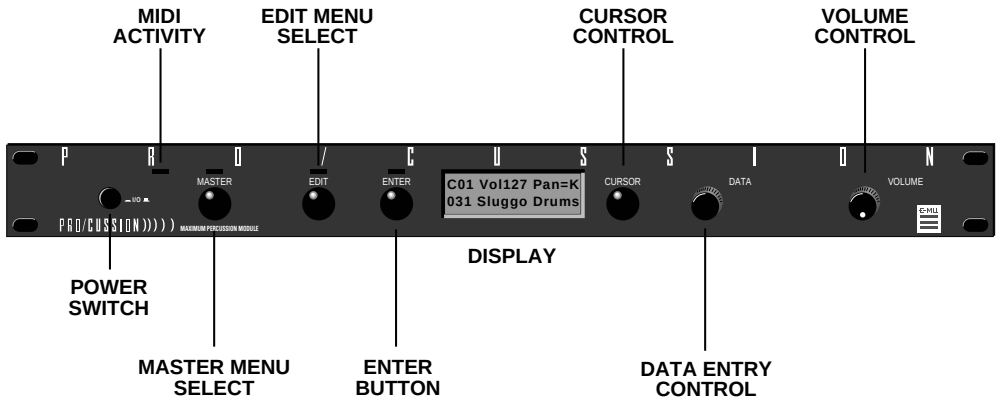
BASIC OPERATION

BASIC OPERATION

MAIN CONTROLS



■ ***Power Switch -*** Switches AC power to the Procussion ON and OFF.

■ ***MIDI Activity LED -*** Indicates that MIDI data is being received.

■ ***Master Menu Select Button -*** The *Master* menu contains parameters that affect the entire machine, not just certain Kits. An illuminated LED above the button indicates that you are in the Master menu.

■ ***Edit Menu Select Button -*** The *Edit* menu is used when you want to change parameters of a Kit. An illuminated LED above the button indicates that you are in the Edit menu.

■ ***Enter Button -*** The *Enter* button is used as a "Home" key or to initiate a particular operation within the Procussion. The red LED above the enter button flashes to indicate that the Procussion is waiting for your response.

■ ***Cursor Control -*** This button moves the cursor to the next parameter on the display. (The cursor is a little flashing line underneath one of the parameters in the display.) Press the cursor control repeatedly until the cursor is underneath the desired parameter. The cursor can also be moved bidirectionally using the data entry control while the cursor select button is being held down (i.e. Press and hold the cursor button and turn the data entry knob).

■ ***Data Entry Control -*** The *data entry* control is a stepped, variable control which is used to change parameter values. The control increments or decrements the current value one unit with each click.

■ ***Volume Control -*** This is the master volume control for all audio outputs. Note: For maximum dynamic range, set this control at full level.

BASIC OPERATION

KIT SELECTION

Press the cursor key repeatedly until the cursor is underneath the kit number. (The cursor is a little flashing line underneath one of the parameters in the display.) As the data entry control is rotated, the kit number and name will change. The displayed kit will be assigned to the displayed MIDI channel. Kit numbers range from 000 to 127.

MIDI CHANNEL SELECTION

■ *If your Procussion is not responding properly or plays the wrong kit, make sure that Procussion and your MIDI controller are set to the same MIDI channel and that the MIDI Volume is turned up.*

For more information about MIDI, see MIDI Realtime Controls on page 44.

Press the cursor key repeatedly until the cursor is underneath the channel number. (The cursor is a little flashing line underneath one of the parameters in the display.) Rotate the data entry control to select MIDI channel 01-16. As the channel is changed, the display will change to show the kit, volume and pan associated with the displayed channel.

CHANNEL VOLUME

Press the cursor key repeatedly until the cursor is underneath the volume value. Rotate the data entry control to select volume 00-127. (This is the same parameter as MIDI volume control #7, and changes made over MIDI will be shown in the display.)

CHANNEL PAN

■ *Channel Pan should normally be set to "K" unless realtime control of panning is desired. This will allow the preprogrammed pan settings for each zone or stack to be used.*

Press the cursor key repeatedly until the cursor is underneath the pan value. Rotate the data entry control to select pan values -7 to +7 or "K". When "K" is selected, the pan value specified in the kit is selected. Any other value will override the pan parameter in the kit. (This is the same parameter as MIDI pan control #10, and changes made over MIDI will be shown in the display.)

