Channel

UNIT RCV CH	
Function	Sets the channel over which System Exclusive messages are received.
Values	01A to 16A
Notes	System Exclusive (SysEx) messages can be received over channels 01A to 16A (channels 1 through 16 of MIDI IN A). SysEx cannot be received if UNIT RCV EXCL (see page 98) is set to OFF.

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : UNIT RCV PGM
SEC_EDIT : SEC EDIT MODE
SNGL_EDIT : SGL/DR EDIT MODE
EXIT : PLAY MODE

(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the UNIT RCV CH screen in the display.

(3) Press the ○ button to move the cursor over to the Value entry and set the channel with the Increment Dial.

SYSTEM

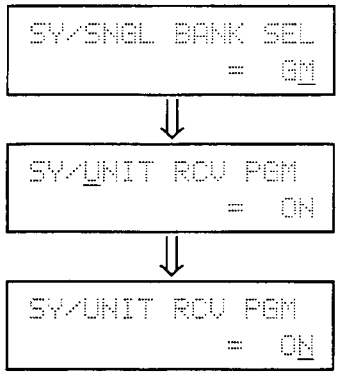
Unit Receive Program Change

UNIT RCV PGM		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : UNIT RCV EXCL SEC EDIT : SEC EDIT MODE SNGL EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	Selects whether or not to accept MIDI Program Change messages.	
Values	ON, OFF	
Notes		

(1) Press the SYSTEM EDIT button to enter System Edit mode.

(2) Press the SY button, or press the button and rotate the Dial, until you see the UNIT RCV PGM screen in the display.

(3) Press the button to move the cursor over to the Value entry and turn it ON or OFF with the Increment Dial.

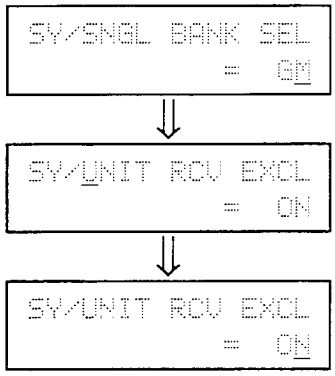


SYSTEM

Unit Receive Exclusive

UNIT RCV EXCL		
Function	Selects whether or not to accept System Exclusive messages.	: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : UNIT RCV MODE SEQ. EDIT : SEC EDIT MODE SNGL. EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Values	ON, OFF	
Notes	When set to ON, MIDI Exclusive messages are received over the channel (01A through 16A) specified by UNIT RCV CH (page 96).	

(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the UNIT RCV EXCL screen in the display.

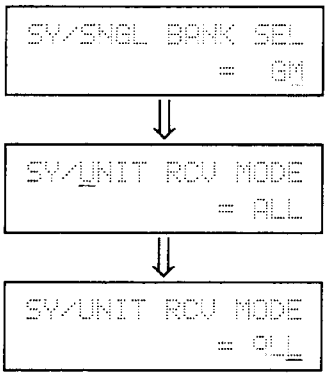
(3) Press the ○ button to move the cursor over to the Value entry and turn this ON or OFF with the Increment Dial.

SYSTEM

Unit Receive Mode

UNIT RCV MODE		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : Ser. I/F MODE SEC. EDIT : SEC EDIT MODE SNGL EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	A simplified "spillover" feature will be set on/off in this mode.	
Values	ALL, ODD, EVEN	
Notes	When set to ODD, the GMega will play only the odd-numbered of the Note Numbers it receives; set to EVEN, even-numbered ones only; set to ALL, plays all Note Numbers. This makes it possible to use two GMegas together to play a total of 64 voices polyphonically.	

(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the UNIT RCV MODE screen in the display.

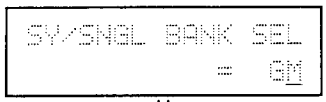
(3) Press the ○ button to move the cursor over to the Value entry and set it with the Increment Dial.

SYSTEM

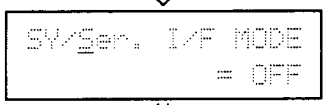
Ser. Interface Mode

Ser. I/F MODE		◯ : Set values ○ : MODE SELECT ○ : FUNCTION SELECT SYSTEM ○ : DUMP ALL SEC. EDIT ○ : SEC EDIT MODE SNGL EDIT ○ : SGL/DR EDIT MODE EXIT ○ : PLAY MODE
Function	This sets the serial interface mode. The MIDI OUT settings will also be changed by this I/F MODE setting.	
Values	OFF, OUT, SEQ, EDIT	
Notes	OFF: Playback songs, but not using the serial interface. OUT: Edit the GMega from an external device, but not using the serial interface. SEQ: Play back songs using the serial interface. EDIT: Edit the GMega from and external device using the serial interface.	

