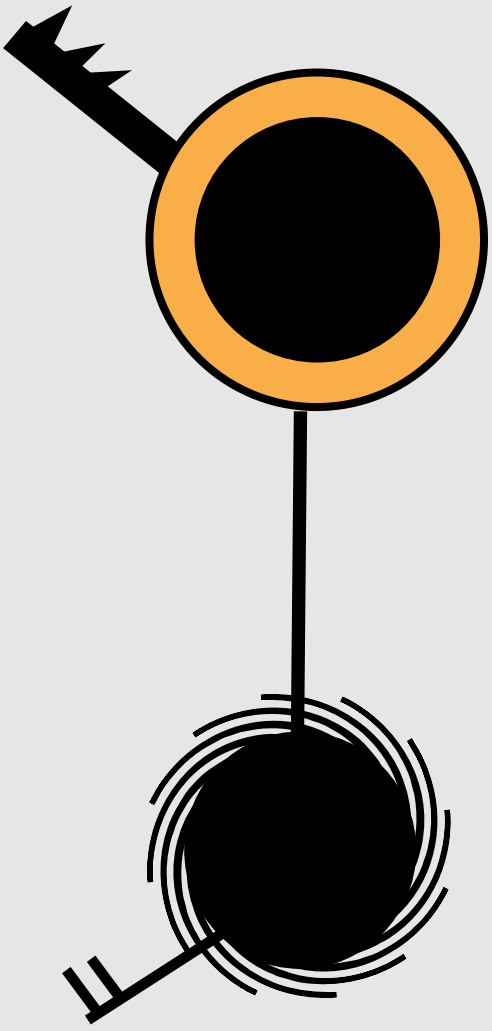
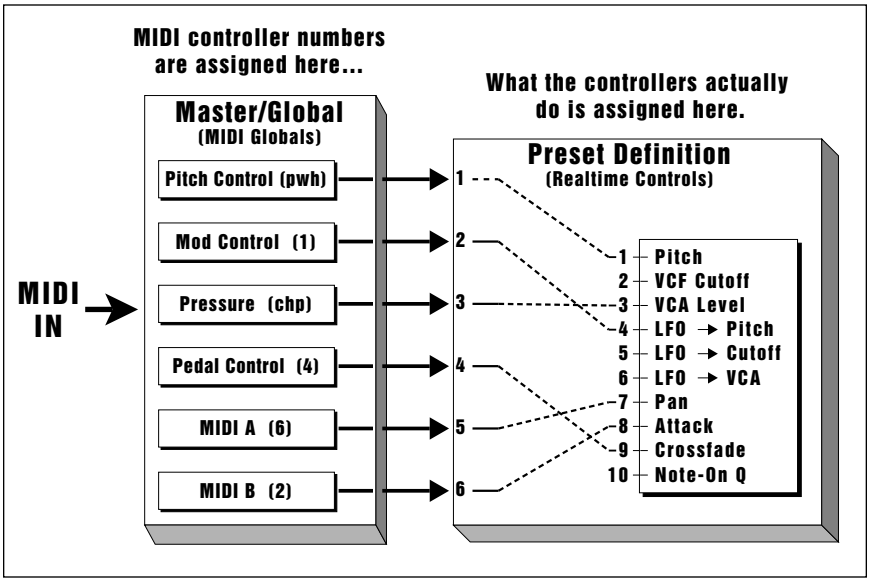
8 Preset Definition



0. Realtime Controls

Realtime controls allow complex and expressive controls over the sound in real-time, hence their name. Realtime controls can be continuously varied over time and are designed for fast, easy selection while playing live. Each preset can have its own unique set of pre-programmed realtime functions.

The realtime control sources must be connected to a destination in order to have any effect. The second line of the display shows the realtime control source and the third line shows the destination (or what will be controlled by the source). Refer to the following diagram.



MIDI continuous controller number numbers are matched to your keyboard in the MIDI submodule. The Realtime Controls submodule programs what these controllers actually do.

★ **Tip:** *Realtime functions usually control the entire keyboard. However, when making up a preset, it is possible to exempt certain zones from realtime control. This is described in Dynamic Processing, 8. Realtime Control Enable.*

For example, in order to have the pitch wheel of your keyboard control the pitch of the ESI, it must be assigned to pitch. Set the Pitch Control to be the source and the pitch as the destination. To make the right wheel control the amount of vibrato (LFO to pitch), set Mod Control as the source and LFO-> Pitch as the destination.

! **Remember:** *The realtime control assignments are only one-half of the connection. The MIDI continuous controller numbers are assigned in the Master/Global, MIDI submodule.*

Source —
Destination —

```
REALTIME CONTROLS
2 Mod Control
4 LFO -> Pitch
Select a Controller
```

Despite their names: Pitch Control, Mod Control, Pressure Control and Pedal Control, any of the realtime controls can be assigned to any MIDI continuous controller number. The continuous controller number is assigned in the Master/Global, MIDI (9) submodule.

1. **Activate Preset Definition module.**
2. **Select Realtime Controls (0).**
3. **Select a controller.**

```
 REALTIME CONTROLS
1 Pitch Control
1 Pitch
Select a Controller
```

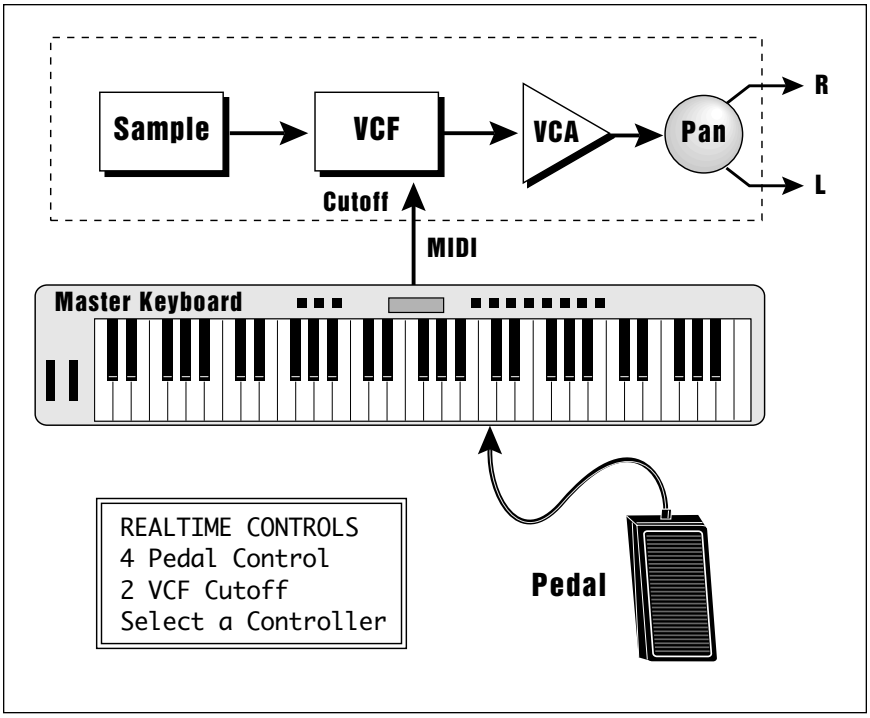
The eight assignable controllers are:

1. **Pitch Control**
2. **Mod Control**
3. **Pressure Control**
4. **Pedal Control**
5. **MIDI A Control**
6. **MIDI B Control**
7. **Footswitch 1 Control**
8. **Footswitch 2 Control**

! Caution: *Only one controller can be assigned to a destination. For example, if you assigned Mod. Control to VCF cutoff and then assigned Pressure Control to VCF cutoff, the ESI would automatically turn off the mod. control to VCF cutoff routing.*

4. **Move the cursor to line three and select the destination for the previous selected controller.** For some presets on factory disks, default destinations will already have been selected. For other presets, all control sources may be turned Off. **Each destination can be controlled by only one controller.**

★ Tip: *Brass sounds often increase in brightness towards the end of the note. Simulate this effect by using the pedal or wheel to increase the filter cutoff frequency towards the end of the note.*



The diagram above shows the Realtime Control setting to control Cutoff Frequency with a Foot Pedal.

Select the control destination from the following options:

0. **Off:** When chosen as a destination, this disables the control source.
1. **Pitch:** Generally, this destination is assigned to the left-hand synthesizer 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 ±12 semitones, as set in Preset Definition, Pitch Bend Range (7).
2. **VCF Cutoff:** This destination is normally assigned to the Mod Control, Pressure Control, or Pedal Control to add expressiveness to your playing. VCF Cutoff interacts with the filter module frequency and envelope settings. If the wheel does not seem to be working correctly, check these settings. For example, if the filter cutoff is already at maximum, you will not be able to use the wheel to increase the cutoff frequency.
3. **VCA Level:** Probably the most common use is to assign VCA level to the pedal, thus giving pedal-controlled volume. Or, assign this destination to the mod control when you need a manual volume control (such as during fadeouts). Assign VCA level to a MIDI controller for pseudo-automated mixdown effects when driving the ESI from a sequencer. The realtime control source adds to the initial amount as programmed in Dynamic Processing, VCA (2). For this destination to have any effect, the initial level of the zone must be set to a value less than 100%.
4. **LFO -> Pitch:** This destination controls the extent to which the LFO modulates pitch, and is most often assigned to the mod control. Rotating the wheel away from you increases the amount of vibrato. Assigning this destination overrides the equivalent Dynamic Processing module function.
5. **LFO -> Cutoff:** This destination controls the extent to which the LFO modulates the filter cutoff frequency. Assigning this destination overrides the equivalent Dynamic Processing module function.
6. **LFO -> VCA:** This destination controls the extent to which the LFO modulates the overall level. This effect is called tremolo. Assigning this destination overrides the equivalent Dynamic Processing module function.
7. **Pan:** This destination controls the spatial placement of the sound in the stereo field. When assigned to the pitch control, 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. Assigning this destination overrides the equivalent Dynamic Processing module function. The VCA pan position set in the Dynamic Processing module determines how the realtime controls will affect pan. Use the following chart to determine what effect a continuous controller will have on the pan position.

Controller	Effect on Pan Position
Pitch Control	Moves position Left or Right
Mod Control	Moves position Right
Pedal Control	Moves position Right
MIDI A Control	Moves position Right
MIDI B Control	Moves position Right
(+) Velocity	Moves position Right
(-) Velocity	Moves position Left

As an example, suppose you want the pedal to have full control of pan position. The Pedal Control can only move the sound to the right of its initial position. Therefore, you must set the initial pan position (Dynamic Processing, VCA (2)) to the extreme left. With the pedal fully up, the sound will appear at the extreme left. With the pedal centered, the sound will appear centered, and fully depressed, the sound will appear at the extreme right.

8. **Attack:** This destination controls the VCA and VCF envelope attack rate. When assigned to the mod control, 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.
9. **Crossfade:** This destination fades the primary sample(s) out while fading the secondary sample(s) in, or vice-versa. When assigned to the pitch control, this function also provides for realtime mix changes between two separate sounds (e.g., strings can fade out while brass fades in). This function must also be enabled under Preset Definition, Crossfade/Switch (5).
10. **VCF Note On Q:** This destination allows you to control Q with a continuous controller. Since this is a "Note-On" destination, the position of the controller is accessed only at the time the note is first turned on (key pressed).

The following is a description of the footswitch destinations:

0. Off: The footswitch is not on.

1. Sustain: 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.

2. Cross-Switch: This provides footswitch-controlled switching between the primary and secondary samples. Pressing the footswitch will alternate between the two samples. This function must also be enabled under Preset Definition, 5. Crossfade/Switch.

3. Unused 1
4. Unused 2
5. Unused 3
6. Unused A
7. Unused B

(Footswitch destinations 3-7 are EIII functions which were not implemented in the ESI. The numbers were retained to maintain compatibility.)

8. Preset Increment: Press the footswitch to advance from one preset to the next higher numbered preset (i.e., from preset 01 to preset 02). The ESI will stop incrementing at the highest numbered preset.

9. Preset Decrement: Press the footswitch to fall back from one preset to the next lower numbered preset (i.e., from preset 02 to preset 01). The ESI will stop decrementing at the lowest numbered preset.

★ **Tip:** *Preset Increment/Decrement needs to be set for each preset if you want to step through all your presets.*

5. **Move the cursor to line two and repeat steps 3 and 4 to map additional controllers.**
6. **Press ENTER to exit the submodule.** The ESI will return to the Module Identifier.

