PRESET DEFINITION

The display says:

```
Harmony 2: off
Use Data Slider
```

Use the **ON** and **OFF** buttons or the **DATA SLIDER** to adjust the interval or turn the function off.

12. The next setup menu is for external clock. Press the right arrow cursor button, and the display says:

```
Clock: internal
Use Data Slider
```

Use the data slider buttons to choose the desired clock option. Your choices are:

- **internal** Emax II's arpeggiator syncs to the internal clock at the tempo chosen in the previous step.
- **MIDI** Emax II's arpeggiator syncs to MIDI clock signals coming in over the MIDI in port.
- **click 24** Emax II's arpeggiator syncs to 24 pulses-per-quarter-note signals appearing at the clock input jack.
- **click 48** Emax II's arpeggiator syncs to 48 pulses-per-quarter-note signals appearing at the clock input jack.
- **click 96** Emax II's arpeggiator syncs to 96 pulses-per-quarter-note signals appearing at the clock input jack.

To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

13. Moving right along, the next option is:

```
Velocity: 127
Use Data Slider
```

PRESET DEFINITION

Use the data slider or numeric keypad to set the arpeggiator velocity value. The lowest possible value (obtained by entering **000**) gives the following display:

```
Velocity: Played
Use Data Slider
```

Each note will arpeggiate at a volume level determined by the velocity with which the note was played. Use the data slider to select the range of MIDI velocity values (1- 127), with larger numbers giving louder levels if the dynamics are mapped to level; when mapped to other parameters, they are affected appropriately.

To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor key to continue the setup.

14. But wait, there's still more! Key Repeats sets the number of times that each note plays before moving on to the next note in the arpeggio. The display says:

```
Key Repeats: 1
Use Data Slider
```

Use the **ON** and **OFF** buttons or the **DATA SLIDER** to select the desired number of repeats on each note (1-8).

15. The next arpeggiator option is Cruz Control, which fits the number of notes you're holding into the specified note value (if you can't picture this effect, then give it a try and you'll hear what it does).

The display says:

```
Cruz Control: on
Select on/off
```

Use the **ON** and **OFF** buttons to select whether Cruz Control is on or off

Note: Cruz Control cannot be used when either Key Repeats or Glissando are on. Turning on Cruz Control will simply turn off Key Repeats and Glissando.

PRESET DEFINITION

16. The next arpeggiator option is Glissando. The display says:

```
Glissando: off
Select on/off
```

Use the **ON** and **OFF** buttons to select whether Glissando is on or off. Glissando will play every chromatic step between the notes played, including extensions.

17. Last, but not least comes the range adjustment. The display says:

```
Range: A-1 to C7
Select Lo Key
```

This is the default setting and indicates that arpeggiation will occur in the range of A-1 to C7 (the full MIDI range of notes). Play the key that corresponds to the lowest note in the range you want arpeggiated (or use the data slider), then press the **RIGHT ARROW** key. The cursor will move to the second note in the display, which now says:

```
Range: XX to C7
Select Hi Key
```

...where XX is the note you just selected. Now play the note that corresponds to the highest note in the range you want arpeggiated (or use the data slider).

The display will confirm your choice; press **ENTER** to jump back to the module identifier, otherwise press the right arrow cursor button to continue the setup. Note: The Emax II will not let you choose a lower note higher than the currently selected upper note.

Now that the arpeggiation setup is complete, press **ENTER** to jump back to the module identifier. Or, you can use the cursor keys to go back and change previously selected parameters.

PRESET DEFINITION 7 MIDI SETUP

MIDI is a way of exchanging musical information between various electronic music instruments. If you are not familiar with MIDI, read the "MIDI Supplement" in the Advanced Applications section before continuing.

1. With all modules de-activated, select the current preset. This preset will contain the default MIDI parameters, which you may now proceed to change for your particular application. Note that different presets can have different MIDI parameters.