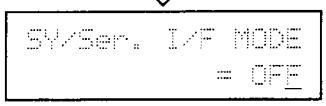
(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the Ser. I/F MODE screen in the display.



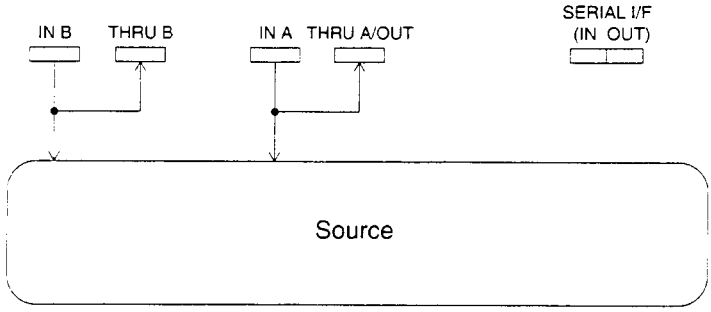
(3) Press the ○ button to move the cursor over to the Value entry and set it to the desired mode with the Increment Dial.



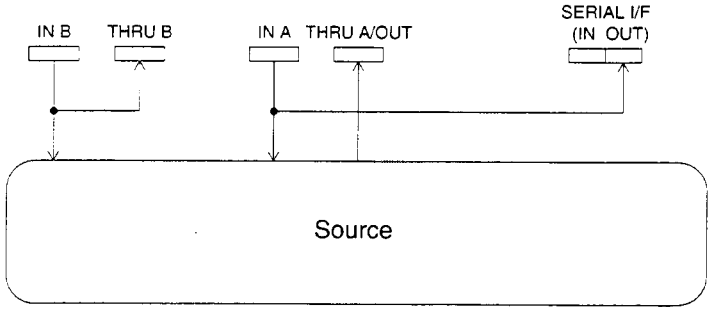
SYSTEM

Serial Interface Settings and MIDI Signal Routings

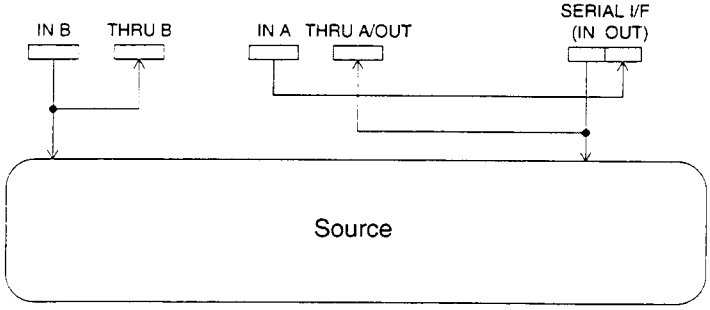
I/F MODEÆOFF



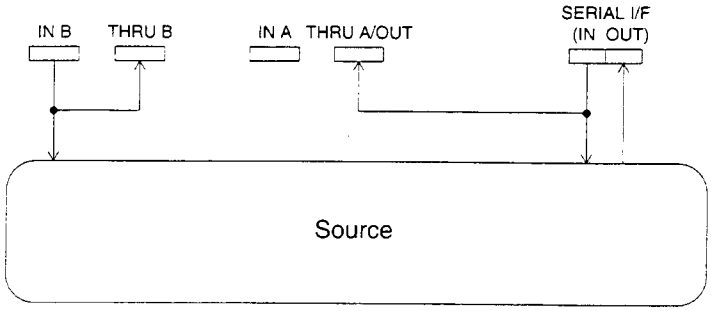
I/F MODEÆOUT



I/F MODEÆSEQ



I/F MODEÆEDIT



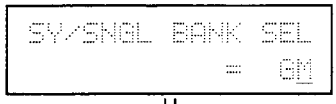
SYSTEM

Dump All

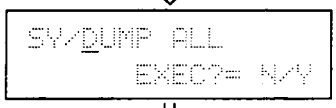
DUMP ALL	
Function	Send all the data of USER BANK and System of GMega to an external MIDI device. Please always set the value "USER". Almost 3 minutes will be taken to complete DUMP ALL
Values	Y (Yes), N (No)

: Set values
: MODE SELECT
: FUNCTION SELECT
SYSTEM : DUMP SEC. SYS
SEC. EDIT : SEC EDIT MODE
SNGL EDIT : SGL/DR EDIT MODE
EXIT : PLAY MODE

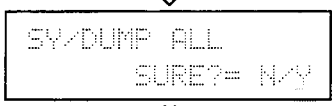
(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the button and rotate the Dial, until you see the DUMP ALL screen in the display.



