Chapter 10
MIDI Mode

Press the MIDI-mode button to enter MIDI mode. There are three pages in MIDI mode:

- TRANSMIT (XMIT soft button)

- RECEIVE (RECV soft button)

- CHANNELS (CHANLS soft button)

You'll use these pages to determine what MIDI messages the K2600 transmits, and how it responds to the MIDI messages it receives—as well as how each MIDI channel behaves.

When you enter MIDI mode, you'll see one of the three available MIDI-mode pages. When you exit MIDI mode, the K2600 remembers which page you were on. The next time you select MIDI mode, that page appears.

The TRANSMIT Page

Press the **XMIT** soft button, and the TRANSMIT page appears. Use these parameters to control how the K2600 sends MIDI information to its MIDI Out port. These settings to some extent affect the K2600's response to its own keyboard and controllers, but they primarily affect the responses of other MIDI devices that are receiving MIDI from the K2600 on the channel specified with the Channel parameter on this page.

It's important to remember that many of the settings of the TRANSMIT page are in effect only when a *program* is selected, either in Program mode or in Quick Access mode. If a *setup* is selected, in Setup mode or in Quick Access mode, the setup's MIDI settings override the corresponding settings on the TRANSMIT page. The TRANSMIT page looks like this:

```
MIDIMode:TRANSMIT
CtlSetup:97 Control Setup
Channel :2                    ProgChng :On
TransPos:0ST                  Buttons  :Off
Control :Both                 ChgSetups:KeyUp
VelocMap:1 Linear
PressMap:1 Linear
XMIT    RECV    CHANLS PrgChg RsetCh Panic
```

Parameter	Range of Values	Default
Control Setup	Setup list	97 Control Setup
Channel	1 to 16	1
Transposition	±60 semitones	0
Control	Both, MIDI, Local	Both
Velocity Map	Velocity Map list	1 Linear
Pressure Map	Pressure Map list	1 Linear
Program Change	Off, On	On
Buttons	Off, On	Off
Change Setups	Immed, KeyUp	KeyUp
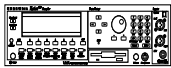
Rack-model owners, keep in mind that only the Program Change Type, Program Change, and Buttons parameters operate as programmed if the LocalKbdCh parameter on the RECEIVE page does not match the transmit channel of your MIDI controller. If you set them to match, the remaining parameters take effect as well.

Control Setup

This is where you select the current control setup, Zone 1 of which sets the physical controller assignments for all programs while you're in Program mode. Refer to Chapters 6 and 7 for more information on the control setup.

Note: The control setup is responsible for many of the settings that each had separate parameters on the K2000 and K2500. If you've worked with one of these instruments, you'll need to relearn how MIDI transmission controls are defined. Instead of setting a number of parameters on the MIDI TRANSMIT page, you'll simply select a control setup. Zone 1 of that setup then determines the controller assignments (as specified on the SLIDER, RIBBON, WHEEL, and other pages in the Setup Editor).

Channel

This defines which MIDI channel the K2600 uses to transmit MIDI messages. The value for this parameter matches the current MIDI channel displayed on the top line of the Program-mode page. If you change the current MIDI channel while in Program mode, the setting of this parameter changes accordingly, and vice versa.

Transpose

This parameter affects the transposition that's applied to the MIDI data stream. Adjusting this parameter transposes the K2600's notes, as well as notes on slaves receiving from the K2600. This transposition setting is not overridden when you use Setup mode, but is *added* to the transposition settings for the currently selected setup.

Control

Here you determine where the K2600 sends MIDI information. A value of **MIDI** sends the MIDI signal to the K2600's MIDI Out port, but not to the K2600 itself. This is also known as Local Control Off.

If you're using your K2600 with a MIDI sequencer and have a MIDI loop (K2600's Out to sequencer's In, and vice versa), you'll need to select a value of MIDI when your sequencer's

Patch Thru feature—also known as Play Thru, and Soft Thru—is on. This will prevent the K2600's MIDI signal from looping back on itself, which can cause problems. If you deactivate your sequencer's Patch Thru feature, set the Control parameter's value to **Both**, and the K2600 will play normally. Also, you may want to set the value of the LocalKbdCh parameter to **None** when you have a MIDI loop, because you can have problems with doubled notes and MIDI overload. You won't have problems, however, as long as the channels transmitted by the K2600 are all different from the incoming MIDI channel.

A value of **Local** disables the MIDI Out port. Use this setting when you want to play the K2600, but not to send any MIDI information to other MIDI instruments (local control only). A value of **Both** (the default) enables you to play the K2600 and send MIDI information from its MIDI Out port.

Velocity Map—Transmit (VelocMap)

The transmit velocity map affects the way the K2600 sends velocity information to its MIDI Out port. Different maps generate different velocity values for the same attack velocity—that is, they apply different curves to the attack velocities the K2600 receives and remap them to new velocities before transmitting them to the MIDI Out port.