2. Activate **PRESET DEFINITION 7**. The display says:

```
MIDI Setup Menu
Use Cursor Keys
```

Move the cursor keys to identify the various MIDI options. The first display says:

```
Basic Channel 01
[01-16] /Slider
```

This is the default channel over which this particular Emax II preset will send and receive MIDI information. To change channels, use the data slider or the numeric keypad. To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup. MIDI channels can be set globally using the MIDI Master function (**MASTER, Special 2**).

3. The next display says:

```
MIDI Port: Out
Use Data Slider
```

The MIDI out connector can be set to provide one of two functions, MIDI out (i.e., data you play on the keyboard flows out the MIDI port) or MIDI thru (i.e., the MIDI out port echoes what's being received at the MIDI in port). To select, use the data slider. To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

PRESET DEFINITION

4. The next display says:

```
MIDI Mode: omni
Use Data Slider
```

Use the data slider to change MIDI mode as follows:

- **OMNI** accepts MIDI information coming in on any channel.
- **POLY** accepts MIDI information only on the basic channel.

After making your selection, press **ENTER** to jump back to the module identifier, otherwise press the right arrow cursor button to continue the setup.

5. The next display says:

```
Preset Chng: on
Select on/off
```

MIDI also carries program (preset) change information from one synthesizer to another. Press **ON** if you want the Emax II to send and receive program changes, or **OFF** if you want to select Emax II presets independently of other MIDI instruments. To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor key to continue the setup.

Note: There is no specific standard between manufacturers regarding what program ("patch") will occur on "slave" synthesizers when a particular program is selected on the "master" synthesizer. Some instruments number programs sequentially, while others arrange programs in "banks" (e.g., A1, A2, A3,...B1, B2, etc.).

6. The next display says:

```
Start/Stop: off
Select on/off
```

When connected in a MIDI system, you may or may not want the Emax II to respond to "start and stop sequence" commands from other instruments, preferring instead to start and stop sequences from the Emax II. Press **ON** if you want the Emax II sequences to start and stop under control of another MIDI instrument; press **OFF** if you want to start and stop sequences exclusively from the Emax II.

PRESET DEFINITION

To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

7. Moving right along we see:

```
Local Cntl: on
Select on/off
```

If you press **ON** (the default setting), the Emax II keyboard controls the Emax II sound generators and sends out MIDI data about which keys are being played. Pressing **OFF** "disconnects" Emax II from its keyboard, but still sends out MIDI data about which notes are being played. To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

8. The next screen says:

```
Notes,Wheels: on
Select on/off
```

Press **ON** if you want the Emax II to send and receive note and wheel MIDI data as well as MIDI clock signals. Press **OFF** if you want the Emax II to send and receive MIDI clock signals but not note and wheel signals. To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

9. The next item of interest is...

```
Lt Wheel <-> pwh
[00-33] /Slider
```

Moving the data slider upwards increases the MIDI controller number assigned to the left wheel, while moving the data slider downwards decreases the controller number. Or, hold either button to "fast forward" or "fast backward" through the range of MIDI controller numbers (off, 00 to 33). You may also enter a two-digit value with the numeric keypad, however, this will not allow you to enter off. Note that 32 assigns the Left Wheel to the standardized controller number for pitch bend (pwh), and 33 assigns the Left Wheel to the standardized controller for monophonic pressure (aftertouch, or chp).

Note: MIDI controller assignments are bi-directional. Example: If the left wheel is assigned to controller number 12, then the Emax II will send out controller data over 12 when the left wheel is moved; when the Emax II receives MIDI data over controller number 12, it will interpret this as if the left wheel was being moved.

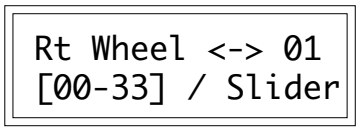
Some of the standard MIDI Controller numbers are listed below.