(3) Press the button to move the cursor over to the Value entry. If you say "YES" by flicking the Dial to the right, you will be asked "SURE?"



(4) Flick the dial to the right again to say "YES" When the data has been transferred, the screen will say "COMPLETE" and then you'll be returned to the screen in step (3).

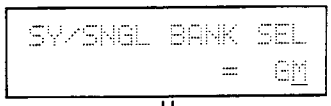
[Note]
If at any time you flick the Dial to the left, the screen will say "CANCELED!!" and you'll be returned to the screen in step (3) again.

SYSTEM

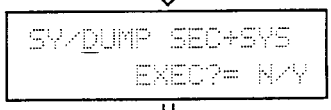
Dump Section and System Data

DUMP SEC + SYS DATA		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : FACTORY RESET SEC. EDIT : SEC EDIT MODE SNGL. EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	Send the data of section (now selected) and System to the external MIDI device.	
Values	Y (Yes), N (No)	

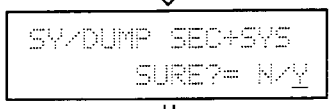
(1) Press the SYSTEM EDIT button to enter System Edit mode.



(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the DUMP SEC screen in the display.



(3) Press the ○ button to move the cursor over to the Value entry. If you say "YES" by flicking the Dial to the right, you will be asked "SURE?"



(4) Flick the dial to the right again to say "YES" When the data has been transferred, the screen will say "COMPLETE" and then you'll be returned to the screen in step (3).

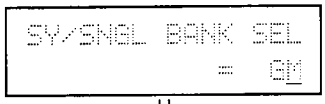
[Note]
If at any time you flick the Dial to the left, the screen will say "CANCELED!!" and you'll be returned to the screen in step (3) again.

SYSTEM

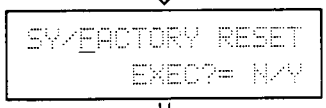
Factory Reset

FACTORY RESET		: Set values : MODE SELECT : FUNCTION SELECT SYSTEM : BANK SELECT SEC. EDIT : SEC EDIT MODE SNGL EDIT : SGL/DR EDIT MODE EXIT : PLAY MODE
Function	Returns the GMega to its factory default settings.	
Values	Y (Yes), N (No)	
Notes	This resets all System Sections, so that the USER Bank sounds (Singles and Percussion) and Drum Key Assigns are the same as in the GM Bank. The reset process takes a few seconds. If the power is turned off during this reset, the GMega might not work properly when powered on again. In that case, perform the Factory Reset over again.	

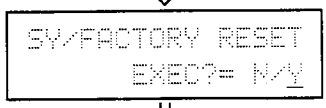
(1) Press the SYSTEM EDIT button to enter System Edit mode.



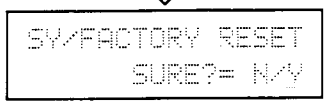
(2) Press the SY button, or press the ○ button and rotate the Dial, until you see the POWER ON MODE screen in the display.



(3) Press the ○ button to move the cursor over to the Value entry and set the mode with the Increment Dial.



(4) Flick the dial to the right again to say "YES" When the data has been transferred, the screen will say "COMPLETE" and then you'll be returned to the screen in step (3).



[Note]
If at any time you flick the Dial to the left, the screen will say "CANCELED!!" and you'll be returned to the screen in step (3) again.