Important: The MIDI velocity maps affect only those MIDI velocity values transmitted via the K2600's MIDI Out port, and are used exclusively to adjust the response of MIDI devices connected to the Out port. If you have a DX7 connected to your K2600, for example, and the DX is distorting, selecting a transmit Velocity Map like **Hard2** should handle the problem. Changing the velocity map on this page does not affect the response of the K2600's sound engine to its own keyboard, or to an external MIDI controller. That's done on the RECEIVE page. See Chapter 18 if you're interested in editing velocity maps.

Also important: Both the transmit and receive velocity maps should be left at values of **Linear** unless you really need to change them. The linear maps give you the most consistent results.

If you have a keyboard model of the K2600, keep in mind that the setting of the Veltouch parameter in Master mode also has an effect on the transmit velocity map.

Pressure Map—Transmit (PressMap)

This is like the VelocMap, but it controls the aftertouch values sent by the K2600 to its MIDI Out port. Use this exclusively to adjust the response of MIDI devices connected to the K2600's MIDI Out port. Changing the pressure map on this page does not affect the response of the K2600's sound engine to its own keyboard, or to an external MIDI controller. That's done on the RECEIVE page. See Chapter 18 for information about editing pressure maps.

Program Change (PChng)

When On, the K2600 sends program change commands to its MIDI Out port when you select programs or setups from the front panel or from your MIDI controller. Select a value of **Off** when you want to change programs on the K2600 but don't want to send program change commands to the MIDI Out port. This parameter doesn't affect the *type* of program change command that's sent; it just determines whether any command is sent at all. (The type of program change command is determined by the settings for three parameters on the CH/PRG page in the Setup Editor.)

Buttons (Bttns)

If you set the value of the Buttons parameter to **On**, the System Exclusive (SysEx) messages generated by your button presses are sent to the MIDI Out port. This enables you to do two things: control a remote K2600 (or earlier model), and record sequences of programming button presses to a sequencer or SysEx software package.

If you have the MIDI In port of another K2600 (or K2500, or K2000) connected to the first one's MIDI Out port, the second instrument will respond to every button press on the first instrument, just as if you were pressing the buttons of the second one. Keep in mind that both devices must be in exactly the same state (the same page in the same mode, with identical lists of RAM objects) when you start. Otherwise the button presses you make on the first instrument may execute other functions on the second instrument.

Much more useful is to send streams of button presses to your sequencer. When you dump them from your sequencer back to the K2600, the K2600 responds as if the buttons were actually pressed. This enables you to set up a variety of "macros," which are strings of commands that can be executed all at once by a single initial command. For example, you can record a sequence of button presses that enters Disk mode, selects a specific SCSI device, and loads one or more banks of samples while you do something more entertaining. Again, it's important to keep in mind that the state of your K2600 must be identical to its state when you recorded the sequence of button presses. If you've added or deleted any objects stored in RAM, for example, the sequence of button presses will select different objects when you play back the button press sequence.

*Note: Make sure this parameter is set to **Off** before you initiate a SysEx dump of any kind. If this parameter is **On** when you start a dump, the buttons you press to begin the dump will also generate SysEx messages.*

Change Setups (ChgSetups)

This parameter determines the exact timing of setup changes when you select a different setup—either by a normal data entry method or via MIDI program change commands.

Choose **KeyUp** to indicate that you want setup changes to take place only when you've released all currently held notes. Choose **Immed** to indicate that you want such changes to happen immediately when you select the setup.

The RECEIVE Page

Press **RECV** to select the RECEIVE page, where you define the K2600's response to incoming MIDI signals (with one exception pertaining to Quick Access mode, which we'll explain later).

```
MIDIMode:RECEIVE
BasicChannel:1              SysExID:    0
MIDI Mode   :Multi         SCSI ID:    6
AllNotesOff :Normal        BendSmooth:On
ProgChgType :Extended      LocalKbdCh:None
VelocityMap: 1 Linear      BankSelect:Ctl 32
PressureMap: 1 Linear      PowerMode :User
XMIT    RECV    CHANLS ProgChg RsetCh Panic
```

Parameter	Range of Values	Default
Basic Channel	1 to 16	1
MIDI Mode	Omni, Poly, Multi	Multi
All Notes Off	Normal, Ignore	Normal
Program Change Type	Program Change Type List	Extended
Velocity Map	Velocity Map list	1 Linear
Pressure Map	Pressure Map list	1 Linear
System Exclusive ID	0 to 127	0
SCSI ID	0 to 7	6
Bend Smooth	On, Off	On
Local Keyboard Channel	None, 1 to 16	None
Bank Select	0 only, 32 only, Ctl 0, Ctl 32	Ctl 32
Power Mode	User, Demo	User

Basic Channel

The basic channel determines which channel will always be available to receive MIDI information. Depending on the MIDI receive mode (below), the Basic channel may be the only receiving channel, or one of several.

