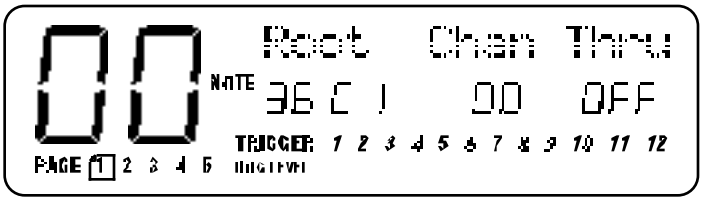
CHAPTER 5
MIDI FUNCTIONS

The MIDI Function contains five pages of parameters. When you first press the [**MIDI**] button, it selects page 1. Pressing the [**MIDI**] button again selects page 2, pressing it again selects page 3, and so on. If the page 5 is selected and you press the [**MIDI**] button again, it will cycle back to page 1.

Remember that you can also use the [◀] and [▶] buttons to go from one page to another by "cursoring past" the parameters on the current screen. For more details, see page 26. For the remainder of this chapter, we will assume you know how to select the appropriate page for each of the MIDI paramters described here.

MIDI page 1 displays three parameters: Drum Set Root Note (Root), MIDI Channel (Chan) and MIDI Thru mode (Thru):

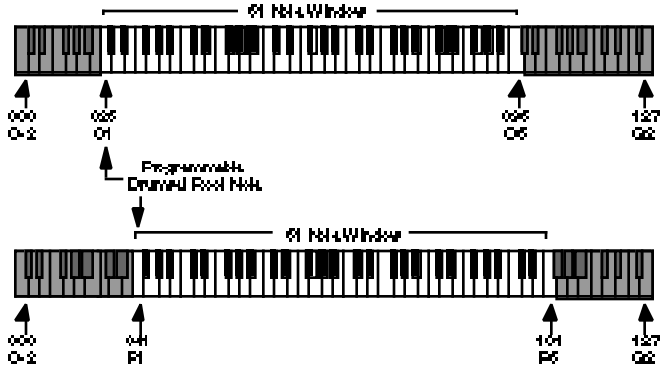


DRUM SET ROOT NOTE

The Root Note determines the lowest note in the "window" of 61 consecutive MIDI notes to which the DM5 will respond. When set to its default value of 36, the DM5's note range window stretches from MIDI note number 36 to 96. When the Root Note is altered, all drum note and trigger assignments shift together along with it in parallel. *Example:* If the Root Note is lowered from 36 to 35, then all notes will be triggered by a note one value lower than the existing assignment—*e.g.*, what was triggered by note 96 will now be triggered by note 95, what was triggered by note 72 will now be triggered by note 71, etc.

With the Root parameter selected (flashing), turn the [**VALUE**] knob to select the desired Drum Set root note.

Unlike other MIDI parameters, this value (0-67) is stored as part of a Drum Set and can be different for each Drum Set.



MIDI Channel

The DM5 can receive and transmit MIDI data in Omni mode (receives data appearing on any of the 16 MIDI channels, transmits data over channel 1) or Poly mode (transmits *and* receives over any single one of the 16 MIDI channels).

Use Omni mode when playing only the DM5 from an external MIDI controller (MIDI drum pads, MIDI keyboard, etc.) since it's not necessary to match channels. When several instruments are being driven by MIDI *(e.g.,* when a sequencer sends out data over several channels to different instruments), use Poly mode so that the DM5 tunes in to only the channel containing drum data.

With the Chan parameter selected (flashing), turn the [**VALUE**] knob to select 00 (Omni mode) or one of the 16 channels (01 – 16); selecting a single channel automatically puts the DM5 in Poly mode.

MIDI Thru/Out

This parameter has three settings: Off., On and Overflow (FLo).

When set to on, this function passes data appearing at the [**MIDI IN**] to the [**MIDI OUT/THRU**] jack, as well as to the DM5's internal circuitry. This input data is merged with any data being generated by the DM5. *Example:* If the DM5 is being used for trigger-to-MIDI conversion and Thru is on, the notes generated by the triggers will be merged with the data appearing at the [**MIDI IN**] jack.

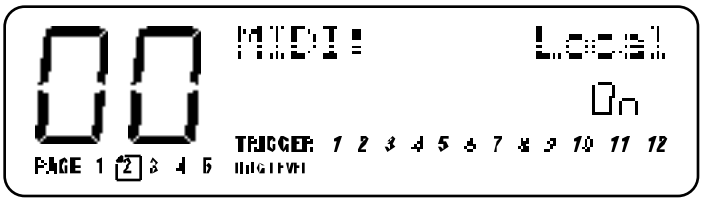
When set to off, the [**MIDI OUT/THRU**] jack serves as a MIDI Out only from the DM5. Input data present at the DM5's [**MIDI IN**] is not passed through.