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

PRESET DEFINITION

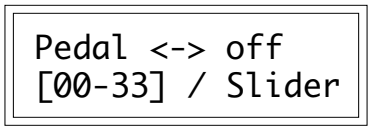
To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

10. The next screen says:



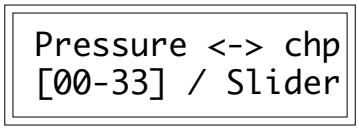
You may now assign a controller number to the Right Wheel in exactly the same manner as you assigned a controller number to the Left Wheel in step 9. To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

11. The next display shows:



You can now assign a controller number to the Pedal in exactly the same manner as you assigned a controller number to the Left Wheel in step 9. To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

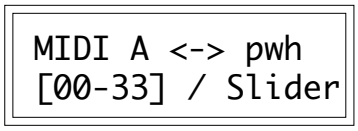
12. We're not done yet. The next displays says:



■ *The Emax II keyboard does not generate aftertouch (pressure). The Pressure function is used to route incoming pressure data when received over MIDI.*

You may now assign a controller number (chp = the MIDI standard for monophonic pressure) to the keyboard's pressure (aftertouch) function in exactly the same manner as you assigned a controller number to the Left Wheel in step 9. To return to the module identifier press **ENTER**, otherwise press the right arrow cursor button to continue the setup.

13. The next display says:



PRESET DEFINITION

Real-time parameters (pitch, filter cutoff, level, LFO to pitch modulation, etc.) can be assigned to MIDI control source A (see **PRESET DEFINITION 9** for more information about control sources). You may then assign each MIDI control source to correspond to specific MIDI controller on another synthesizer.

Example: Suppose a second MIDI unit's vibrato controller is assigned to MIDI control number 01, and that MIDI control source A on Emax II controls the filter cutoff frequency. Selecting 01 for MIDI control source A would control Emax II's filter cutoff frequency via the second MIDI unit's vibrato information. (Assuming, of course, that the Emax II and the other MIDI unit are connected via MIDI.)

This step of the set-up procedure lets you assign a number to the MIDI control source that matches up with the number of the controller "transmitting" data from a MIDI unit into the Emax II. (For more information on controller numbers, see the MIDI supplement.) Controller numbers are assigned in exactly the same manner as you assigned a controller number to the Left Wheel in step 9.

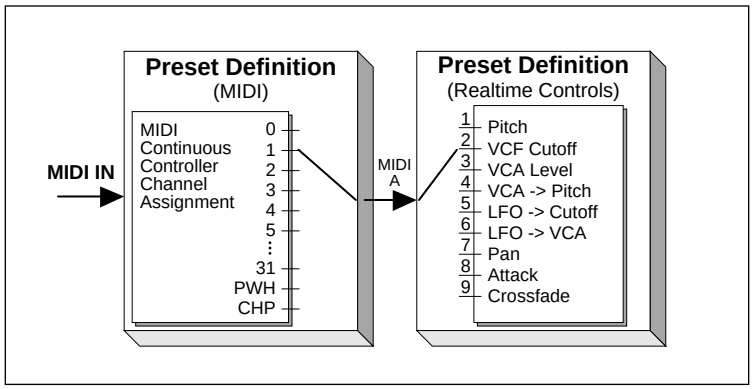
To jump back to the module identifier press **ENTER**, otherwise press the right arrow cursor key to continue the setup.

14. The next display shows:

```
MIDI B <-> 01
[00-33] / Slider
```

Assign a controller number to control source B in exactly the same manner as you assigned a controller number to control source A in step 13.

This completes MIDI setup for the current preset. To return to the module identifier press **ENTER**, or if you want to change some parameters, dial them in with the cursor buttons.



MIDI A and MIDI B can be thought of as "patchcords" which connect the MIDI Continuous Controller channels to the proper Realtime Control destination.