MIDI Receive Mode (MIDI Mode)

The MIDI Mode parameter determines the MIDI receiving capabilities of the K2600. When set to **Omni**, the K2600 responds to incoming MIDI events on all MIDI channels, and plays them on the current channel. This is normally used for diagnostic purposes only.

At a setting of **Poly**, the K2600 responds only to events that are sent on the same channel as the K2600's current MIDI channel (the one displayed on the top line of the Program-mode page). In Poly mode, the currently selected channel is always the basic channel, so if you change channels, the basic channel changes accordingly.

With a value of **Multi** (the default), the K2600 responds to events on all active channels. This is the mode you'll use when you're driving the K2600 with a sequencer, since you can play a different program on each channel. At this setting, you can turn individual channels on and off (on the CHANNELS page, described later in this chapter).

All Notes Off

If this parameter's value is set to **Normal**, the K2600 responds to All Notes Off messages received over MIDI. **Ignore** causes these messages to be ignored. If you're using a Roland product as a MIDI controller for your K2600, you'll want to set the value of this parameter to **Ignore**. This is because some older Roland products occasionally send an All Notes Off message when no keys are held down—even if you're sustaining notes with a pedal. You might find all your sustains missing from your sequence, for example, if you're driving your K2600 from one of Roland's hardware sequencers. Setting this parameter to **Ignore** takes care of this problem.

Regardless of the setting for this parameter, the K2600 always responds to its own **Panic** button by shutting off all active notes and controllers.

Program Change Type (ProgChgType)

This determines how the K2600 responds to program change commands received via MIDI. See *Program Change Formats* on page 10-11 for an explanation of the various values available for this parameter.

Velocity Map—Receive

The velocity map applies a preset curve to incoming velocity messages. It maps incoming velocity levels to new levels that correspond to the eight dynamic levels used by the VTRIGs and keymaps for velocity level selection. See Chapter 18. Normally you'll leave this set to **1 Linear**. Adjust this parameter's value only when you need to alter the K2600's response to the velocity messages from a MIDI controller, for example, if you're getting too much or too little volume when you play, or when you're using a sequencer to drive the K2600.

Pressure Map—Receive

Like the velocity map, this determines how the K2600 responds to incoming pressure (aftertouch) messages.

System Exclusive ID (SysExID)

The SysExID parameter differentiates between more than one MIDI device of the same model. You won't need to change the default setting of 0 unless you have multiple K2600s (or K2500s or K2000s) receiving SysEx messages from a single source. In that case, make sure each instrument has a different SysExID. Then you can direct SysEx messages to the appropriate K2600 with the SysExID byte that's included with every SysEx message. A value of **127** specifies "Omni Receive." That is, at this value, a K2600 responds to a SysEx message regardless of the SysEx ID of the message (as long as the manufacturer and device IDs match—see Chapter 7 of the *Musician's Reference* for more information about System Exclusive messages).

SCSI ID

Use this parameter to change the SCSI ID of your K2600. You can ignore this parameter unless you've connected a SCSI device (external SCSI disk or CD-ROM drive) to the K2600's SCSI port. You can use either or both SCSI ports to chain up to seven SCSI devices to the K2600 (a total of eight devices can be chained together); just be sure to set each one to a different SCSI ID. Most SCSI devices available today make it easy to change their SCSI IDs, so you may not have to adjust this parameter even if you have several SCSI devices connected. See Chapter 13 for more information about using SCSI devices.

Bend Smooth

This parameter can improve your K2600's performance when you're driving it from a MIDI guitar controller. Its default value is **On**.

You may find that pitch bending seems to carry over from the previous note to the next note, causing it to start on the wrong pitch. This is probably due to the automatic pitch smoothing provided by the K2600. If this is happening, try setting the BendSmooth parameter to a value of **Off**.

Local Keyboard Channel (LocalKbdCh)

Note: Changing the setting of the Local Keyboard Channel parameter is useful only when your K2600 is receiving MIDI information from an external source—maybe you have a rack model 2600, or you have a favorite MIDI keyboard that you use to control all the gear in your studio, or you use a lot of outboard sequencing. If you're using the K2600 as a standalone music workstation or performance keyboard, you can ignore this parameter.
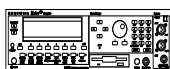
The available values for this parameter are **None**, and **1–16**. The default is **None**, which disables the local keyboard feature, since you may not want to send your MIDI controller's MIDI information to devices connected to the K2600R's MIDI Out port. If you want to use Setup mode on the K2600R, however, you'll probably want to change the setting of this parameter. This is because LocalKbdCh enables you to take advantage of the K2600's eight setup zones, even if your MIDI controller transmits on only one MIDI channel at a time.