When set to Overflow (FLo), a second DM5 may be used to double the polyphony to 32 notes. This requires that a second DM5's [**MIDI IN**] be connected to the first DM5's [**MIDI OUT/THRU**]. The second DM5 to catch the "overflow" of notes whenever more than 16 notes are required to be played at the exact same moment.

With the Chan parameter selected (flashing), turn the [**VALUE**] knob to select either OFF ([**MIDI OUT/THRU**] acts as a MIDI Out jack), On ([**MIDI OUT/THRU**] acts as a MIDI Thru jack) or FLo ([**MIDI OUT/THRU**] sends extra notes to a second DM5).

Local Control

MIDI page 2 has only one parameter: Local Control.



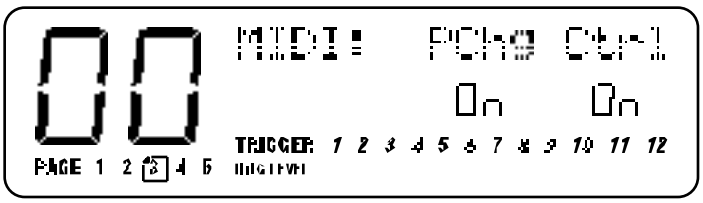
The Local parameter determines whether or not the external triggers will "play" the internal voices of the DM5. The triggers will generate MIDI note information when played, which can be recorded onto a MIDI sequencer (as long as the DM5's MIDI Thru parameter is turned off; see page 34). In this situation, you may want to have the sequencer "echo back" the information it receives from the DM5 (the sequencer may have a different name for this feature, such as "Thru mode", "Echo", etc.). If the sequencer is echoing back what it receives, it is not necessary for the external triggers to directly play the DM5, since this would result in each note being played twice (once by the trigger and again when the note is echoed back by the sequencer).

The solution is to either turn the sequencer's echoing feature off, or turn the DM5's Local parameter off. The latter is a better choice if you intend to use the DM5's triggers to record tracks on the sequencer for other MIDI devices (since you wouldn't want to hear the DM5 play when you hit the external triggers).

With the Local parameter selected (flashing), turn the [**VALUE**] knob to select either OFF (external triggers only generate MIDI notes) or On (external triggers play internal drum sounds and generate MIDI notes).

Program Change Enable

MIDI page 3 contains two parameters: Program Change Enable (PChg) and Controllers Enable (Ctrl).



Program Change commands can change Drum Sets at any time, including while the DM5 is playing. The Program Change Table (see page 37) determines which Drum Set will be called up in response to a particular Program Change number.

Some MIDI devices number their Program Changes as 1-128, others as 0-127, and some as banks of programs. Use the Program Change Table to compensate for these differences.

With the PChg parameter selected (flashing), turn the [**VALUE**] knob to select a status of On (the DM5 selects Drum Sets when it receives Program Change commands according to the Program Change Table) or OFF (the DM5 ignores Program Change commands). Note that even with status set to On, you can still select Drum Sets manually at any time.

CONTROLLERS ENABLE

The DM5 can respond to several standardized MIDI controllers appearing at the DM5's [**MIDI IN**] jack:

6 **Data Slider (0-127)** This allows an external data slider assigned to Controller 6 to vary values, just as if you were using the Data wheel.

7 **Main Volume (0-127)** Controller 7 messages set the DM5's master volume. Note that this is independent of velocity settings. With many DM5 sounds, velocity affects the sound's timbre, so lowering velocity to change the level may affect the timbre. Controller 7 messages alter the overall volume of the entire kit without affecting any sound's timbre.

96 **Data Increment (0 or 127)** Send any value for this controller and the currently-selected parameter's value will increment by one.

97 **Data Decrement (0 or 127)** Send any value for this controller and the currently-selected parameter's value will decrement by one.

98 **Non-Registered Parameter MSB (0-127)** This allows for remote control editing of virtually all parameters via continuous controller messages. The controller value selects the parameter to be edited. The data entry slider can then change the parameter's value. The controller/data slider messages can be recorded into a sequencer to allow for complex, sequenced parameter control.

99 **Non-Registered Parameter LSB (0-127)** This works similarly to Controller 98 but the controller value selects the Least Significant Byte of the parameter to be controlled.