■ *Remember to Save to Disk, or all your programming will be lost.*

PRESET DEFINITION

PRESET DEFINITION 8 PITCH BEND RANGE

This function adjust the pitch wheel range from +0 (off) to ±4 semitones.

1. Activate **PRESET DEFINITION 8**. The display says:

```
Pitchbend Range:
±X semitones
```

...where X is a number between 0 and 4.

2. Select the desired number with the data slider, numeric keypad. Press **ENTER** after making your choice, and the Emax II will return to the module identifier.

PRESET DEFINITION 9 REAL-TIME CONTROLS

Real-time functions are designed for fast, easy selection while playing live. Each preset can have its own unique set of pre-programmed realtime functions.

1. Activate **PRESET DEFINITION 9**.

2. The display shows each control source as a pair of numbers. The first digit of each pair represents the control source (e.g., wheel, pedal, etc.), the second digit the control source's destination (filter cutoff, pitch, etc.). Select the control source to which you want to assign a destination by keying in the appropriate control source number:

1: Left wheel (center detent, spring return type)
2: Right wheel (continuously variable type)
3: Pressure (sent from an external MIDI keyboard that has pressure sensitivity)
4: Pedal A/D (plugs into rear panel PEDAL jack)
5: MIDI control A
6: MIDI control B
7: Footswitch 1 (plugs into rear panel Foot Switch 1 jack)
8: Footswitch 2 (plugs into rear panel Foot Switch 2 jack)

```
1:1 2:4 3:0 4:0
5:3 6:0 7:3 8:2
```

■ *The first number of each group represents the control source and the second number represents the destination.*

Each of destinations 0-9 printed in the upper part of the right-hand column located in the Preset Definition module can be controlled by control sources 1 through 4. Each destination can be controlled by only one of the 4 Emax II controllers.

PRESET DEFINITION

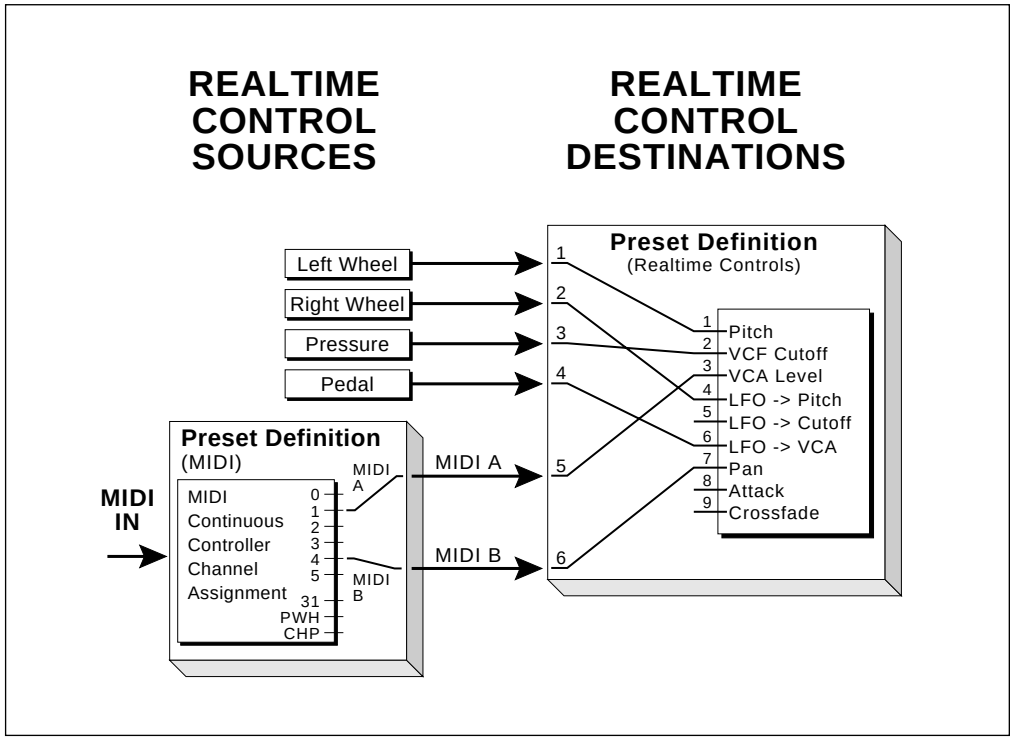
In addition to being controlled via Emax II's controllers, these destinations can alternatlively be controlled via MIDI. These MIDI control sources are given controller numbers (see **PRESET DEFINITION 7**). These numbers match up with the numbers of the controllers "transmitting" data from a MIDI unit into the Emax II. For more information, see the MIDI supplement.