MULTI-TIMBRAL OPERATION

Multi-timbral operation means that the Procussion can play more than one kit at the same time. For example, a MIDI sequencer could be playing one kit while you play along on another. To access multiple kits on different MIDI channels simultaneously, follow these instructions:

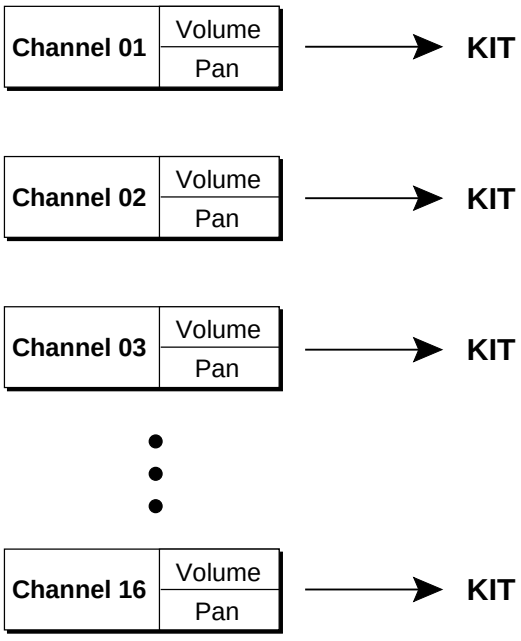
1. Set the MIDI mode to MULTI-Mode, using the **MIDI mode** function in the Master menu (page 24).

2. Decide which MIDI channels you wish the Procussion to receive, and turn all other channels OFF using the **MIDI Enable** function in the Master menu (page 26). ***Up to 16 channels can be selected simultaneously!***

3. Select the desired kit for each of the MIDI channels you wish the Procussion to receive using the **MIDI Channel/Kit** selection screen (see previous instructions).

4. Procussion will now respond multi-timbrally on the MIDI channels you have specified. The volume and pan position parameters can be adjusted over MIDI (for each MIDI channel) or using the **Cursor** and **Data Entry** control in the **MIDI Channel/Kit** selection screen.

■ *Kit numbers for each MIDI channel can also be selected via MIDI program changes. (This is so simple that it is often overlooked.)*



Each of the 16 MIDI channels can be assigned to play a specific kit in Procussion.

MASTER MENU

The Master menu contains functions that affect the overall operation of the Procussion. For example, changing the Master Tune will change the tuning of all the drum kits, not just the one currently displayed.

TO ENABLE THE MASTER MENU

Press the Master key, lighting the LED. The current screen will be the one most recently selected since powering up the Procussion. The cursor will appear underneath the first character of the screen heading on line one.

TO SELECT A NEW SCREEN

Press the cursor key repeatedly (or hold the cursor key while turning the data entry control) until the cursor is underneath the screen title heading. (You may also press the Enter button to return the cursor to "Home" position.) Rotate the data entry control to select another screen.

TO MODIFY A PARAMETER

Press the cursor key repeatedly (or hold the cursor key while turning the data entry control) until the cursor is underneath the parameter value. Rotate the data entry control to change the value.

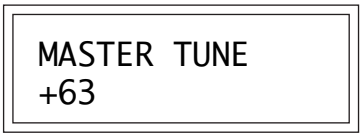
TO RETURN TO KIT SELECT MODE

Press the Master key, turning off the LED.

MASTER MENU FUNCTIONS

MASTER TUNE

Master Tune adjusts the overall tuning of all kits so that the Procussion may be tuned to other instruments. The master tuning range is ± 1 semitone in 1/64th semitone increments. A master tune setting of "00" would indicate that the Procussion is perfectly tuned to concert pitch (A=440 Hz).