It's important to understand that a setup is a control-oriented object, designed to transmit note and control information. On the keyboard version of the K2600, the keyboard itself transmits on up to eight channels when in Setup mode. But with the rack, if your keyboard sends information on only one MIDI channel, you need a way to distribute that information from one channel to eight channels. This is what the LocalKbdCh parameter does. It takes the signal coming in via one channel and turns it into different information, depending on where you are in the K2600.

The local keyboard channel changes the way the K2600 performs in other modes as well. It changes the incoming information depending on what you have displayed in the K2600. For example, if LocalKbdCh is **1**, and you're in Program mode with Channel 5 in the display, then the information coming in on Channel 1 gets remapped to Channel 5, and you hear the program assigned to Channel 5. But if you set LocalKbdCh to **None**, then if you send on Channel 1, you hear the program that is assigned to Channel 1, even if you're looking at Channel 5.

Local Keyboard does more than just change the MIDI channel. When Local Keyboard Channel is set to **None**, you will notice that the **Octav–** and **Octav+** soft buttons found in Program, Setup, Quick Access, and Effects modes do not function. If you use the Local Keyboard Channel parameter, however, they function correctly. And you can even use it to change one type of MIDI Controller number to another.

Here's how it works. The K2600 receives MIDI information on the channel that corresponds to the value you set for this parameter, and relays it to its MIDI Out port, using the MIDI channels currently shown in the display. If you're in Program mode (or in Quick Access mode with a program selected), the K2600 relays the LocalKbdCh MIDI information to the channel to which the program is assigned. If you're in Setup mode (or in Quick Access mode with a setup selected), the K2600 relays the LocalKbdCh MIDI information to all the channels currently used by the setup.

The K2600 also remaps certain MIDI Controller messages so that they correspond (in most cases) to the default assignments for the K2600's physical controllers (as listed in Table 10-1).

This enables you to receive the messages listed in the first column of Table 10-1 from a MIDI source, and remap them to whatever values are available for the parameters listed in the second column. The third column lists the Studio-editor page where each parameter appears. Note that when the Large Ribbon is configured in one section, you cannot remap incoming MIDI Controller messages through it.

The MIDI Controller number received from your MIDI source…	…gets sent to the MIDI Controller number assigned as the value for this parameter…	…which is on this page in the Studio Editor
Mono Pressure	Press	PRESS
Modulation (01)	ModWhl	WHEEL
Breath (02)	CPedal2	CPEDAL
Foot (04)	CPedal1	CPEDAL
Data (06)	Slider A	SLIDER
Ctl A (16)	Small Ribbon Position	RIBBON
Ctl B (17)	Small Ribbon Pressure	RIBBON
Ctl C (18)	Large Ribbon Section 1	RIBBON
Ctl D (19)	Large Ribbon Section 2	RIBBON
MIDI 20	Large Ribbon Section 3	RIBBON
MIDI 22	Slider B	SLIDER
MIDI 23	Slider C	SLIDER
MIDI 24	Slider D	SLIDER
MIDI 25	Slider E	SLID/2
MIDI 26	Slider F	SLID/2
MIDI 27	Slider G	SLID/2
MIDI 28	Slider H	SLID/2
Sustain (64)	FtSw1	FOOTSW
Sostenuto (66)	FtSw2	FOOTSW
Soft Pedal (67)	FtSw3	FOOTSW
Legato Switch (68)	FtSw4	FOOTSW
Freeze Pedal (69)	Switch 1	SWITCH
MIDI 70 (70)	Switch 2	SWITCH

Table 10-1   Controller Remapping Via Local Keyboard Channel

Here's a more specific example. Suppose your MIDI controller transmits on MIDI Channel 1, and you've set the LocalKbdCh parameter to a value of **1**. You've also set the MWhl parameter on the WHEEL page in the Setup Editor to a value of **Volume** (MIDI 07) for each setup zone. Then you've selected a setup that uses MIDI Channels 1, 2, and 3. When you send a Modulation message (MIDI 01) from the MIDI controller, you'll affect the K2600's volume (unless the VolLock parameter for Channel 1 is on), and the K2600 will send a Volume message to its MIDI Out port, on Channels 1, 2, and 3.

Bank Select

BankSelect allows you to choose between having the K2600 respond to Controller 0 or Controller 32 or both. The reason for this is that various manufacturers have chosen one method or the other. The four possible values for this parameter are:

0 only   Responds to controller 0 only.

32 only   Responds to controller 32 only.

Ctl 0   Responds to 0 or 32.

Ctl 32   Responds to 0 or 32.

Power Mode

Power Mode has two possible values: **User** and **Demo**. When set to **User**, the user's parameter settings are retained. When set to **Demo** several parameters are returned to default values when the unit is powered up. The default value for the Power Mode parameter is **User**.

The following parameters are reset when Power Mode is set to Demo.