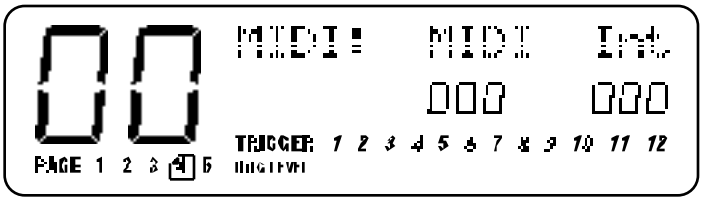
121 **Reset All Controllers (0)** Any value sent for this controller resets volume to maximum, pitch bend to zero, and restores all non-registered parameters to their default values.

PB **Pitch Bend** Sending a pitch bend command prior to triggering a note or group of notes will change the pitch of the notes being triggered. Pitch bend messages sent while a drum sound is playing have no effect on the sound. The amount of pitch bend range depends on the sound you've called up, and can deviate by more than the amount allowed by the tuning function.

With the Ctrl parameter selected (flashing), turn the [**VALUE**] knob to select a status of On (the DM5 responds to controller messages) or OFF (the DM5 ignores controller messages).

Program Change Table

MIDI page 4 lets you view and edit the Program Change Table.



The Program Change Table determines which Drum Set will be called up in response to a particular Program Change number. The default is Program Changes 00-20 select Drum Sets 00-20; so do Program Changes 21-41, 42-62, 63-83, 84-104, and 105 to 125. 126 selects Drum Set 00, and 127 selects Drum Set 01.

In the display, the three-digit number on the left (MIDI) represents the incoming MIDI Program Change number. The two-digit number on the right (Int) represents the DM5 Internal Drum Set that will be selected in response to the displayed MIDI Program Change number.

To edit the Program Change table:

① Use the [◀] and [▶] buttons to select the incoming MIDI Program Change number (MIDI).
The number below it will flash.

② Use the Data wheel to select a desired Program Change number (000 – 127).

③ Press the [▶] button to select the DM5 Internal Drum Set number (Int).
The number below it will flash.

④ Use the [**VALUE**] knob to select the desired Drum Set (00 – 20) to be called up in response to the specified Program Change number.

⑤ Repeat steps ① through ④ until the table is edited as desired.

Saving Data via MIDI

The DM5's memory requires power to save data, so when the power switch is off, the memory's contents are normally backed up with an internal battery. However, it is recommended that you back up what's in the DM5's memory as often as possible. A mechanical problem (surge on the power line, a quick zap of static electricity) or operator error could alter the data in memory. You should save your data whenever you've done enough work on something that you wouldn't want to lose that work.

The DM5 converts its program data into a special type of MIDI data, called System Exclusive or SysEx data, that can be sent over MIDI. This data can go to another DM5 or to a MIDI system exclusive storage device, a computer running System Exclusive storage software, or a musical instrument capable of recording System Exclusive data. Either way, your data is backed up.

To allow for running several DM5s in the same MIDI setup, System Exclusive data is channelized. In other words, if you save the data while set to channel 1, the DM5 must be set to channel 1 (or Omni, which receives all channels) when you send it back to retrieve this data. It's a good idea to include the channel assignment in the System Exclusive file name to prevent possible confusion.

Note: The DM5 is capable of sending and receiving its Trigger Setup data to and from not only another DM5, but a D4 as well. This is important if you are upgrading from a D4 to the DM5, since you can transfer the Trigger Setup information instead of setting it up manually from scratch.

To back up:

① Connect the DM5's [**MIDI OUT**] to the [**MIDI IN**] of the other DM5 or System Exclusive storage device.

② Select MIDI page 5, SysEx Backup.
The Store LED will light.

③ Use the [**VALUE**] knob to call up one of the four available types of data for backup.
The table below shows the approximate amount of memory required by each type):

Data	Bytes
Edit Buffer	500
Trigger Setup	50
Program Table	150
System (All)	8K

System data includes Drum Sets, trigger setup, program table, and MIDI assignments.

④ Press the [**STORE**] button.
The display will say SENDING SYSEX... *to confirm that data is being sent. The SysEx receiving device should indicate that it is receiving data.*

After the transfer is complete, the DM5's display reverts to the SysEx Backup page.

The MIDI Thru function is disabled while SysEx is being transmitted.

Receiving Data From Another MIDI Device

The DM5 will automatically load DM5 system exclusive data detected at its MIDI In. Therefore, there is no associated function since reception can occur at any time that a sys ex storage device or another DM5 sends data through its [**MIDI OUT**] into the DM5's [**MIDI IN**].

The DM5 is compatible only with DM5 system exclusive data; for example, you cannot load system exclusive data from another drum device into the DM5.

When loading the Edit Buffer via SysEx, be sure and save the Drum Set before changing to another Drum Set. Otherwise, the data will be lost.