MASTER MENU

TRANSPOSE

This function transposes the key of the Procussion in half-step intervals. The transpose range is ± 12 semitones or one octave.

```
TRANSPOSE
+12 semitones
```

SUBMIX OUTPUTS

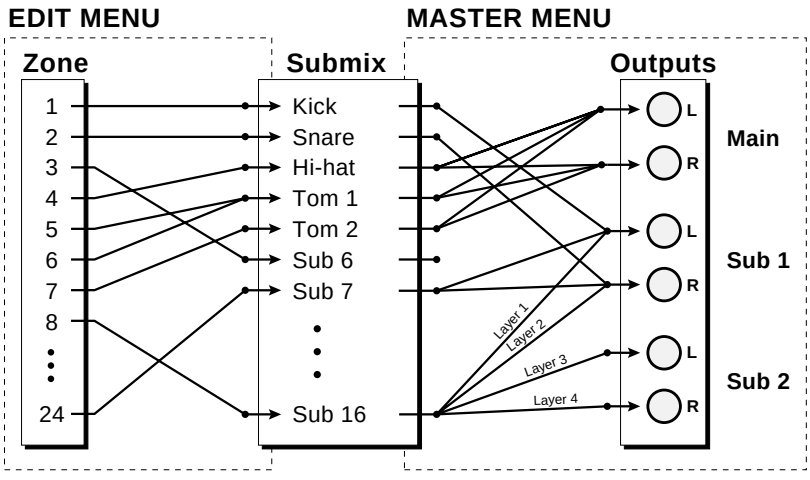
The function provides a convenient method of assigning types of instruments a particular output. For example, you might want to direct the kick drum to one of the submix output for external processing. Each zone may be assigned to a particular submix group for each kit (As programmed in the Edit menu). The **Submix Output** function assigns each of the 16 Submixes to a particular output channel or turns the submix Off. The *Submix Output* function selects at which output jack each submix group will appear. The choices are: Main, Sub 1, Sub 1L, Sub 1R, Sub 2, Sub 2L, Sub 2R, or Layer. When Layer is selected, each layer in the stack will be directed to a separate output jack. This function also allows you to change the output assignment of the factory kits.

SUBMIX LAYER

Layer 1 ---- > Sub 1L
Layer 2 ---- > Sub 1R
Layer 3 ---- > Sub 2L
Layer 4 ---- > Sub 2R

■ *If no plugs are inserted into the sub outputs, the audio will be automatically directed to the main outputs.*

```
SUBMIX OUTPUTS
Kick   ->Main
```



(Sub 16 Set to Submix Layer)

*Each zone is assigned to a submix group in the Edit menu. Each submix group is assigned to the output jacks in the Master menu. The Edit menu functions are programmed for each kit. The Master menu functions affect **ALL** kits.*

MASTER MENU

MIDI MODE

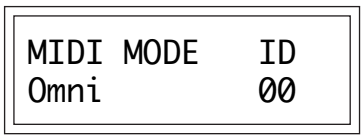
This function selects one of the four MIDI modes and the MIDI system exclusive ID number.

■ ***Omni mode*** - Procussion responds to note information on all MIDI channels and plays the kit currently displayed in the main screen.

■ ***Poly mode*** - Procussion only responds to note information received on the currently selected MIDI channel (on the kit selection screen) and plays that channel's associated kit.

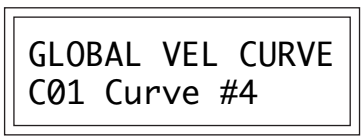
■ ***Multi mode*** - Procussion responds to data on any combination of MIDI channels and plays the specific kit associated with each of the MIDI channels.

■ ***ID number*** - This function allows an external programming unit to distinguish between multiple Procussion units. When an external programmer is being used, each Procussion should have a different ID number. When transferring SysEx data from one Procussion to another, both units must have the same ID number.



GLOBAL VELOCITY CURVE

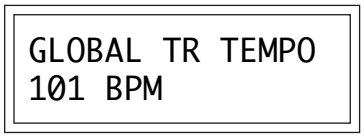
Incoming velocity data can be modified by a velocity curve in order to provide different types of dynamics in response to your playing or to better adapt to a MIDI controller. This function allows you to select one of the 9 velocity curves or leave the velocity data unaltered (Linear) for each MIDI channel. When "Kit" is selected, the velocity curves selected in the kits are used. For more information on the velocity curves, see page 43.

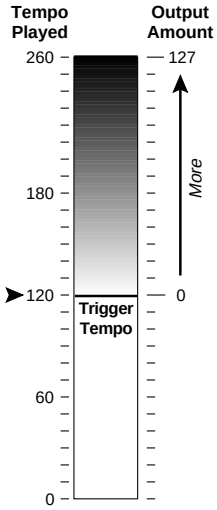


MASTER MENU

GLOBAL TRIGGER TEMPO

Trigger Tempo is a function which generates a control signal based on the tempo of your playing. When your playing tempo exceeds the selected Trigger Tempo, the amount of the control signal begins to increase from zero. This control signal can be used either to switch between drums in a stack or as a general controller which can affect virtually any parameter (set in the Edit menu). For example, Trigger Tempo could be routed to brighten the *Tone* as you play faster. The Global Trigger Tempo can be set to any tempo from 20 BPM (Beats-Per-Minute) to 260 BPM or set to use incoming MIDI clocks as the reference. Alternately, the Trigger Tempo set in each kit may be used (turn data knob all the way counter-clockwise).