1. Load Zone

This submodule allows a zone, including samples and dynamic processing parameters, to be loaded from the internal hard disk drive or external storage devices into any preset.

1. **Activate Preset Definition module.**
2. **Select Submodule Load Zone (1).**
3. **If you wish to select a different drive, move the cursor to the drive number.** If not, proceed to step 5.
4. **Select the drive containing the zone to be loaded, then press ENTER.**

```
  LOAD ZONE from
D1 Main HD

  Select a Drive
```

5. **Select the bank that contains the preset from which the zone will be loaded, then press ENTER.**

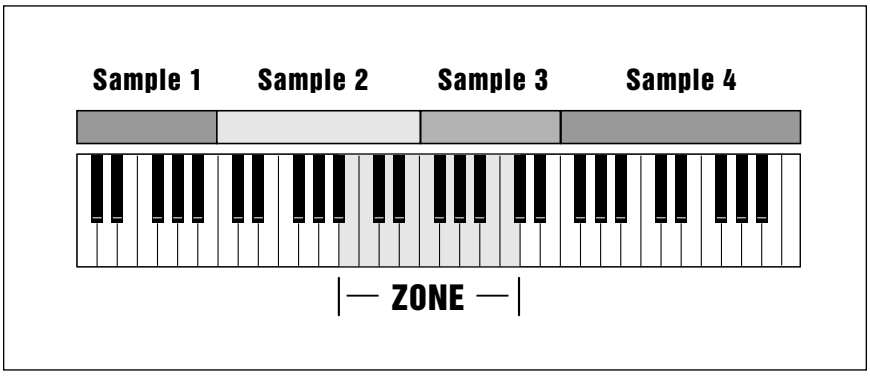
```
  LOAD ZONE from
01 Main HD
B00 Current Bank
   Select a Bank
```

6. **Select the preset that contains the zone to be loaded, then press ENTER.**

```
  LOAD ZONE from
P00 Current Preset

Select Source Preset
```

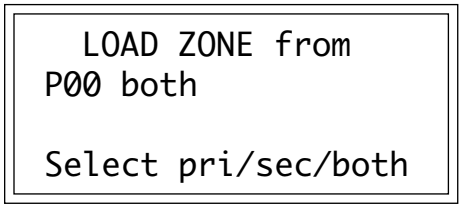
Note: *Zone selection works slightly differently depending on the module you are using. In the Preset Definition module, Dynamic Processing parameters and Samples are selected when you select a zone. In the Dynamic Processing module, selecting a Zone only affects the Dynamic Processing parameters.*



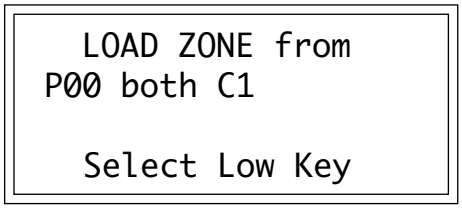
The zone contains samples as well as dynamic processing parameters.

! Caution: *If the source zone contains no secondary samples and you select both, loading the zone will overwrite both primary and secondary samples in the destination preset.*

7. **Select whether you will load the primary, secondary, or both samples from the zone, then press ENTER.**

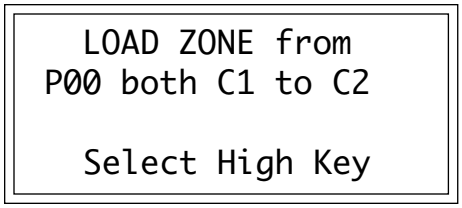


8. **Select the lowest key of the zone to be loaded, then press ENTER.** The default is the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample. Or, you can use the keyboard to specify any note as the lowest note of the zone.



The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

9. **Select the highest key of the zone to be loaded, then press ENTER.** The default is the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample. Or, you can use the keyboard to specify any note as the highest note of the zone.



The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

10. **Select the preset into which the zone will be loaded, then press ENTER.** The ESI defaults to the lowest numbered empty preset.

```
LOAD ZONE into
P01 Empty Preset

Select Dest Preset
```

If you select an empty preset, you will be given a chance to rename the preset that the ESI just created. Choose the characters you want to change with the left and right cursor buttons. Select the desired characters by using the ten key pad, Data Entry Control, and/or keyboard. You can also use the up cursor to insert spaces and the down cursor to delete spaces. After renaming is complete, press ENTER.

11. **If you selected only primary or secondary samples, select whether you want to load them into the preset as primary or secondary samples.** This step allows you to load primary sample(s) into secondary locations and visa versa. If in step 6 you selected both samples, the ESI will skip this step, as these samples will always be loaded into both primary and secondary sample slots of the destination preset.

! Caution: *Loading a zone will overwrite any previously assigned notes that overlap with the zone being loaded.*

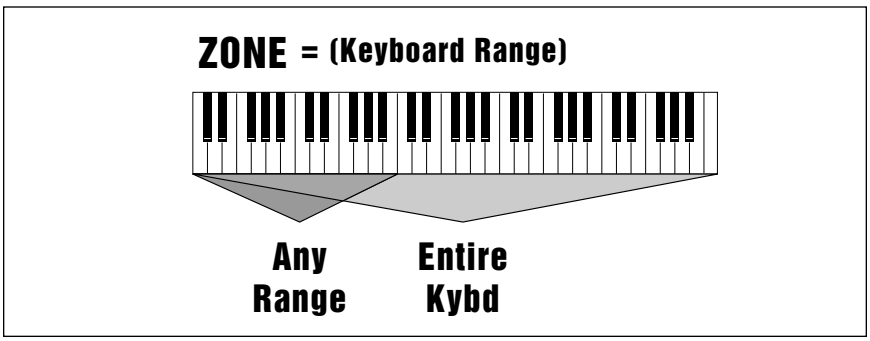
```
LOAD ZONE into
P01 pri

  Select pri/sec
```

12. **Select the key where the low key of the zone will be placed, then press ENTER.** As you select notes, the display will show the samples mapped into the preset. After loading, the ESI returns to the Module Identifier.

```
LOAD ZONE into
P01 both C1

Select New Low Key
```



2. Edit Assignment

Use this function to change the zone assignment and original keys within a preset. Edit Assignment also tells you which samples are assigned to which keys.