SYSTEM

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GMega SINGLE PATCH LIST

GM BANK

No.	Voice	Source	No.	Voice	Source
1	GrPiano	1	65	SprnoSax	1
2	BrPiano	1	66	Alto Sax	1
3	El Grand	2	67	TenorSax	1
4	HnkyTonk	2	68	Bari Sax	1
5	ElPiano1	2	69	Oboe	1
6	ElPiano2	2	70	EnglHorn	2
7	Hrpschrd	2	71	Bassoon	2
8	Clavi	1	72	Clarinet	1
9	Celesta	2	73	Piccolo	1
10	Glocken	2	74	Flute	1
11	MusicBox	2	75	Recorder	2
12	Vibes	1	76	PanFlute	1
13	Marimba	1	77	Bottle	1
14	Xylophon	1	78	Shakhach	2
15	TubulBel	1	79	Whistle	2
16	Dulcimer	2	80	Ocarina	2
17	DrawOrgn	2	81	SquareLd	2
18	PercOrgn	2	82	Saw Ld	2
19	RockOrgn	2	83	CaliopLd	2
20	ChrcOrgn	2	84	Chiff Ld	2
21	ReedOrgn	2	85	CharanLd	2
22	Acordion	2	86	Voice Ld	2
23	Harmnica	1	87	Fifth Ld	2
24	TangoAcd	2	88	Bass &Ld	2
25	NylonGtr	1	89	NewAgePd	2
26	SteelGtr	1	90	Warm Pd	2
27	Jazz Gtr	2	91	PolySyPd	2
28	CleanGtr	1	92	Choir Pd	2
29	Mute Gtr	1	93	Bowed Pd	2
30	Ovrdrive	2	94	Metal Pd	2
31	Distortd	1	95	Halo Pd	2
32	Harmnics	1	96	Sweep Pd	2
33	WoodBass	1	97	Rain	2
34	FngrBass	1	98	SoundTrk	2
35	PickBass	1	99	Crystal	2
36	Fretless	1	100	Atmosphr	2
37	SlapBas1	1	101	Bright	2
38	SlapBas2	1	102	Goblin	2
39	SynBass1	2	103	Echoes	1
40	SynBass2	1	104	SciFi	2
41	Violin	1	105	Sitar	1
42	Viola	1	106	Banjo	1
43	Cello	1	107	Shamisen	1
44	Contra	1	108	Koto	1
45	TremStrg	2	109	Kalimba	2
46	Pizzicto	2	110	Bagpipe	2
47	Harp	1	111	Fiddle	2
48	Timpani	1	112	Shanai	2
49	StrgEns1	1	113	TnklBell	2
50	StrgEng2	1	114	Agogo	1
51	SynStrg1	1	115	Stl Drum	1
52	SynStrg2	2	116	WoodBlok	1
53	AahChoir	1	117	TaikoDrm	1
54	OohChoir	1	118	MelodTom	1
55	SynChoir	2	119	SynthTom	2
56	Orch Hit	1	120	RevCymbl	1
57	Trumpet	1	121	FretNoiz	1
58	Trombone	1	122	BrthNoiz	1
59	Tuba	2	123	Seashore	2
60	Mute Trmp	1	124	BrdTweet	2
61	FrenchHr	1	125	Telphone	1
62	BrasSect	1	126	Helicptr	1
63	SynBras1	2	127	Applause	2
64	SynBras2	2	128	Gunshot	1

SP BANK

No.	Voice	Source	No.	Voice	Source
001	GrandPf1	1	065	Wood Bs1	1
002	BrightPf	1	066	Wood Bs2	1
003	GrandPf2	1	067	FingerBs	1
004	E. Gr Pf1	2	068	PickedBs	1
005	E. Pf1	2	069	SlapBs 1	1
006	E. Gr Pf2	2	070	SlapBs 2	1
007	E. Pf2	2	071	Fretles1	1
008	HnkyTonk	2	072	Fretles2	1
009	RockOrgn	2	073	Flute 1	1
010	DrawOrgn	2	074	Flute 2	1
011	PercOrgn	2	075	Piccolo1	1
012	ElecOrgn	2	076	Piccolo2	2
013	PipOrgn1	2	077	Recorder	2
014	PipOrgn2	2	078	PanFlute	1
015	PipOrgn3	2	079	S. Sax	1
016	Acordion	2	080	A. Sax	1
017	Harpsi 1	2	081	T. Sax	1
018	Harpsi 2	2	082	B. Sax	1
019	Harpsi 3	2	083	Cl 1	1
020	Clavi 1	1	084	Cl 2	1
021	Clavi 2	1	085	Oboe	1
022	Clavi 3	1	086	SawBrass	2
023	Celesta1	2	087	Bassoon	2
024	Celesta2	2	088	Harmnica	1
025	SynBras1	2	089	Trumpet1	1
026	SynBras2	2	090	Trumpet2	1
027	OvdrveGt	2	091	Tb 1	1
028	Dist Gt	1	092	Tb 2	2
029	SynBs1	2	093	FreHorn1	1
030	SynBs2	1	094	FreHorn2	2
031	SynBs3	2	095	Tuba	2
032	SynBs4	2	096	BrsEns 1	1
033	NewAgePd	2	097	BrsEns 2	2
034	Warm Pd	2	098	Vibe 1	1
035	Choir Pd	1	099	Vibe 2	2
036	Bowed Pd	2	100	Mallet	2
037	SoundTrk	2	101	WindBell	2
038	Atmosphr	2	102	Glocken	2
039	SynWarm	2	103	TubulBel	1
040	SynVoice	2	104	Xylophon	1
041	EchoBell	2	105	Maimba	1
042	Rain	2	106	Koto	1
043	SynWind	2	107	Shamisen	1
044	Echoes	1	108	Shaku8	2
045	SynSolo	2	109	Whistle1	2
046	ReedOrgn	2	110	Whistle2	2
047	SynBell	2	111	Bottle	1
048	Square	2	112	Chiff	2
049	Strings1	1	113	Timpani	1
050	Strings2	1	114	Melo Tom	1
051	SynStrgs	1	115	DeepSnar	2
052	Pizzicto	2	116	SynDrum1	2
053	Violin	1	117	SynDrum2	2
054	Viola	1	118	Taiko	1
055	Cello 1	1	119	TaikoRim	1
056	Cello 2	1	120	Cymbal	1
057	Con Bass	1	121	Castanet	1
058	Harp 1	1	122	Triangle	1
059	Harp 2	1	123	Orch Hit	1
060	NylonGtr	1	124	NewSyn1	2
061	SteelGtr	1	125	NewSyn2	2
062	E. Gt 1	1	126	NewSyn3	2
063	E. Gt 2	2	127	NewSyn4	2
064	Sitar	1	128	NewSyn5	2