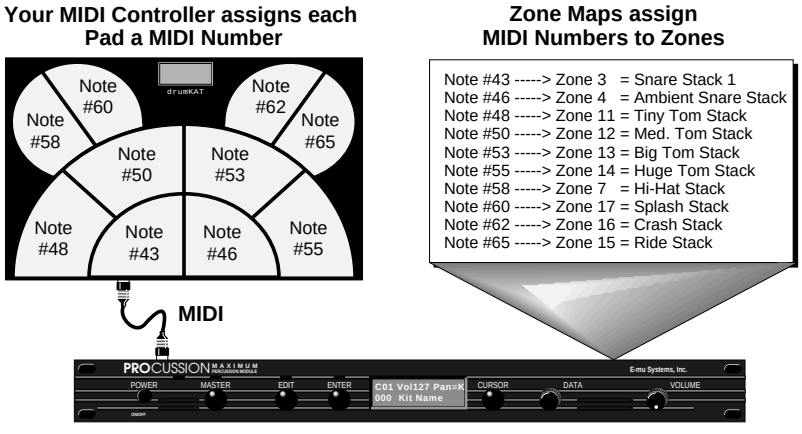


■ *When the tempo of your playing exceeds the selected Trigger Tempo, the amount of the control signal increases from zero.*

ZONE MAPS

This function automatically sets up Procussion to respond to various types of MIDI pad controllers *without* reprogramming the controller. Select the Zone Map for the type of controller you are using. There are preset Zone Maps to match many popular controllers as well as two user definable maps. **If you are using a MIDI keyboard, use the Kit Zone Map.** Zone Maps can be selected for each of the 16 MIDI channels.

▼ *Make sure you are setting the Zone Map for the correct MIDI channel.*



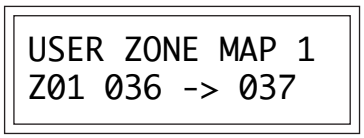
This diagram shows how MIDI key numbers are "mapped" to Procussion Zones.

■ *When using a preprogrammed Zone Map, set your MIDI controller to the following Kit numbers:*

Alesis - *default*
drumKat - *Kit 21*
E-mu SP-12 - *default*
Impulse - *default*
Roland Octa I - *Kit A*
Roland Octa II - *Kit 11*
Roland Pad80 - *Kit 11*
Roland SPD8 - *Kit 1*
Roland R5 - *default*
Roland R8 - *default*

USER ZONE MAP 1 + 2

This function allows you to program the two user definable Zone Maps. The User Zone Maps are useful to route MIDI note data from existing drum machine patterns to the appropriate stacks in Procussion for drum replacement. Each zone may be assigned a MIDI key range. The User Zone Maps are retained in memory when power is removed.



DRUM REPLACEMENT WITH THE USER ZONE MAPS

The two User Zone Maps can be used to replace tracks from your drum machine or MIDI sequencer with killer Procussion Stacks.

1) Press the Master button on Procussion.

2) Turn the data knob until you find the screen:

3) Press the cursor button twice so that the flashing cursor line is underneath the word “Kit”. (There may be another word there, but place it underneath the word in the second line, OK?)

4) Turn the data knob until the display reads:

5) Press the Enter button and turn the data knob until the display reads:

6) Press the cursor button to move the flashing cursor line to the second line of the display under Z01. Turning the data knob will show you the key numbers which are currently mapped to each zone.

7) Assign each of your drum machine buttons to a zone. Place the cursor underneath the key number and press the button on you drum machine to automatically assign the correct number. The chart at the bottom of this page shows which types of Procussion drum sounds will be assigned to each zone. For example, if you want the first button on your drum machine to function as a snare drum, and it is assigned to note number 43, set up the display to look like this:

Zones 3-6 are reserved for Snare Drums (see below).