1. **Activate Preset Definition module.**
2. **Select the Edit Assignment Submodule (2).**
3. **If there are both primary and secondary samples, select which one you want to edit, then press ENTER.** If there are only primary or secondary samples, the ESI will automatically go to step four.

★ **Tip:** *To find out which samples are assigned to the keyboard, simply select Edit Assignment and play the keyboard. When you are finished, press Escape.*

```
   EDIT ASSIGNMENT
P00 pri

Select pri/sec/both
```

4. **Select the lowest note of the zone to be re-assigned, then press ENTER.** The default is to the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. (The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample.) Or, you can use the keyboard to specify any note as the zone's lowest note.

! **Caution:** *Selecting zones in the Edit Assignment menu can be confusing. We recommend that the zone boundaries coincide with the boundaries of a single sample when editing assignments. (Use the Data Entry Control.)*

```
  EDIT ASSIGNMENT
P00 both C1

  Select Low Key
```

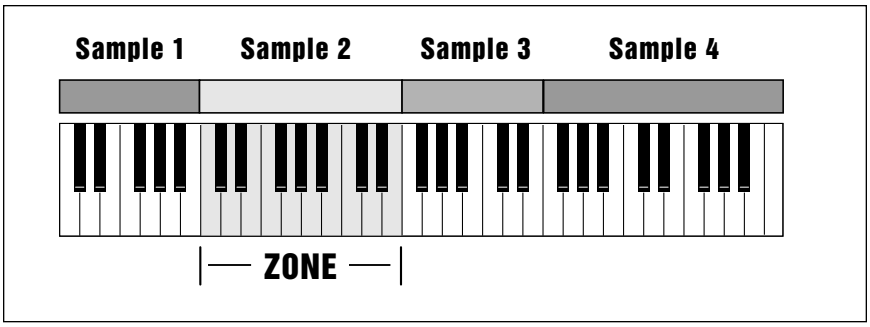
The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line will display the primary sample number, and the fourth line will display the secondary sample number associated with the note on line two.

5. **Use the Data Entry Control to select the highest note of the zone to be re-assigned, then press ENTER.** The default is to the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample. Or, you can use the keyboard to specify any note as the highest note of the zone.

! **Caution:** *Normally you will select the default high key (just press ENTER) unless you want to edit only part of a zone.*

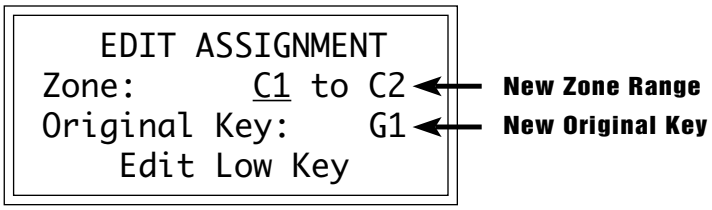
```
   EDIT ASSIGNMENT
P00 both C1 to C2

  Select High Key
```



If you just want to select the existing zone, simply press ENTER when the display asks you for the high key. The entire zone will be selected.

The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.



6. **Edit the assignment, then press ENTER.** The display shows the zone range (typically the low and high notes of a particular sample) and the original key. Use the cursor buttons to select parameter(s) to edit, and select keys by using the keyboard or Data Entry Control. **In this screen you set the new zone assignment.** If you extend the new zone so that it overlaps another sample on the same layer, it will replace the other sample in that area of the keyboard. After pressing ENTER the ESI will edit the zone range and the original key, and then return to the Module Identifier.

APPLICATION: Adjust the range of a sample.

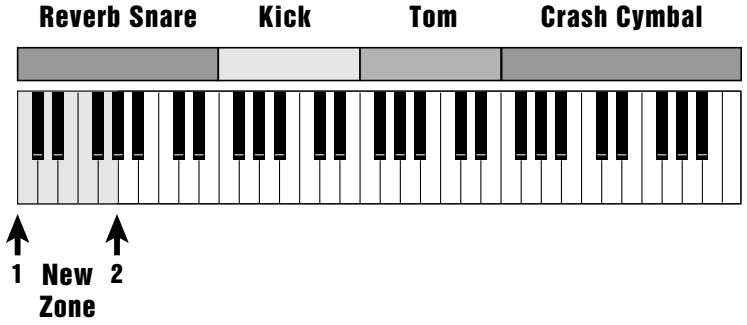
1. **Activate Preset Definition module.**
2. **Select Edit Assignment (2).**
3. **Select the proper layer, then press ENTER.** If there are only primary or secondary samples, the ESI automatically goes to step four.
4. **Select the lowest note of the desired zone using the** Data Entry Control, **then press ENTER.** The Data Entry Control scrolls through the lowest note of each sample on the keyboard.
5. **When the display asks for the highest note of the zone, simply press ENTER.**
6. **Edit the zone's range.** Do not change the original key. (It need not be within the range of the zone.) If you are extending the range of a sample, the other samples will move to make room for the new zone.

APPLICATION: Transpose a Zone

1. **Activate Preset Definition module.**
2. **Select Edit ssignment (2).**
3. **If there are both primary and secondary samples, select Both, then press ENTER.** If there are only primary or secondary samples, the ESI will automatically go to step four.
4. **Select the lowest note of the desired zone using the Data Entry Control, then press ENTER.** The Data Entry Control scrolls through the lowest note of each sample on the keyboard.
5. **Use the Data Entry Control to select the highest note of the zone, then press ENTER.** The Data Entry Control scrolls through the highest note of each sample on the keyboard.
6. **Edit the original key to transpose the zone.** The original key need not be within the range of the zone. As an example, moving the original key down from G1 to G-0 would result in the zone being transposed up one octave. Moving the original key up from G1 to G2 would transpose the zone down one octave.

APPLICATION: Transpose Part of a Zone.

Suppose you wanted to transpose the area marked by the arrows down an octave to create a Snare of Doom sound. Here's how.