Master mode: KB3 Channel resets to **1**

MIDI Transmit: Control resets to **Both**; Channel resets to **1**; Transpose resets to **0 ST**

Effects mode: FX Mode resets to **Auto**, and FX Chan resets to **Current**

Disk mode: Current Disk resets to **Floppy**

The Channels Page

Press the **CHANLS** soft button to select the CHANNELS page, where you can define numerous parameters for each MIDI channel independently. Use the **Chan/Bank** buttons to select the MIDI channel you wish to work on.

The CHANNELS page is very useful when you're doing multi-timbral sequencing, with programs assigned to numerous MIDI channels. The CHANNELS page lets you set several control characteristics for each MIDI channel. This makes it easy to adjust the playback of the sequence without editing the sequence itself. For example, you might turn off the Enable parameter for one or more channels to mute the tracks on those channels. You could also set the

VolLock parameter to **On**, to ignore any MIDI volume messages the K2600 receives on a given MIDI channel.

```
MIDIMode:CHANNELS            <>Channel:2
Enable :On
Program:1 Concert Piano 1      PrgLock:Off
Pan    :64                     PanLock:Off
Volume :127                    VolLock:Off
OutPair:Prog
OutGain:Prog
XMIT    RECV    CHANLS PrgChg RsetCh Panic
```

Parameter	Range of Values	Default
Enable	Off, On	On
Program	Program list	Program ID 1
Pan	0 to 127	64 (centered)
Volume	0 to 127	127 (maximum)
Output Pair	Prog, KDFX-A to KDFX-D	Prog
Output Gain	Prog, –12 to 30 dB in 6 dB increments	Prog
Program Lock	Off, On	Off
Pan Lock	Off, On	Off
Volume Lock	Off, On	Off

Enable

Use this parameter to turn the currently selected channel on or off. When on, the channel will receive MIDI information, and the settings of the parameters on the MIDI CHANNELS page will be in effect. When off, the channel will ignore all MIDI information.

Program

Use this parameter to assign a program to the currently selected channel. The channel will still respond to program change commands received via MIDI, unless the PrgLock parameter (described below) is set to **On**.

Pan

This offsets the pan position of the current program as set on the OUTPUT page in the Program Editor. A value of **0** is maximum offset to the left, **64** is no offset, and **127** is maximum offset to the right. Changing the value of this parameter is like inserting a MIDI pan message. MIDI Pan (MIDI 10) messages will change the value of this parameter, unless the PanLock parameter (described below) is set to **On**.

If the Mode parameter on the OUTPUT page in the Program Editor is set to Fixed, changing the value of Pan on the CHANNELS page in MIDI mode has no effect.

Volume

This sets the volume for any program assigned to the currently selected channel. A value of **0** is silence, and a value of **127** is full volume. The value of this parameter will change in response to MIDI Volume (MIDI 07) messages, unless the VolLock parameter (described below) is set to **On**.

Output Pair (OutPair)

This parameter sets the audio output group for the program assigned to the currently selected channel. The default value of **Prog** means that the output group is determined by the program's value for the Pair parameter on the OUTPUT page in the Program Editor. In this case, the channel's output group changes depending on the program assigned to it, with the output group being routed on a per layer basis within the program. Values of **KDFX-A**, **KDFX-B**, **KDFX-C**, or **KDFX-D** fix the output group regardless of the program that's assigned to the channel.

Output Gain (OutGain)

OutGain boosts or cuts the level at the audio outputs for any program assigned to the currently selected channel. This allows you to make a program louder or softer without having to edit the program.

Program Lock, Pan Lock, Volume Lock

When the parameter locks are set to **On**, the three parameters they control do not respond to their respective MIDI controller messages. In that case, you could change the Program, Pan, and Volume settings from the front panel, but not via MIDI.

Program Change Formats

The K2600 can store more programs than the MIDI program change specification can handle (MIDI lets you send program change numbers from 0 to 127 or 1 to 128 only). So we've designed a system that makes program selection more flexible. This is true whether you're selecting programs from the K2600's front panel, or via MIDI.

Program Change Type	For Use With:
Extended	Other K2600s (or K2500s or K2000s) similarly set, plus all other instruments that use the Bank Change controller
Kurzweil	K1200s, and 1000s with version 5 software
0–127	Older MIDI devices that transmit program change commands in the range from 0–127 only.
QA Bank E	Other K2600s (or K2500s or K2000s) similarly set, when in Quick Access mode
QA Bank K	K1200s and v5 1000s, when in Quick Access mode
QA 0–127	With the K2600 in Quick Access mode, when using it with older MIDI devices

First of all, the K2600's programs (and all of its objects) are numbered and grouped according to a decimal system, that is, in multiples of ten. This is much easier to keep track of than the binary-oriented groupings of many synths, which feature banks of 8, 16, or 64 programs.