Each of destinations 0-6 printed in the lower right-hand column of the module can be controlled by sources 7 and 8 (footswitches). Each destination can be controlled only by a single source.

3. After keying in the source number, the cursor will flash under the second number of the pair, indicating that you may now select one of the destinations printed on the right-hand side of the module. These are described in more detail below.

Note: Realtime functions usually control all voices on the keyboard. However, when making up a preset, it is possible to exempt voices from real-time control. This is described fully in **DYNAMIC PROCESSING 22** ("Control Enable").

Note: For some presets on factory disks, default destinations will already have been selected. For other presets, all control sources will be turned OFF (0).



This diagram shows how realtime controllers can be connected to the various destinations.

PRESET DEFINITION

REALTIME CONTROL DESTINATIONS

● Destination: 0 **OFF**

To turn off (disable) the control source, first select the control source then select 0.

● Destination: 1 **PITCH**

To assign pitch bend to the control source, first select the control source then select 1.

Application: Generally, this destination is assigned to the left-hand wheel, which has a center detent. When so assigned, the center position gives no pitch bend. Rotating the wheel away from you bends pitch up, while rotating the wheel towards you bends pitch down. Maximum pitch bend is ±4 semitones, as set in **PRESET DEFINITION 8**.

● Destination 2 **FILTER Fc**

To assign filter cutoff frequency control to the control source, first select the control source then select 2.

Application: This destination is normally assigned to the right wheel, pressure, or pedal to add expressiveness to your playing. Example: Brass sounds often increase in brightness towards the end of notes; simulate this by using the wheel to increase the filter cutoff frequency towards the end of a note. FILTER Fc can also be assigned to the Pedal for "wa-wa" effects; turn up the Q to simulate the most commonly used wa-wa sound.

Note: This function interacts with the filter module frequency and envelope settings. If the wheel does not seem to be working correctly, check these settings. Example: If the filter cutoff is already at maximum, you will not be able to use the wheel to increase the cutoff frequency. Therefore, for the right wheel to cover the greatest possible filter sweep, select **DYNAMIC PROCESSING 13** ("filter Fc") and set Env (envelope) to +00. Next, assuming that the right wheel is assigned to filter Fc, rotate it fully towards you and adjust Fc for the lowest desired filter cutoff frequency. Rotating the right wheel away from you will increase the filter cutoff.

● Destination: 3 **LEVEL**

■ *To assign Emax II **Level** to the MIDI standard controller #7, first assign MIDI A or B to #7 (MIDI Menu), then assign the MIDI A or B to Level.*

To assign overall level to the control source, first select the control source then select 3.

Application: Probably the most common use is to assign LEVEL to the pedal, thus giving pedal-controlled volume. Or, assign this destination to the Right wheel when you need a manual volume control (such as during fadeouts) or to a MIDI control for pseudo-automated mixdown effects when driving Emax II from a sequencer.

PRESET DEFINITION

Assigning LEVEL to the left wheel can also be useful. At center position, the volume level is audible but can be increased by rotating the wheel away from you. Rotate the wheel towards you to fade out the sound completely.