1. **Activate Preset Definition module.**
2. **Select Edit Assignment (2).**
3. **If there are both primary and secondary samples, select Both, then press ENTER.** If there are only primary or secondary samples, the ESI will automatically go to step four.
4. **Select the note marked by arrow 1 using the keyboard, then press ENTER.**
5. **Select the note marked by arrow 2 using the keyboard, then press ENTER.**
6. **Edit the original key to transpose the zone.** Move the cursor down to the third line of the display, then use the INC/DEC buttons to select a new original key. Moving the original key up transposes down and vice-versa. Press ENTER. Only the new zone will be transposed. Everything else remains as before.

3. Erase Zone

Use this function to erase a zone.

1. **Activate Preset Definition module.**
2. **Select Erase Zone (3).**
3. **If there are both primary and secondary samples, select the one you want to edit, then press ENTER.** If there are only primary or only secondary samples, the ESI automatically proceeds to step 4.

```
      ERASE ZONE
P00 pri

Select pri/sec/both
```

4. **Select the lowest note of the zone to be erased, then press ENTER.** The default is to the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample. Or, you can use the keyboard to specify any note as the lowest note of the zone.

```
      ERASE ZONE
P00 both C1

  Select Low Key
```

The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

5. **Use the Data Entry Control to select the highest note of the zone to be erased, then press ENTER.** The default is to the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. (The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample.) Or, you can use the keyboard to specify any note as the highest note of the zone.

```
     ERASE ZONE
P00 both C1 to C2

  Select High Key
```

The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

6. **Press Yes to erase the zone, or No to cancel the operation.** In either case, you will return to the Module Identifier.

4. Copy Zone

This submodule allows zones to be copied into any preset.

1. **Activate Preset Definition module.**
2. **Select Copy Zone (4).**
3. **Select the preset that contains the zone to be copied, then press ENTER.**

```
   COPY ZONE from
P00 Current Preset

Select Source Preset
```

4. **Select whether you will copy the primary, secondary, or both samples from the zone, then press ENTER.**

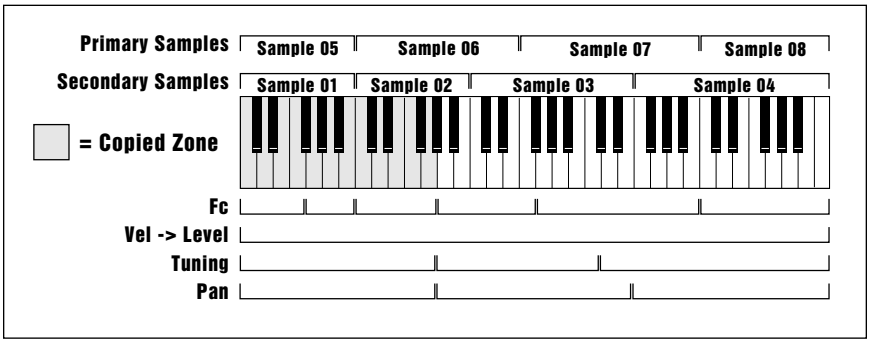
```
   COPY ZONE from
P00 both

Select pri/sec/both
```

```
   COPY ZONE from
P00 both C1

  Select Low Key
```

! **Caution:** *If the source zone contains no secondary samples and you select both, loading the zone will overwrite both primary and secondary samples in the destination preset.*

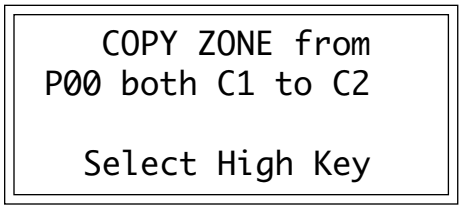


A copied zone consists of all Samples and Dynamic Processing parameters contained in that zone.

5. **Select the lowest key of the zone to be copied, then press ENTER.** The default is the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. (The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample.) Or, you can use the keyboard to specify any note as the lowest note of the zone.

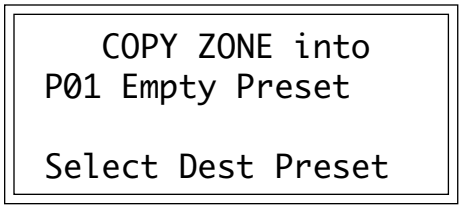
The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

6. **Select the highest key of the zone to be copied, then press ENTER.** The default is the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. (The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample.) Or, you can use the keyboard to specify any note as the highest note of the zone.



The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

7. **Select the preset into which the zone will be copied, then press ENTER.** The ESI will default to the lowest numbered empty preset.

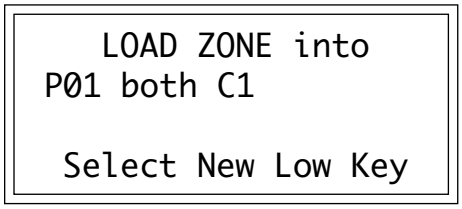


If you select an empty preset, upon pressing ENTER you will be given a chance to rename the preset that the ESI just created. Choose the characters you want to change with the left and right cursor buttons. Select the desired characters by using the ten key pad, Data Entry Control, and/or keyboard. You can also use the up cursor to insert spaces and the down cursor to delete spaces. After renaming is complete, press ENTER.

8. **If you selected only primary or secondary samples, select whether you want to load them into the preset as primary or secondary samples.** This step allows you to copy primary sample(s) into secondary locations and visa versa. If in step four you selected both samples, the ESI will skip this step, as these samples are always copied into both primary and secondary sample slots of the destination preset.

9. **Select the low key where the low key of the zone will be placed, then press ENTER.** As you select notes, the display will show the samples mapped into the preset. After loading, the ESI will return to the Module Identifier.

! Caution: *When a zone is copied, it overwrites that area of the destination preset.*

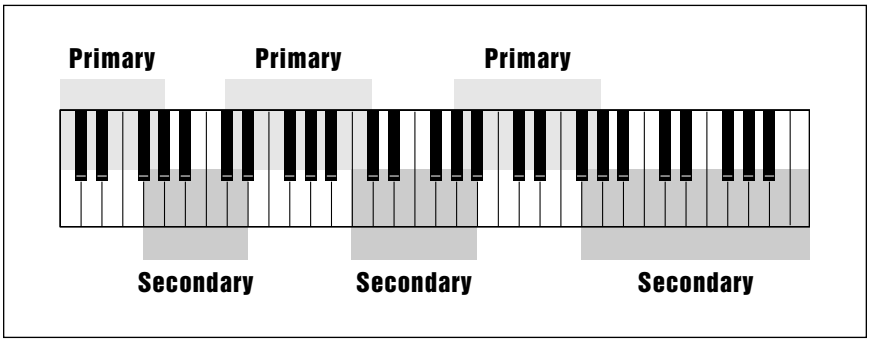


5. Crossfade Switch

This submodule offers several switching and crossfading functions. **Velocity Crossfade** crossfades between the primary and secondary samples according to how hard you play the keyboard. One sample will become louder as you play harder and softer as you play softer, while the other sample will become louder as you play softer and softer as you play harder. **Velocity Switch** is similar, but there is a threshold above which one sample plays and below which the other sample plays.