Next, the K2600 gives you 999 program change numbers to work with. These are organized into ten banks of 100 each (the memory banks). A program's object ID is its program change number, as discussed on page 5-2. This makes it easy to keep track of your programs. The K2600 can use several different formats for interpreting program change commands. The value for the ProgChgType parameter on the RECEIVE page determines which format is used, and the one you should select depends on your MIDI system.

If you expect you'll always change programs from your K2600's front panel, you can finish this paragraph and skip the next few sections. In this case, selecting programs is as simple as entering the program change number (the program's object ID) on the alphanumeric pad, and pressing **Enter**. Even program numbers above the usual MIDI limit of 127 can be selected this way.

Extended and Kurzweil Program Change Types

In the early days of MIDI, most instruments had small numbers of memory locations, usually 32, 64, or 128. As instruments began to have more memory locations, however, users ran against the limitation of only 128 values for program changes in the MIDI spec. Because of this, Bank Change Controller was added, allowing users to switch between banks of up to 128 programs per bank.

Previous to the addition of the Bank Change Controller, Kurzweil had developed their own method of switching banks by using two program changes, one to switch the bank, the second to call up the program within the bank (as described below). The K2600 can respond to either the Bank Change controller or the double-program-change method. In a nutshell, the difference between the **Extended** setting and the **Kurzweil** setting is this: In **Extended**, the K2600 will receive and respond to the Bank Change controller. When set to **Kurzweil**, the K2600 will receive only the double-program-change method.

Extended Program Changes

If you're controlling your K2600 from a MIDI device that can handle the MIDI Controller 0 or 32 program-change format, you'll have the greatest flexibility if you set the ProgChgType parameter to a value of **Extended** (or **QA Bank E**, but that explanation comes later).

When you're using the extended program change format, then depending on the value of the BankSelect parameter on the RECEIVE page in MIDI mode, the K2600 will respond to either MIDI Controller 0 or 32 program change commands for bank selection (Zeros through 900s), and standard program change commands for program changes within the current bank. Different values have different results, as shown in the following table:

Program Change Command Type	Value of Message	Result
MIDI controller 0 or 32 (MC 0 or MC 32)	0 to 9	Selects memory bank zeros–900s
	10 to 127	Ignored
Standard (PCH)	0 to 99	Selects correspondingly numbered program in current memory bank
	100 to 127	Selects correspondingly numbered program in next-highest bank

If your K2600 is already in the memory bank you want to use, you can send it single PCHs from 0 to 99, to select programs within that memory bank. The K2600's response depends on the setting for the MIDIBankMode parameter on the CH/PRG page in the Setup Editor. If you want to change the memory bank, the K2600 must receive either an MC 0 or 32 message with value

0–9. The next PCH in the range 0–99 will select the correspondingly numbered program in the newly selected bank. The following table of examples should help make it clear.

Bank Change Command Received	Program Change Command Received	Result
MC 0 or 32: value 0	PCH: value 99	Program 99 (0s bank, 99th program)
MC 0 or 32: value 1	PCH: value 42	Program 142 (100s bank, 42nd program)
MC 0 or 32: value 1	PCH: value 120	Program 220 (200s bank, 20th program)
MC 0 or 322: value 9	PCH: value 0	Program 900 (900s bank, 0th program)
MC 0 or 32: value 9	None	900s bank selected, no change in current program (bank selection is pending for next PCH)
MC 0 or 32: value 10	PCH: value 99	MC 32 message ignored; 99th program in current bank selected (for example program 199 if in 100s bank)

Kurzweil Program Changes

When you use the Kurzweil program change format, you'll use PCH messages to select different memory banks, followed by a second PCH command to change the program within the current bank, as the following examples demonstrate. You'll want to use this format if you're controlling your K2600 from a Kurzweil 1000- or 1200-series instrument.

1st Program Change Command Received	2nd Program Change Command Received	Result
PCH: value 39	None	39th program in current bank selected
PCH: value 99	PCH: value 27	27th program in current bank selected (99 is selected, then overridden by 27)
PCH: value 102	PCH: value 16	Program 216 (200s bank, 16th program
PCH: value 105	PCH: value 44	Program 544
PCH: value 109	PCH: value 0	Program 900
PCH: value 127	PCH: value 99	99th program in current bank (1st PCH is ignored, since it's above 109)
PCH: value 127	PCH: value 104	No change in current program; 400s bank is selected pending next PCH

0-127 Program Change Type

You may be controlling your K2600 from an "old" MIDI device—one that was built before the MIDI Controller 0 program change format was developed. If your MIDI controller is one of these (if its manual doesn't mention MIDI Controller 0 program changes, it's an "old style" machine), you might want to set the ProgChgType parameter to a value of **0–127**. This will enable you to select programs 0–127 from the controller. This limits your range of program selection, but it configures the K2600 to respond predictably to the controller. (You'll have to select higher-numbered programs from the K2600's front panel) Of course, you could use the Kurzweil format, but in many cases you'll have to send two program change commands to get the program you want.