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Drum Key Assignment

No.	Key Name	STANDARD	Room	Power	Electro	BOB	Jazz	Orchstr
0	C-2	BOB BD	X	X	X	X	X	X
1	C#-2	BOB Rim	X	X	X	X	X	X
2	D-2	BOB SD	X	X	X	X	X	X
3	D#-2	BOB LoTom2	X	X	X	X	X	X
4	E-2	BOB CloseHH.	X	X	X	X	X	X
5	F-2	BOB LoTom1	X	X	X	X	X	X
6	F#-2	BOB MidTom2	X	X	X	X	X	X
7	G-2	BOB OpenHH	X	X	X	X	X	X
8	G#-2	BOB MidTom1	X	X	X	X	X	X
9	A-2	BOB HiTom2	X	X	X	X	X	X
10	A#-2	BOB Cym.	X	X	X	X	X	X
11	B-2	BOB HiTom1	X	X	X	X	X	X
12	C-1	BOB Cowbell	X	X	X	X	X	X
13	C#-1	BOB HiConga	X	X	X	X	X	X
14	D-1	BOB Midconga	X	X	X	X	X	X
15	D#-1	BOB LowConga	X	X	X	X	X	X
16	E-1	BOB Maracas	X	X	X	X	X	X
17	F-1	BOB Clabes	X	X	X	X	X	X
18	F#-1	MONDO Kick	X	X	X	X	X	X
19	G-1	Gated SD	X	X	X	X	X	X
20	G#-1	PowerTomLow2	X	X	X	X	X	X
21	A-1	PowerTomLow1	X	X	X	X	X	X
22	A#-1	PowerTomMid2	X	X	X	X	X	X
23	B-1	PowerTomMid1	X	X	X	X	X	X
24	C0	PowerTomHi2	X	X	X	X	X	X
25	C#0	PowerTomHi1	X	X	X	X	X	X
26	D0	"MUTE"	X	X	X	X	X	X
27	D#0	HighQ						CloseHH
28	E0	Slap						Pedal HH
29	F0	Scratch Push						Open HH
30	F#0	SCratch Pull						RideCym1
31	G0	Sticks						
32	G#0	Square Click						
33	A0	Metoronome Click						
34	A#0	Metoronome Bell						
35	B0	Ac Bass Drum 2						Orch BD2
36	C1	Bass Drum1		MONDO Kick	Elec.SD	BOB BD	Jazz BD	Orch BD1
37	C#1	Side Stick				BOB Rim		
38	D1	Ac Snare1		Gated SN	Elec.SD	BOB SD	Brush Tap	Orch SD
39	D#1	HandClap			EFF Clap		Brush Slap	Castanets
40	E1	Ac Snare2			Gated SN		Brush Swirl	Orch SD
41	F1	Low F Tom	Room Tom Low2	PowerTomLow2	Elec.Lo Tom2	BOB LoTom2		Timpani F
42	F#1	CloseHH				BOB CloseHH.		Timpani F#
43	G1	Hi F Tom	Room Tom Low1	PowerTomLow1	Elec.Lo Tom1	BOB LoTom1		Timpani G
44	G#1	Pedal HH				BOB CloseHH.		Timpani G#
45	A1	Low Tom	Room Tom Mid2	PowerTomMid2	Elec.Mid Tom2	BOB MidTom2		Timpani A
46	A#1	Open HH				BOB OpenHH		Timpani A#
47	B1	Low-Mid-Tom	Room Tom Mid1	PowerTomMid1	Elec.Mid Tom1	BOB MidTom1		Timpani B
48	C2	Hi-Mid-Tom	Room Tom Hi2	PowerTomHi2	Elec.Hi Tom2	BOB HiTom2		Timpani c
49	C#2	TopCym1				BOB Cym.		Timpani c#
50	D2	High Tom	Room Tom Hi1	PowerTomHi1	Elec.Hi Tom1	BOB HiTom1		Timpani d
51	D#2	SidCym1						Timpani d#
52	E2	ChinaCym.			ReverseCym.			Timpani e
53	F2	RideBell						Timpani f
54	F#2	Tambourine						
55	G2	SplashCym.						
56	G#2	Cowbel				BOB Cowbell		
57	A2	TopCym2						OrchCym.
58	A#2	Vibraslap						
59	B2	SidCym2						OrchCym1
60	C3	Hi Bongo						
61	C#3	Lo Bongo						
62	D3	Mute Hi conga				BOB HiConga		
63	D#3	Open Hi Conga				BOB Midconga		
64	E3	Lo Conga				BOB LowConga		
65	F3	Hi Timbale						
66	F#3	Lo Timbale						
67	G3	High Agogo						
68	G#3	Lo Agogo						
69	A3	Cabasa						
70	A#3	Maracas				BOB Maracas		
71	B3	Short Whistle						