Where keyboard assignments of two samples overlap, **Positional Crossfade** alters the level (mix) between the two overlapping samples depending on where you play within the overlap range.

★ **Tip:** *Velocity crossfade is often used where the primary sample is a sound played softly and the secondary sample is a sample of the same sound played harder. Velocity crossfade causes the secondary sample to be brought in as you play the keyboard harder, producing a natural response.*



Positional Crossfade can be used to create seamless sample boundaries. The overlapping portions of the primary and secondary samples will be crossfaded.

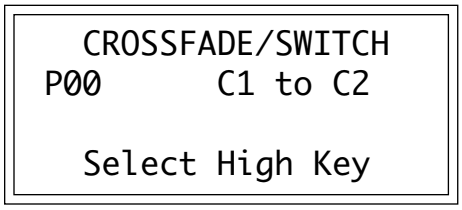
1. **Activate Preset Definition module.**
2. **Select the Crossfade/Switch submodule (5).**
3. **Select the lowest key of the zone to be crossfaded or switched, then press ENTER.** The default is to the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample. Or, you can use the keyboard to specify any note as the lowest note of the zone.

```
  CROSSFADE/SWITCH
P00      C1

   Select Low Key
```

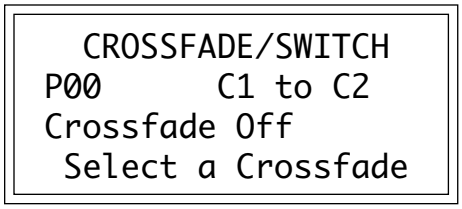
The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the first line displays the zone's crossfade status, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

4. **Select the highest key of the zone to be crossfaded or switched, then press ENTER.** The ESI defaults to the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample. Or, you can use the keyboard to specify any note as the highest note of the zone.



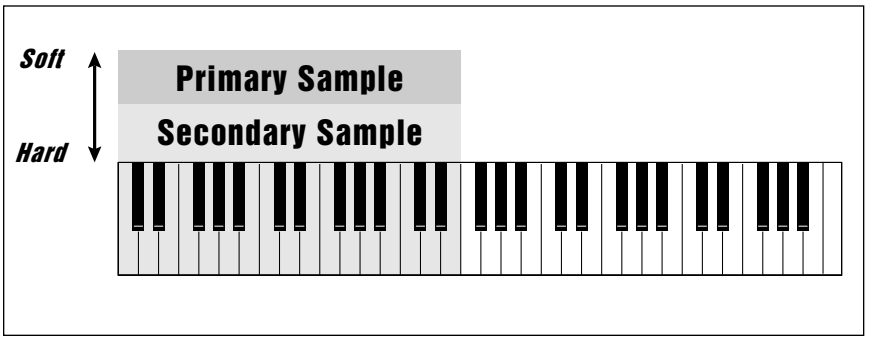
The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the first line displays the zone's crossfade status, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

5. **Select the desired type of crossfade from the following choices, then press ENTER.**



- **Crossfade Off:** There is no crossfading between the primary and secondary samples.
- **Velocity Crossfade:** One sample will become louder as you play more forcefully; the other sample will become softer.
- **Velocity Switch:** If you strike a key with more force than the mid-point of the velocity range, one sample will play. If you strike a key with less force than the mid-point of the velocity range, the other sample will play.
- **Positional Crossfade:** As you play from low to high over the selected zone, one sample will fade out as the other sample fades in. This is a useful technique for maintaining an even tone quality over the keyboard when multi-sampling.
- **Realtime Crossfade:** Crossfading occurs not according to keyboard velocity, but according to the realtime controller that has been assigned in Preset Definition, Realtime Controls (0).

- **Realtime Switch:** Switching occurs not according to keyboard velocity, but according to the realtime footswitch values set in Preset Definition, Realtime Controls (0).
- **Velocity Ranges:** Allows you to control the velocity settings for crossfading or crosswitching between the primary and secondary layers or between linked presets.



Velocity Crossfade. If the secondary sample equals "Hard", the primary sample becomes progressively softer and the secondary sample becomes louder with increasing playing force.

6. **Select whether the primary or secondary sample will play when the keyboard is played forcefully, then press ENTER.** If you choose Positional Crossfade, skip this step and go to Step 7.

```
  CROSSFADE/SWITCH
P00 pri C#1 to C2
Velocity Crossfade
  pri or sec Hard
```

Use the Data Entry Control to select whether the primary or secondary sample will:

- Fade in when the keyboard is played forcefully (Velocity Crossfade)
- Switch in when the keyboard is played forcefully (Velocity Switch)
- Fade in according to the realtime control wheel (Realtime Crossfade)
- Switch in according to the realtime footswitch (Realtime Switch)

After pressing ENTER the ESI will return to the Module Identifier.