● Destination: 4 LFO to PITCH

This function controls the extent (i.e., modulation index) to which the LFO modulates pitch. To assign this destination to the control source, first select the control source then select 4. (To change the LFO rate and LFO variation, refer to **DYNAMIC PROCESSING 15**.)

Application hint: This destination is most often assigned to the right wheel; rotating the wheel away from you increases the amount of vibrato. Assigning this destination to the pedal provides foot-controlled vibrato.

Note: Assigning this destination overrides the equivalent Dynamic Processing module function.

● Destination: 5 LFO to FILTER Fc

This function controls the extent to which the LFO modulates the filter cutoff frequency. To assign this destination to the control source, first select the control source then select 5. (To change the LFO rate and LFO variation, refer to section **DYNAMIC PROCESSING 15**.)

Application: This destination is most often assigned to the right wheel; rotating the wheel away from you increases the amount of filter modulation ("filtrato") which is a type of timbre modulation. Assigning this destination to the pedal provides foot-controlled filtrato. Slow filtrato is useful for varying the timbre on long, sustaining sounds; fast filtrato gives a "bubbly" sound which can resemble that of mechanical rotating speaker systems.

Note: Assigning this destination overrides the equivalent Dynamic Processing module function. Also, LFO to FILTER Fc interacts with the filter module frequency and envelope settings. If this function does not seem to work, check these settings. Example: If the filter cutoff is already at maximum, you will not be able to modulate it to any great degree.

● Destination: 6 LFO to LEVEL

This function controls the extent to which the LFO modulates the overall level (this phenomenon is called tremolo). To assign this destination to the control source, first select the control source then select 6. (To change the LFO rate and LFO variation, refer to section **DYNAMIC PROCESSING 15**.)

PRESET DEFINITION

Application Hint: When assigned to the right wheel, rotating the wheel away from you increases the amount of tremolo. Assigning this destination to the pedal provides foot-controlled tremolo. Tremolo is useful for "Bo Diddley" and surf music guitar sounds, as well as for simulating some electric piano sounds. Assigning this destination overrides the equivalent Dynamic Processing module function.

● Destination: 7 ATTACK RATE

ATK RATE controls the VCA and VCF attack rate. To assign this destination to the control source, first select the control source then select 7.
Application hint: When assigned to the right wheel, rotating the wheel away from you increases the attack time. This effect is useful when changing from legato to percussive effects, especially with sustained sounds such as strings.

Note: With ATK RATE assigned to a wheel, Dynamic Processing module function 12, VCA attack (A) and module function 14, filter attack (A) are disabled. Therefore, filter and VCA attack rates are determined solely by the wheel setting.

● Destination: 8 PANNING

PANNING controls the spatial placement of the sound in the stereo field. To assign this destination to the control source, first select the control source then select 8.

Application Hint: When assigned to the left wheel, rotating the wheel away from you places the sound in one channel, rotating the wheel towards you places the sound in the other channel, and center wheel position places the sound in the center of the stereo field. You can also use the pedal for foot-controlled panning.

Note: Assigning this destination overrides the equivalent Dynamic Processing module function.

● Destination: 9 XFADE

XFADE allows you to crossfade between the primary and secondary voices in a preset. To assign this destination to the control source, first select the control source then select 9.

Applications Hint: When assigned to the left wheel, this function also provides for real time changes in mix between two separate sounds (e.g., strings can fade out while brass fades in, or vice-versa).

Note: This function must also be enabled under Preset Definition function 5 (Velocity XFade).

PRESET DEFINITION

FOOTSWITCH DESTINATIONS

Emax II has input jacks for two footswitches

• Destination: (Footswitch) 0 OFF

To turn off the footswitch, first select the footswitch then select 0.

• Destination: (Footswitch) 1 ARP CTRL

To start and stop arpeggiation via the footswitch, first select the footswitch then select 1.

• Destination: (Footswitch) 2 SEQ CTRL

To start and stop the sequencer via footswitch, first select the footswitch then select 2.