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No.	Key Name	STANDARD	Room	Power	Electro	BOB	Jazz	Orchstr
72	C4	Long Whistle						
73	C#4	Short Guiro						
74	D4	Long Guiro						
75	D#4	Clabes				BOB Clabes		
76	E4	Hi Wood Block						
77	F4	Lo Wood Block						
78	F#4	Mute Cuica						
79	G4	Open Cuica						
80	G#4	Mute Triangle						
81	A4	Open Triangle						
82	A#4	Shaker						
83	B4	Jingle bell						
84	C5	Belltree			Echo Gras			
85	C#5	Castanets						
86	D5	MuteSurdo						
87	D#5	OpenSurdo						
88	E5	Elec.BD	X	X	X	X	X	Applause
89	F5	Elec.SD	X	X	X	X	X	X
90	F#5	Elec.Lo Tom2	X	X	X	X	X	X
91	G5	Elec.Lo Tom1	X	X	X	X	X	X
92	G#5	Elec.Mid Tom2	X	X	X	X	X	X
93	A5	Elec.Mid Tom1	X	X	X	X	X	X
94	A%5	Elec.Hi Tom2	X	X	X	X	X	X
95	B5	Elec.Hi Tom1	X	X	X	X	X	X
96	C6	ReverseCym.	X	X	X	X	X	X
97	C#6	Brush Tap	X	X	X	X	X	X
98	D6	Brush Slap	X	X	X	X	X	X
99	D#6	Brush Swir	X	X	X	X	X	X
100	E6	Jazz BD	X	X	X	X	X	X
101	F6	Concert BD2	X	X	X	X	X	X
102	F#6	Concert BD1	X	X	X	X	X	X
103	G6	Concert SD	X	X	X	X	X	X
104	G#6	Timpani F	X	X	X	X	X	X
105	A6	Timpani F#	X	X	X	X	X	X
106	A#6	Timpani G	X	X	X	X	X	X
107	B6	Timpani G#	X	X	X	X	X	X
108	C7	Timpani A	X	X	X	X	X	X
109	C#7	Timpani A#	X	X	X	X	X	X
110	D7	Timpani B	X	X	X	X	X	X
111	D#7	Timpani c	X	X	X	X	X	X
112	E7	Timpani c#	X	X	X	X	X	X
113	F7	Timpani d	X	X	X	X	X	X
114	F#7	Timpani d#	X	X	X	X	X	X
115	G7	Timpani e	X	X	X	X	X	X
116	G#7	Timpani f	X	X	X	X	X	X
117	A7	Concert Cym2	X	X	X	X	X	X
118	A#7	Concert Cym1	X	X	X	X	X	X
119	B7	Applause	X	X	X	X	X	X
120	C8	Room Tom Low2	X	X	X	X	X	X
121	C#8	Room Tom Low1	X	X	X	X	X	X
122	D8	Room Tom Mid2	X	X	X	X	X	X
123	D#8	Room Tom Mid1	X	X	X	X	X	X
124	E8	Room Tom Hi2	X	X	X	X	X	X
125	F8	Room Tom Hi1	X	X	X	X	X	X
126	F#8	EFF Clap	X	X	X	X	X	X
127	G8	Echo Gras	X	X	X	X	X	X