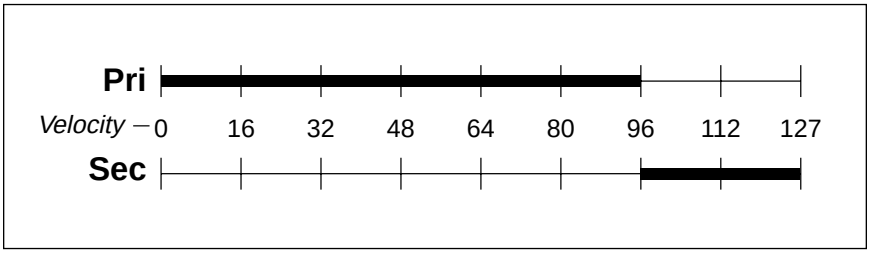
7. **For Positional Crossfade, select whether the primary or secondary sample will increase in level as you play higher on the keyboard, then press ENTER.** The other sample will decrease in level.

```
  CROSSFADE/SWITCH
P00        C1 to C2
Positional Crossfade
pri or sec = at Top
```

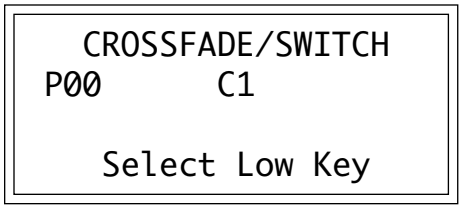
8. **For Velocity Ranges, select Velocity Range as the Crossfade-Switch parameter and press ENTER. Next, select the velocity ranges in the Preset Definition module, Vel Switch Pt/Link (6).**

• Crosswitch between the Primary and Secondary Layers

In this example, the Primary layer plays when the key velocity is below 96 and the Secondary layer plays when the key velocity is 96 or greater.

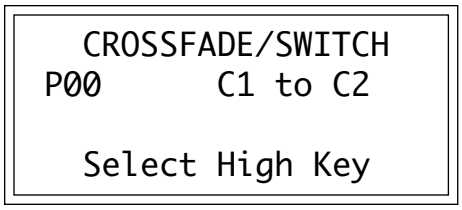


1. **Press the Preset Definition key.**
2. **Select Crossfade Switch (5).**
3. **Select the lowest key of the zone to be crossfaded or switched, then press ENTER**. The default is to the lowest note of the lowest sample. You can select a different low key in two ways. The Data Entry Control scrolls through the lowest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the lowest key of the zone to coincide with the lowest note of a sample. Or, you can use the keyboard to specify any note as the lowest note of the zone.



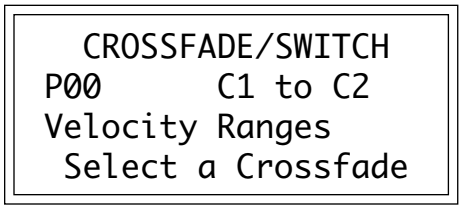
The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the first line displays the zone's crossfade status, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

4. **Select the highest key of the zone to be crossfaded or switched, then press ENTER**. The ESI defaults to the highest note of the sample that contains the previously specified low note. You can select a different high key in two ways. The Data Entry Control scrolls through the highest key of each sample on the keyboard. The Data Entry Control is the fastest selection method if you want the highest key of the zone to coincide with the highest note of a sample. Or, you can use the keyboard to specify any note as the highest note of the zone.

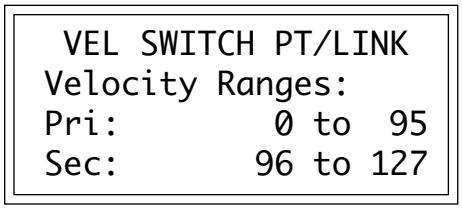


The second line shows the note being played on the keyboard (or scrolled with the Data Entry Control). After selecting a note, the first line displays the zone's crossfade status, the third line displays the primary sample number, and the fourth line displays the secondary sample number associated with the note on line two.

5. **Select Velocity Ranges crossfade from the seven choices, then press ENTER.**



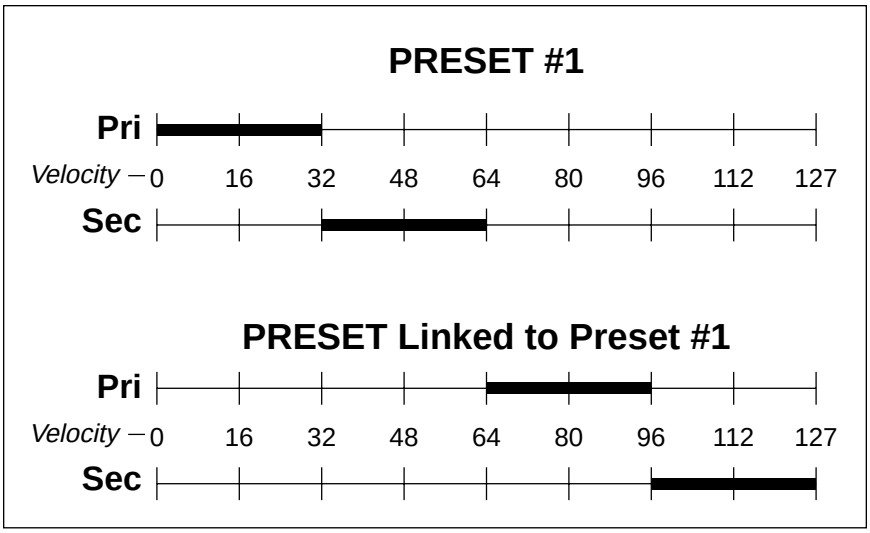
6. **Select the Velocity Switch/ Preset Link Submodule (6).**
7. **Press the Right Cursor key.** The following screen appears.



8. **Set the Primary and Secondary Velocity Ranges and press ENTER**. After pressing ENTER, the ESI returns to the Module Identifier.

• Crosswitch between Four Layers in Two Presets

The following example shows how to make a four way velocity crosswitch using a linked preset. The Primary layer of Preset #1 plays when velocity is in the range of 1-32. The Secondary layer of Preset #1 plays when velocity is in the range of 33-64. The Primary layer of the Linked Preset plays when velocity is in the range of 65-96. The Secondary layer of the Linked Preset plays when velocity is from 97 to 127.