• Destination: (Footswitch) 3 SUSTAIN

For footswitch controlled sustain, first select the footswitch then select 3.

Note: If you play a looped sound while the footswitch is pressed, as soon as the looped portion begins it will sustain (even after lifting your fingers off the keys) until the footswitch is released. Holding down the footswitch continuously provides a hold function for looped notes, where the last eight notes played will sustain for as long as the footswitch is pressed.

If you play an unlooped sound while the footswitch is pressed, it will play through its entire length (whether or not you are holding down a key), then stop.

• Destination: (Footswitch) 4 RELEASE

For footswitch controlled release, first select the footswitch then select 4. Any note played while the footswitch is pressed will play through its entire length, whether or not you continue to hold down a key. Looped sections are not repeated unless you hold down the key. *Releasing* the footswitch cancels release.

Application: If you have a voice with a short release but where there are sounds after the end of the loop, playing the sound normally will play through to the end of the loop and you will not hear the sounds that occur after the loop. However, if you press down on the release footswitch during the loop and remove your finger from the key, the voice will play through to the end—including the "after-loop" sounds.

PRESET DEFINITION

• Destination: (Footswitch) 5 X-SWITCH

For footswitch controlled switching between the primary and secondary preset voices, first select the footswitch then select 5. Pressing the footswitch will alternate between the two samples.

Note: This function must also be enabled under Pre▲❋t **Definition function 5 (Velocity XFade).**

l Destination: (Footswitch) 6 ADVANCE PRESET

To advance via footswitch from one preset to the next higher numbered preset (i.e., from Preset 01 to Preset 02), first select the footswitch then select 6. Press the footswitch momentarily to advance to the next preset. Advancing past the highest-numbered preset resets the Emax II to the lowest numbered preset.

Note: If you advance to a preset which does not have this destination assigned to one of the footswitches, you will not be able to advance out of that preset.

Hint: Use this function to return the display to the preset identifier mode when the sequencer is playing, enabling you to play different presets while listening to the sequencer.

Special Note: The Emax II is designed to work with two types of footswitches. If your **footswitch** seems to work b**ackward**s, refer **to Re**calibrate, l***ocated under Special in the Master* **module.**

PRESET DEFINITION 0STACK PRESETS

This function allows you to stack up to four presets on each key of the keyboard.

In Stack Preset mode, the current preset can be "Stacked" with up to three adjacent presets above it. For instance; if the current preset is 01, then presets 02, 03, and 04 may be stacked up so that one key will sound all four presets. The polyphony of the Emax II will vary according to the v**oi**ce architecture of each preset in the stack.

1. Select the current preset; this preset wil**l contain the stack** information.

2. Activa`te PRESET DEFINITION 0.`

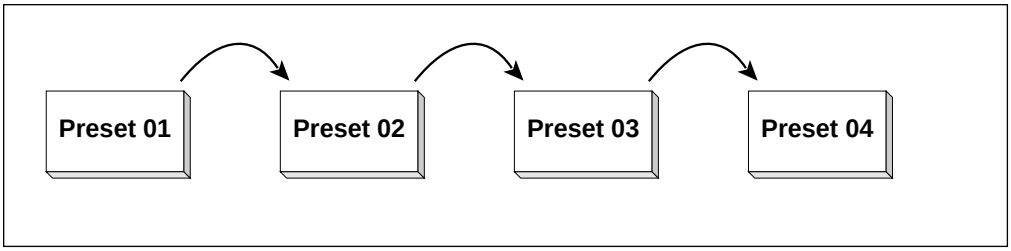
The display says:

PRESET DEFINITION

```
Stack Presets
XX thru YY
```

... where XX is the current preset and YY is the last preset that will be stacked.

3. Use the slider to select **the n**umber of presets to be be stacked. Press ENTER after making your choice, and the E



A preset may be "stacked" with up to three adjacent presets.