A blank indicates the same as GM Standard

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Specificaitons

- **Waveforms**
  16-bit PCM + 16-bit DC
- **Maximum Polyphony**
  32 (Totally 32 sources)
- **Program Memory**
  Two ROM Banks (GM and SP), one RAM Bank (USER), containing 128 Single Patches, 7 Drum Kits, and 128 Percussion sounds.
- **Multitimbrality**
  32 Sections
- **Play Mode**
  SNGL No., RCV CH, LEVEL, STATUS
- **Section Edit Mode**
  COPY <Sections 1 to 32>,
  PAN, TRANSPOSE, TUNE, EFFECT, BEND DEPTH, CUTOFF OFFSET, DCA (ATTACK, RELEASE) OFFSET, ZONE (LO, HI), MOD WHEEL (VIB, DEPTH), PRESS (VIB, DEPTH), HOLD, TEMPERAMENT (TYPE, KEY)
- **Single Edit Mode**
  COPY, EXCH, NAME, MONITOR
  DCO (WAVE SEL, KEY TRACK, FIXED KEY, COARSE, FINE) KEY ON DELAY, VIB (DEPTH, SHAPE, SPEED), AM, DCF (LINK, TYPE, CUT-OFF, RESO, KEY TRACK, VEL (CURVE, DEPTH, ASSIGN), ENV DEPTH, ATK LEVEL, ATK TIME, DCAY TIME, SUS1 LEVEL, MOD TIME, SUS2 LEVEL, RLS TIME), DCA (ATK LEVEL, VEL (CURVE, DEPTH), ATK TIME, DCAY TIME, SUS1 LEVEL, MOD TIME, SUS2 LEVEL, RLS TIME)
- **Drum Edit Mode**
  COPY, NAME
  EACH: DCA LEVEL, PAN, EFFECT, WAVE SEL, PITCH FINE, DCF (CUTOFF, RESO, VEL CURVE, DEPTH, ASSIGN, ATTACK, DECAY), DCA (VEL CURVE, DEPTH, ATK TIEM, DCAY TIME), GATE TIME, DCF ATK LEVEL SUS LEVEL, ENV DEPTH, TYPE
- **Monitor**
  MIDI IN
- **System Parameters**
  SINGLE BANK SEL, EFFECT TYPE, PARAMETER 1~4, UNIT TUNE, RCV CH, PGM, EXCL, MODE, DUMP ALL, SEC+SYS, POWER ON MODE,
- **Jacks**
  DC IN, LINE OUT (L/R), PHONES, MIDI (IN1, IN2, OUT/THRU1, THRU2), SERIAL I/F
- **Display**
  16 X 2 Backlit LCD
- **External Dimensions (mm)**
  219 (W) X 189 (D) X 44 (H)
- **Weight: 1.5 (Kg)**

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GMega GM RESET DATA

SEC EDIT

SNGL No.	001 (SEC1, 26=DR1)
RCV CH	SEC1=01A, SEC2=02A, ... SEC32=16B
LEVEL	100
STATUS	ON
PAN	00
TRANSPOSE	000
TUNE	000
EFFECT LEVL	HI
BEND DEPTH	02
CUTOFF OFST	000
ATTACK OFST	000
RELEAS OFST	000
ZONE LO	C-2
ZONE HI	G8
MOD WHL VIB	127
PRESS VIB	127
RCV HOLD	ON
TEMP TYPE	001
TEMP KEY	C

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Table of Temperaments

A "temperament" is a set of rules defining the precise pitch frequency at each note of a 12-note scale (from do to ti). Certain temperaments are appropriate for different instruments or types of music. Pianos and organs use Equal Temperament, string, woodwinds and brass use Pure Temperament, and the Pythagorean scale is used by strings in certain especially beautiful melodies. Refer to a textbook on music theory if you'd like to learn more about the different temperaments. On the GMega, each individual part can have its own Temperament setting.

Equal Temperament: This is the most popular, and is used on most pianos. Chords can be transposed to any key and maintain a fairly close resonance.

Pure Temperament: This scale has no modulation of the third and fifth scale degrees. It is used often in contemporary choral music.

Pythagorean Scale: This scale has no modulation of the fifth scale degree. This scale emphasizes playing melodies rather than chords, which can sound slightly out of tune.

Meantone: This scale has no modulation of the third scale degree. It overcomes some of the dissonance in the fifth scale degree of the Pure Temperament scale. Chords also have a more pleasing resonance than with Equal Temperament.