8) Continue assigning zones until each button on your drum machine is assigned to a different zone, then press the Master button to exit the module.

9) Start the drum machine and verify that the correct types of drums are being played. If the sounds are not assigned as you want them, go back into the "User Zone Map" screen and re-assign them.

The chart below shows how the various types of drums are mapped to the User Zone Maps in the Procussion factory presets.

PROCUSSION FACTORY ZONE ASSIGNMENTS

Zone 1 ..... Kick Drum	**Zone 13 ..... Tom**
Zone 2 ..... Kick Drum	**Zone 14 ..... Tom**
Zone 3 ..... Snare Drum	**Zone 15 ..... Cymbal**
Zone 4 ..... Snare Drum	**Zone 16 ..... Cymbal**
Zone 5 ..... Snare Drum	**Zone 17 ..... Cymbal**
Zone 6 ..... Snare Drum	**Zone 18 ..... Cymbal**
Zone 7 ..... Hi-Hat	**Zone 19 ..... Misc. Percussion**
Zone 8 ..... Hi-Hat	**Zone 20 ..... Misc. Percussion**
Zone 9 ..... Hi-Hat	**Zone 21 ..... Misc. Percussion**
Zone 10 ..... Hi-Hat	**Zone 22 ..... Misc. Percussion**
Zone 11 ..... Tom	**Zone 23 ..... Misc. Percussion**
Zone 12 ..... Tom	**Zone 24 ..... Misc. Percussion**

■ *All Procussion kits will not fit into the factory zone assignment scheme so this chart should be used as a basic guide rather than an absolute rule.*

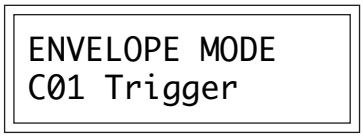
MASTER MENU

ENVELOPE MODE

This function allows you to select either a Trigger or Gate mode for each of the 16 MIDI channels when MIDI note on messages are received. For more information on the Envelope Generators, see page 36.

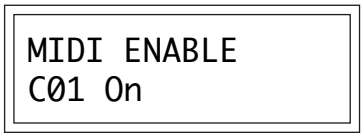
■ Trigger mode allows a sound's volume envelope to cycle through all its stages when a note on is received. Trigger mode is almost always used with MIDI drum pads and even when using a MIDI keyboard.

■ Gate mode allows a sound's *volume envelope* to cycle through its Attack and Hold stages when a MIDI note on command is received. When the MIDI note off command is received, the Decay phase begins immediately. Gate mode is used when you want the length of the sound to be controlled by how long a key is held.



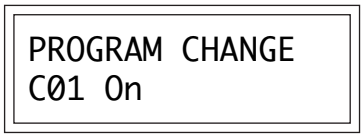
MIDI ENABLE

When in MIDI Multi mode, this function lets you turn each MIDI channel On or Off. This is useful when you have other MIDI devices connected and do not want the Procussion to respond to the MIDI channels reserved for the other devices. MIDI Enable only operates when in Multi Mode.



PROGRAM CHANGE

This function lets the Procussion utilize or ignore incoming MIDI program (also called Preset or Kit) change commands for each channel.



MASTER MENU

MIDI MODE CHANGE

This function selects whether or not MIDI mode change commands (omni, poly, etc.) are accepted or ignored when received over MIDI (see MIDI Mode).

```
MIDI MODE CHANGE
Disabled
```

MIDI CONTROLLER ASSIGN

The Procussion allows you to assign up to six realtime control sources from your MIDI controller. These control sources could be foot pedals, data sliders or whatever. In this screen, you set up which controllers will be received by Procussion. What effect the controller will have is programmed separately for each Kit. Volume and Pan each have their own controller. Four other MIDI controllers are assigned a letter A-D. Each of the controllers can be assigned to a MIDI realtime controller number from 01-31. The MIDI controller number will be automatically sensed by simply moving the controller (pedal, wheel, etc.) when the cursor is underneath the value. This way you don't have to remember the controller numbers. For more information, see MIDI Realtime Controls in the Programming Basics section.

```
CONTROLLER#
VOL:07  PAN:10
```

Next Screen:

```
CONTROLLER# ABCD
01  02  03  04
```

Some of the standard MIDI Controller numbers are listed below.