Quick Access Banks—Extended (QA Ext)

Using this setting is similar to using the Extended program change format, but it goes one step further. Incoming program change commands are interpreted just as they are in the normal Extended format. But the resulting program change number, instead of selecting a program, selects a Quick Access bank entry (you must be in Quick Access mode for this to work). There are two advantages to using this format. First, it allows you to select both programs and setups using program change commands, without having to switch between Program and Setup modes. Second, you can remap incoming program change commands to select programs or setups with different IDs. This is handy if the sending unit can't send program change commands higher than 127.

First, a brief review of Quick Access bank structure. Each Quick Access bank can store ten entries, each of which can be a program or a setup. Each of the K2600's 10 memory banks can store 20 Quick Access banks (except the Zeros bank, which can store 75). Therefore when you're in Quick Access mode, you have access to 200 (or 750 in the Zeros bank) programs or setups without leaving the currently selected memory bank. The QA Ext program change format lets you select any one of those programs or setups via MIDI. If you select another memory bank, you have a different set of 200 programs and setups at your disposal.

When you're using this format, the K2600 will respond to MC 0 or 32 messages for selecting QA banks, and to PCHs for selecting entries within the current bank. PCHs select entries according to their "chronological" listing within the QA bank (not according to their IDs).

Command Type	Range of Values	Result
MIDI controller 0 or 32 (MC 0 or MC 32)	0 to 7	Selects QA bank 0n, 1n, 2n, 3n, 4n, 5n, 6n, 7n in current memory bank
	8–127	Ignored
Standard (PCH)	0–99	Selects last digit (n above) of QA bank, and entry within that bank
	100–127	Ignored

Depending on the QA bank entry you want to select, you'll send the K2600 either a PCH (value 0 to 99), or a MIDI Controller 0 or 32 message (value 0 to 7) followed by a PCH. Sending a single command will let you select from a range of 10 QA banks and select an entry within that bank (see the table below). To select a different range of QA banks, send an MC 0 or 32 message followed by a PCH.

The MC 0 or 32 messages selects the range of QA banks (10s through 70s), while the PCH selects the bank within that range, as well as the entry within that bank. Neither the MC 0 or 32 nor the PCH selects a different *memory* bank (Zeros through 900s). In fact, you can't change the memory bank via MIDI when using this format. All program and setup selections are made within the currently selected memory bank. You'll know which memory bank is selected by looking at the ID of the currently selected Quick Access bank in the top line of the Quick Access-mode page. Several examples follow.

If the Zeros Memory Bank is Currently Selected

Bank Range Command	Bank / Bank Entry Command	Resulting Selection
MC 0 or 32: value 0	PCH: value 6	No change (K2600 interprets this as QA bank 0, entry 6. There is no QA bank 0. Lowest valid PCH value in this case is 10, which would select QA bank 1, entry 0)
None	PCH: value 9	Entry 9 in current QA bank
MC 0 or 32: value 0	PCH: value 32	QA bank 3, entry 2
MC 0 or 32: value 1	PCH: value 4	QA bank 10, entry 4
MC 0 or 32: value 1	PCH: value 28	QA bank 12, entry 8
MC 0 or 32: value 2	PCH: value 44	QA bank 24, entry 4

Remember that in the Zeros memory bank, the Quick Access bank IDs go through 75. So if the Zeros memory bank is the current memory bank, you can send MC 0 or 32 values as high as 7 for the bank range command. And you can send PCH values as high as 99 for the bank/bank entry command. (When you're in the other memory banks, you can send MC 0 or 32 values of 0 or 1, and PCH values of 0 to 99.)

If the 200s Memory Bank is Currently Selected

Bank Range Command	Bank / Bank Entry Command	Resulting Selection
None	PCH: value 44	QA bank 204 or 214; entry 4
MC 0 or 32: value 0	PCH: value 6	QA bank 200, entry 6
MC 0 or 32: value 0	PCH: value 32	QA bank 203, entry 2
MC 0 or 32: value 0	PCH: value 99	QA bank 209, entry 9
MC 0 or 32: value 1	PCH: value 4	QA bank 210, entry 4
MC 0 or 32: value 1	PCH: value 28	QA bank 212, entry 8
MC 0 or 32: value 2	PCH: value 44	No change; MC 0 or 32 value 2 is invalid in 200s bank.

Quick Access Banks—Kurzweil (QA Kurz)

This works almost exactly like the QA Ext format. The only exception is that within the QA Kurz format, the K2600 expects the bank range command to be a PCH, and not MC 0 or 32. MIDI Controller 0 or 32 messages are not recognized. The K2600 expects to receive PCHs of value 0–99 to select a bank and entry, or a pair of PCHs, the first having a value of 100–107 to select a different 10-bank range.