Werckmeister III, Kirnberger III: This temperament is close to the Meantone for simple key signatures. As the key signature becomes more complex, the chord sound becomes more strained and the scale becomes closer to the Pythagorean, where melodies sound more in tune.

No.	TYPE
001	12 Equal Temperament <Equal Temperament>
002	Pythagorean Scale (3#/2b)
003	Pythagorean Scale (2#/3b)
004	Pythagorean Scale (1#/4b)
005	Pythagorean Scale (5b)
006	Pythagorean Scale (4#/1b)
007	Pythagorean Scale (5#)
	<Pythagorean Temperament>
008	Meantone (3#/2b)
009	Meantone (2#/3b)
010	Meantone (1#/4b)
011	Meantone (5b)
012	Meantone (4#/1b)
013	Meantone (5#)
	<Meantone Temperament>
014	Salinas (1/3 Syntonic Comma)
015	Verheijen-Rossi (1/5 Syntonic Comma)
016	Praetorius Meantone
017	Schnitger Meantone
018	Kirnbrger I
019	Kirnbrger II
020	Kirnbrger III
	<Kirnberger>
021	Werckmeister I
022	Werckmeister II
023	Werckmeister III
	<Werckmeister>
024	Kirnberger-Werckmeistar
025	Rameau-Legros Meantone
026	Vogel-III Meantone
027	Bruder Well-Tempered
028	Bruder-Werckmeister

No.	TYPE
029	Gottfried (1/6 Syntonic Comma)
030	Gottfried (1/6 Pythagorean Comma)
031	Marin Mersenne:Pure Temperament
032	Pure (D:-1) Temperament (Q-39)
033	Pure (A:-1) Temperament (Q-40)
034	Pure (E:-1) Temperament (Q-41)
035	Pure (B:-1) Temperament (Q-42)
036	Pure (Bb:0) Temperament (Q-48)
037	Pure (F:0) Temperament (Q-49)
038	Pure (C:0) Temperament (Q-50)
039	Pure (G:0) Temperament (Q-51)
040	Pure (Gb:+1) Temperament (Q-57)
041	Pure (Db:+1) Temperament (Q-58)
042	Pure (Ab:+1) Temperament (Q-59)
043	Pure (Eb:+1) Temperament (Q-60)
044	Pure (D:-1) Temperament (T-39)
045	Pure (A:-1) Temperament (T-40)
046	Pure (E:-1) Temperament (T-41)
047	Pure (F:0) Temperament (T-49)
048	Pure (C:0) Temperament (T-50)
049	Pure (G:0) Temperament (T-51)
050	Pure (Ab:+1) Temperament (T-59)
051	Pure (Eb:+1) Temperament (T-60)
052	Pure (Bb:+1) Temperament (T-61)
053	Pure (Cb:+2) Temperament (T-69)
054	Pure (Gb:+2) Temperament (T-70)
055	Pure (Db:+2) Temperament (T-71)
	<Pure Temperament>

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GM Synthesizer
Model: GMega

MIDI Implementation Chart

Date: JUNE, 10th
Version: 002

Function . . .		Transmitted	Recognized	Remarks
Basic	Default	X	A1–16, B1–16	Data is stored even after
Channel	Changed	X	A1–16each, B1–16each	power is OFF
MOde	Default	X	mode 3	
	Messages	X	********	
	Altered	**********		
Note		X	0–127	
Number	True Voice	**********	0–127	
Velocity	Note ON	X	○	
	Note OFF	X	9n. V=0, 8n. V=0–127	
After	Key's	X	X	
Touch	Ch's	X	○ *1)	
Pitch Bender		X	○ *1)	14 bit
Control Change	1	X	○	Modulation
	6	X	○	Data entry
	7	○	○	Volume
	10	○	○	Panpot
	11	X	○	Expression
	64	X	○	Hold 1 (Sustain)
	67	X	○	Soft pedal
	69	X	○	Hold 2 (Sustain)
	91	X	○	Effect HI/LO
	120	X	○	All Sound OFF
	121	X	○	Reset All Controllers
	100, 101	X	○	RPN, LSB, MSB
Prog		○	○ *1)	
Change	True #	**********	0–127	
System Exclusive		○	○ *1)	
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	X	Transmits STOP when
	: Commands	○	X	power is on
Aux Messages	: Local ON/OFF	X	X	
	: All Notes OFF	X	○ (123–127)	
	: Active Sense	X	○	
	: Reset	X	X	
Notes		1) Turn On or OFF by Exclusive Bank select by Exclusive RPN #0=Pitch Bender sensitivity #1=Master fine tuning #2=Master coarse tuning. Values are given by Data entry		

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO

○: Yes
X: No

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