1 - Modulation Wheel or Lever
2 - Breath Controller
3 - Pressure: Rev 1 DX7
4 - Foot Pedal
5 - Portamento Time
6 - Data Entry
7 - Volume
8 - Balance
9 - Undefined
10 - Pan

MASTER MENU

MIDI FOOTSWITCH ASSIGN

Like the MIDI Controllers, 4 MIDI footswitches can be assigned to MIDI footswitch numbers. Footswitches may be assigned numbers from 64-79. The MIDI footswitch number can be automatically sensed by simply pressing the footswitch when the cursor is underneath the value. Destinations for the footswitch controllers are programmed in the Edit menu.

■ *Note that Procussion does not have footswitch inputs on the rear panel. Use the footswitch inputs on your MIDI controller and set Procussion to receive the footswitch commands over MIDI.*

```
FOOTSWITCH# 1234
64  65  66  67
```

MIDI PROGRAM →KIT

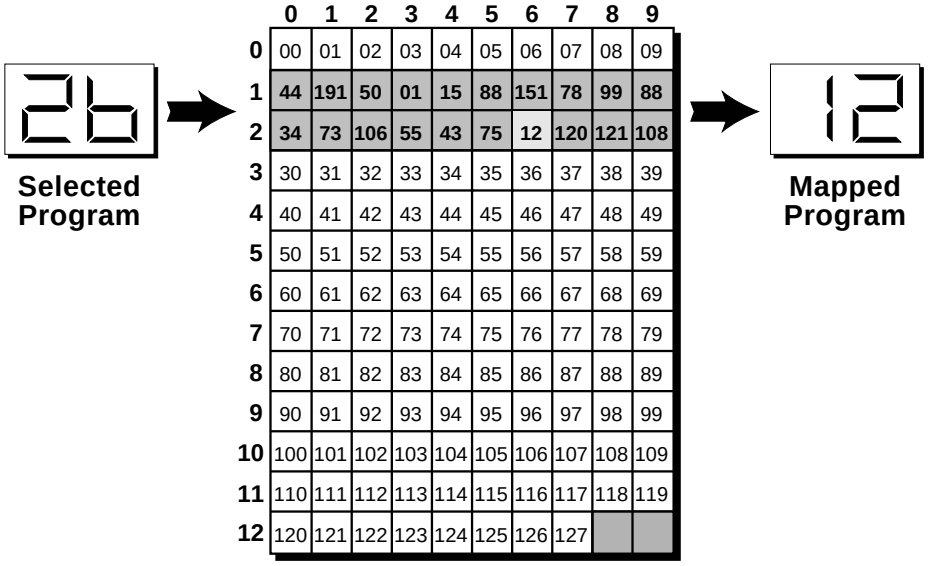
Incoming MIDI program changes can be "mapped" to call a different numbered kit. This is a handy feature when you want a specific program number sent from your controller to be linked with a specific kit on the Procussion. Simply selecting a program on your MIDI controller will automatically call up the proper Procussion kit. Any of the kits in the Procussion may be mapped to any incoming MIDI program change number.

Some of the standard MIDI switch numbers are listed below.

64 - Sustain Switch (on/off)
65 - Portamento Switch (on/off)
66 - Sostenuto (chord hold, on/off)
67 - Soft Pedal (on/off)
69 - Hold Pedal 2 (on/off)

```
MIDI PROG > KIT
     026 > 012
```

-- Selecting Kit 26 calls up Kit 12



	0	1	2	3	4	5	6	7	8	9
0	00	01	02	03	04	05	06	07	08	09
1	**44**	**191**	**50**	**01**	**15**	**88**	**151**	**78**	**99**	**88**
2	**34**	**73**	**106**	**55**	**43**	**75**	**12**	**120**	**121**	**108**
3	30	31	32	33	34	35	36	37	38	39
4	40	41	42	43	44	45	46	47	48	49
5	50	51	52	53	54	55	56	57	58	59
6	60	61	62	63	64	65	66	67	68	69
7	70	71	72	73	74	75	76	77	78	79
8	80	81	82	83	84	85	86	87	88	89
9	90	91	92	93	94	95	96	97	98	99
10	100	101	102	103	104	105	106	107	108	109
11	110	111	112	113	114	115	116	117	118	119
12	120	121	122	123	124	125	126	127		

This chart shows how MIDI program changes can be re-mapped. In this example, program changes 10-29 have been re-mapped. All other programs will be selected normally.