QA 0–127

Finally, there's the QA Bank format for use with older MIDI devices (program change commands 0–127 only). It works similarly to the other QA formats, but the allowable range of values is limited to 0–107.

QA Banks and General MIDI Files

The K2600 isn't a General MIDI (GM) instrument, but if you load the GM files from the accessory disks, the K2600 automatically configures itself to make it easy for you to call up the

GM programs. When you load the files (actually one file split over two floppies), the K2600 loads the programs into the memory bank you select, and also loads them into Quick-Access banks, with the programs ordered so that they respond correctly to Program Change commands. Loading the file also changes the value of the ProgChgType parameter from its default of **Extended** to **QA 0–127**, so that Program Change commands select programs in the QA banks.

This allows you to load the GM programs into an empty bank, so you don't have to overwrite any existing objects that have the same IDs as the objects in the GM file. Keep in mind, however, that after loading the GM file, non-GM programs will be available only from the K2600. When sending program changes from your sequencer, you'll call up the 128 General MIDI programs, and nothing else. If you want to have sequencer access to both the GM programs and the non-GM programs, you can change the ProgChgType parameter (found on the MIDI-mode RECEIVE page) back to **Extended**. Once you do this, however, any program changes in your GM sequences will no longer call up the right GM programs, and you will have to insert new Program and Bank Change commands into the sequence to call up the appropriate programs.

QA Formats and MIDI Transmission

If you're in Quick Access mode and you're using one of the QA formats for the program change type, selecting QA banks or bank entries from the K2600 (with the alphanumeric buttonpad, the cursor buttons, the Alpha Wheel, the **Plus/Minus** buttons, or the **Chan/Bank** buttons) also sends corresponding program change commands to the K2600's MIDI Out port.

The nature of these commands depends on the value of the ProgChgType parameter. The K2600 sends either an MC 0 or 32 message followed by a PCH (when ProgChgType is **QA Ext**), or a pair of PCHs (when ProgChgType is **QA Kurz**) or a single Program Change command (when ProgChgType is **QA 0–127**). The following tables give specific examples.

Current QA Bank	Entry From Alphanumeric Pad	Commands Sent	
		MC 0 or 32	PCH
1	0	0	10
1	9	0	19
2	0	0	20
2	9	0	29
9	9	0	99
10	0	1	0
19	9	1	99
20	0	2	0
29	9	2	99
75	9	7	59
100	0	0	0
105	9	0	59
110	9	1	99
117	7	1	77
119	9	1	99

Table 10-2   QA Extended Program Change Examples

Current QA Bank	Entry From Alphanumeric Pad	Commands Sent	
1	0	100	10
1	9	100	19
2	0	100	20
2	9	100	29
9	9	100	99
10	0	101	0
19	9	101	99
20	0	102	0
29	9	102	99
75	9	107	59
100	0	100	0
105	9	100	59
110	9	101	99
117	7	101	77
119	9	101	99

Table 10-3   QA Kurz Program Change Examples

The Soft Buttons in MIDI Mode

The first three soft buttons select the three MIDI-mode pages. The **PrgChg** soft button lets you send a program change command on any MIDI channel. The **RsetCh** soft button lets you return all channel parameters to their default values. The **Panic** soft button sends an All Notes Off and an All Controllers Off messages to the K2600 and on all 16 MIDI channels.

Program Change (PrgChg)

When you press this soft button, a dialog appears:

```
Send Program Change:

On Channel  2, Send Program  █ 0 █
```

```
Chan- █ Chan+ █ Prog- █ Prog+ █ Send █ Cancel
```

This dialog lets you send program changes out the MIDI Out port, but does not change internal programs.

The **Chan/Bank** buttons, the **Up/Down** cursor buttons, and the **Chan–** and **Chan+** soft buttons can all be used to change the channel on which the program change command will be sent. The **Left/Right** cursor buttons, the **Plus/Minus** buttons, the Alpha Wheel and the **Prog–** and **Prog+** soft buttons can all be used to change the program change number that will be sent. When

you've set the channel and the program change number, press the **Send** soft button to send the program change command. Or press the **Cancel** soft button if you don't want to send it.

You can change the channel and the program number as many times as you want before you press **Send**. You also can use the alphanumeric pad to select a program number directly.

Reset Channels (RsetCh)

When you press this soft button, the K2600 will ask you if you want to reset all channels, and a pair of **Yes/No** soft buttons will appear. If you press the **Yes** soft button, all settings on the CHANNELS page will return to their default values. For example, you may have set several MIDI channels to route their audio to Output Group B for a special project. When the project's over, you can reset the Channels to restore the audio routing to each individual program (a value of **Prog**), rather than selecting each channel's page and setting the Pair parameter back to a value of **Prog**. Press the **No** soft button if you decide not to reset the channels.

Panic

This soft button sends an All Notes Off and All Controllers Off message both to the K2600 and over all MIDI channels.