1. **Press the Preset Definition key.**
2. **Select Submodule Crossfade/Switch (5).**
3. **Define the zone as described in the previous example.**
4. **Select Velocity Ranges crossfade from the seven choices, then press ENTER.**

```
  CROSSFADE/SWITCH
P00      C1 to C2
Velocity Ranges
 Select a Crossfade
```

5. **Select submodule Vel Switch Pt/Link (6)**. The following screen appears. Move the Cursor down to the lower line using the down cursor key.

```
 VEL SWITCH PT/LINK
Vel Switch Point: 60
Link Preset to
001 Percussion 2
```

6. **Select the Preset to be Linked.** Linking Presets allows multiple presets to play at once.
7. **Press the Right Cursor key**. The following screen appears.

```
 VEL SWITCH PT/LINK
Velocity Ranges:
Pri:        0 to  32
Sec:       33 to  64
```

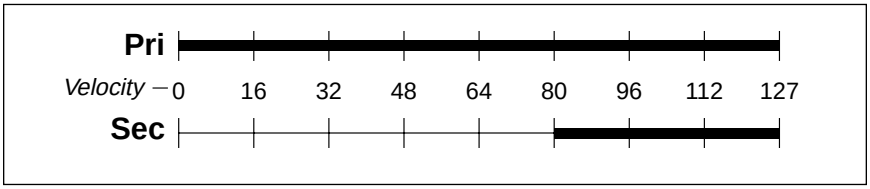
8. **Set the Primary and Secondary Velocity Ranges and press ENTER**. After pressing ENTER, the ESI returns to the Module Identifier.
9. **Press Preset Definition** to deactivate the module and return to the Preset Selection screen.
10. **Select the Linked Preset.**
11. **Press the Preset Definition key.**
12. **Select submodule Vel Switch Pt/Link (6).**
13. **Press the Right Cursor key.** The following screen appears.

```
 VEL SWITCH PT/LINK
Velocity Ranges:
Pri:       65 to  96
Sec:       97 to 127
```

14. **Set the Velocity Ranges as shown above so that all four layers now have their own velocity range and press ENTER.** After pressing ENTER, the ESI returns to the Module Identifier.
15. **Return to the first preset.**
16. **Play the Keyboard soft at first, then harder and harder.** You should hear the four different layers play as you vary the velocity.

Other Ideas

- By overlapping the velocity ranges you can create other special effects like having the Secondary layer come in only when a specific velocity is reached.



- With an effect assigned to a single layer you can use velocity to switch in effects such as echoes, chorus or reverb.
- Because you can link as many presets as you want, you could assign each layer to a very small velocity range so that different presets will be selected in a seemingly random way.

6. Velocity Switch/ Preset Link

This submodule contains two completely unrelated functions.

• The velocity cross-switch function in the Preset Definition, Crossfade/ Switch submodule (5) allows overlapping samples to be switched according to key velocity. The Velocity Switch portion of this module sets the velocity at which samples are cross-switched.

• The current preset can be linked with another preset, allowing you to place multiple presets on each key of the keyboard. As an example, suppose you link preset 001 to preset 002 and that preset 002 has previously been linked to preset 008. When preset 001 is played, presets 002 and 008 will play as well. When preset 002 is played, preset 008 will also play. The polyphony of the ESI will vary according to the voice architecture of each preset in the stack. If two presets are linked to themselves, forming a loop, those two presets will play in unison up to the channel limit of the ESI.

1. **Activate Preset Definition module.**
2. **Select Vel Switch Pt/Link (6).**
3. **Use the Data Entry Control to select the velocity at which samples will be cross-switched.** Values range from 1 to 127.

```
 VEL SWITCH/PT LINK
Vel Switch Point: 64
Link Preset to:
Pxx Off
```

4. **Move the cursor down one line and use the Data Entry Control to choose the preset (or none) that will be linked to the current preset.**
5. **Press the Right Cursor key.** The following screen appears.

```
 VEL SWITCH PT/LINK
Velocity Ranges:
Pri:      65 to  96
Sec:      97 to 127
```

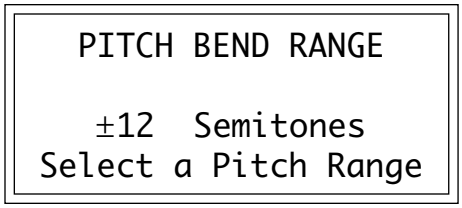
6. **Set the Velocity Ranges and press ENTER.**

After pressing ENTER, the ESI returns to the Module Identifier.

7. Pitch Bend Range

This submodule adjusts the pitch wheel range from ± 0 to ± 12 semitones.

1. **Activate Preset Definition module.**
2. **Select Pitch Bend Range** (7).
3. **Select the desired pitch bend range.**



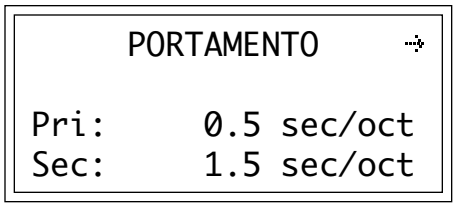
4. **Press ENTER to exit the submodule.** The ESI returns to the Module Identifier.

8. Portamento & Attack

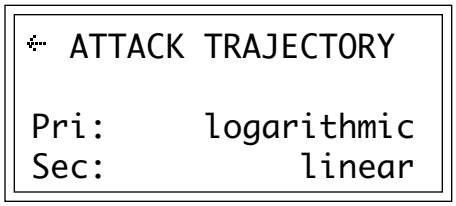
This submodule contains two completely unrelated functions:

- **Portamento** is a smooth gliding of pitch from note to note rather than the normal instantaneous change in pitch. Portamento affects all zones in the preset, but can be adjusted separately for the primary and secondary layers. Values are entered in number of seconds per octave from the last key to the current key. Portamento glides at a linear rate with a range programmable from 0.0 seconds (Off) to 32 seconds/octave.
- **Attack Trajectory** defines the attack curve of the ESI envelope generators. There are two selectable slopes: Linear or Logarithmic which affect all zones in the layer. A logarithmic attack rises quickly, then levels off as it approaches maximum level. Logarithmic mode works well for sounds with percussive attacks, while Linear mode tends to work better on sounds with slow attacks.

1. **Activate Preset Definition module.**
2. **Select Submodule Portamento/Attack** (9).
3. **Select the desired portamento rate for the primary and secondary layers.**



4. **Select page two by pressing the right cursor button.**



5. **Press ENTER to exit the submodule.** The ESI will return to the Module Identifier.

9. Effects

Effects Programmed in the Preset

This function is available only when the Turbo Option Kit is installed in the ESI. For detailed instructions on how to use the Effects submodule, refer to the Appendix.

When playing single presets (Omni or Poly mode) the effects are normally programmed as part of the preset. Because there are only two effects processors for the entire machine, each preset cannot be have its own effect in Multimode where up to 16 presets can be played at once.