MASTER MENU

AUTO SELECT

When editing a zone or stack parameter, the current zone or stack can be "auto-selected" by simply playing it. While this is a very handy feature, it can sometimes be confusing. Therefore, Auto-Select can be turned On or Off.

```
AUTO-SELECT
On
```

REMOTE EDIT

The Remote Edit function allows access to the front panel controls using MIDI note-on events. When Remote Edit is turned On, MIDI key numbers 0-5 activate the following functions.

MIDI NOTE #	FUNCTION
0	Play Current Zone
1	Toggle MASTER menu
2	Toggle EDIT menu
3	Cursor
4	Increment Value
5	Decrement Value

Remote Edit is designed to be used with MIDI drum pads. Create a preset on your MIDI drum pads which assigns the pads to MIDI key numbers 0-5. Now you can program Procussion without putting down your sticks.

Example - To change the stack assigned to a zone using Remote Edit:

a) Hit pad 2 (Edit) to enter the edit menu.
b) Hit pad 4 twice (Increment) to move to the stack select screen.
c) Hit pad 3 twice (Cursor) to move the cursor down to the lower line.
d) Hit pad 4 (Increment) to increment the stack number.
e) Hit pad 0 (Play Current Zone) to hear the new stack.
f) Alternate between steps "d" and "e" until you have the desired stack.

```
REMOTE EDIT
Off
```

SEND MIDI DATA

■ ***To Record MIDI Data into a Sequencer:***

1. *Setup your sequencer to receive system exclusive data.*

2. *Place sequencer into record mode, then Send Data.*

■ ***To Receive MIDI Data from a Sequencer:***

1. *Simply play back the sequence into Procussion.*

This function will send MIDI System Exclusive data to the MIDI Out port of Procussion. The MIDI data can either be sent to a computer/sequencer or to another Procussion. Using the cursor key and the data entry control, select the type of MIDI data you wish to transmit. The choices are:

Master Settings: Transmits all parameters in the Master menu except program/kit map and viewing angle. This includes the Kit, Volume, and Pan information for all 16 MIDI channels.

Program/ Kit Map: Transmits only the program/kit map.

User Zone Maps: Transmits user zone maps 1 and 2.

Factory Kits: Transmits all the factory kits.

User Kits: Transmits all the user kits.

Any Individual Kit: Transmits only the selected kit.

The Enter LED will be flashing. Press the Enter button to confirm the operation. To receive MIDI data, simply send the MIDI data into Procussion from another Procussion or your sequencer.

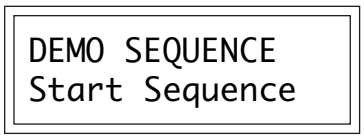
▼ *When transferring SysEx data from one Procussion to another, the ID numbers of both units must match.*

VIEWING ANGLE

This function allows you to change the viewing angle of the display so that it may be easily read from either above or below. The angle is adjustable from +7 to -8. Positive values will make the display easier to read when viewed from above. Negative values make the display easier to read from below.

DEMO SEQUENCE

Procussion contains a play-only sequencer in order to give you some idea of what is possible using this amazing machine. Press the cursor switch to move the cursor to the bottom line of the display. The Enter LED will begin flashing. Press the Enter switch to start the sequence. The Enter LED will be lit and the bottom line of the display will change to "Stop". Pressing the Enter button again will stop the sequence.



about PROCUSSION

Procussion utilizes digital recordings of real percussion instruments for the basis of its sound. This is similar to a tape recorder except that in the Procussion, the sounds are permanently recorded on digital memory chips.

To perform this modern miracle, sounds and instrument waveforms are first sampled into the Emulator III, our top of the line, 16 bit stereo digital sampler. After the sounds and waveforms have been truncated, looped and processed, they are "masked" into the Procussion ROM (Read Only Memory) chips.

Conceptually, the sampling process is very simple, as shown in the Basic Sampling System diagram. As a sound wave strikes the diaphragm of a microphone, a corresponding voltage is generated. To sample the sound, the voltage level is repeatedly measured at a very high rate and the voltage measurements are stored in memory. To play the sound back, the numbers are read back out of memory, converted back into voltages, then amplified and fed to a speaker which converts the voltage back into sound waves. Of course, playing back 32 channels at different pitches tends to complicate matters, but this is basically how it works. In Procussion, we have left out the Analog/Digital converter stage since the sounds are already sampled for you.