DIGITAL PROCESSING

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DIGITAL PROCESSING 0 CHANGE CURRENT VOICE

This function changes the current voice selection.

1. Activate **DIGITAL PROCESSING 0**. The display says:

```
Process Pri or
Sec Voice:  XXX
```

...where XXX is either Pri or Sec. Use the data slider to select whether you will edit the Primary or Secondary voice, then press **ENTER**. If there are only Primary or Secondary voices, Emax II will automatically go to step 2.

2. The display now says:

```
Key: XX YY KHZ
Select a Voice
```

...where XX defaults to the lowest note of the lowest voice (whether Pri or Sec), and YY is the sample rate. Press a key in the range of the voice that you want to edit, or to quickly select the voice, use the data slider or increment buttons. While selecting the voice, the lower display line will show the voice number and its original pitch. After selecting the voice to be processed, press **ENTER**.

3. If the sample to be processed is used in other presets, processing the sample will process the sample in those other presets. Therefore, the display asks:

```
 Used Elsewhere
CopyItFirst? Y/N
```

Press **NO**, and any processing will affect other presets containing that sample. To avoid affecting other presets containing the sample, press **YES** to copy the sample—the current preset will contain the new copy in place of the original sample. Either response returns the Emax II to the module identifier. If there is "not enough memory" to duplicate the sample, the display will tell you.

If it is important to copy the sample, erase an unneeded voice (to gain memory space) (**PRESET DEFINITION 3**) and try again. Note that if a sample is used in other presets,

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processing it will process the sample in those other presets. Therefore, upon selecting the voice, you will be asked if you want to copy the sample.

Note that if two voices in the same preset use a single sample, then you will not be asked to copy first, and any changes will affect both voices in the preset.

3. While you remain in the Digital Processing module, all voices other than the current voice will be muted as you play the keyboard. The specified current voice will remain as is until you either change the voice assignment (**DIGITAL PROCESSING 0**), change presets, or load another bank. The current voice will need to be re-specified if you switch between modules.

DIGITAL PROCESSING 1 TRUNCATE (Set SampleStart/End)

Truncation shortens a voice's length by trimming off parts of the beginning and/or end.

■ *Make a copy of the preset if you wish to save your original sample un-edited.*

Applications: Cut off unneeded portions of a voice to conserve memory. Change instrument characteristics (i.e. remove the attack from a plucked string note). Cut off long decay (i.e., simulate noise-gated reverb effect on drums). Use to isolate a particular section of a sample.

1. Activate **DIGITAL PROCESSING 1**.

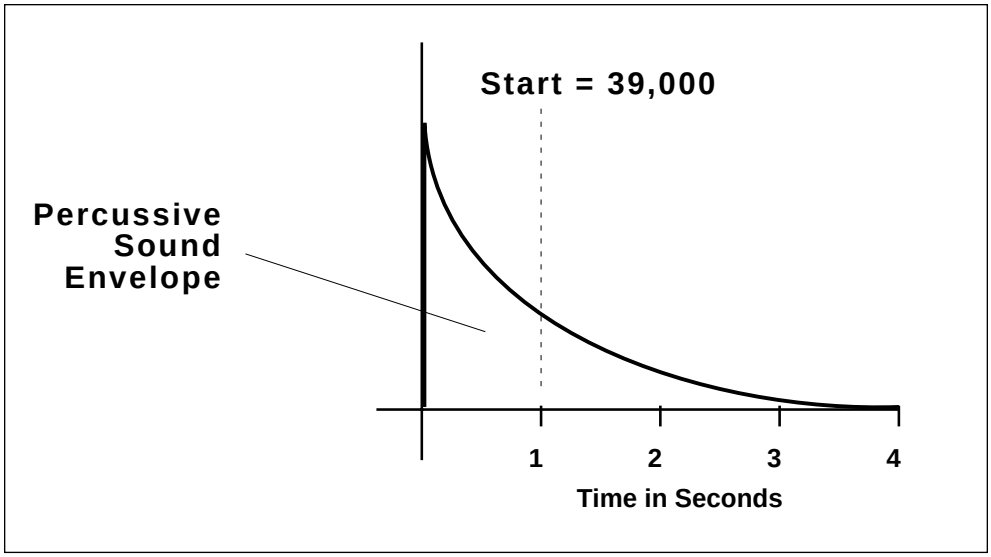
2. Use the arrow keys to move the cursor under either the Start or End point. The display will show these as:

```
Tr:Start  End
 XXXXXXX XXXXXXX
```

■ *Each side of a Stereo Voice must be truncated separately! Truncate the primary voice, then write down the truncation points and truncate the secondary voice so that it exactly matches the primary. This will preserve the stereo image.*

3. The seven digits under Start indicate, in number of sample points, how much is being cut off the start of the voice. The seven digits under End indicate, in number of sample points, how much is being cut off the end of the voice. Select the parameter to be adjusted with the cursor buttons. Adjust the coarse value with the data slider and fine value with the increment and decrement keys, or enter a seven-digit number. The minimum voice size is 34 samples.

Example: Adjusting these sliders so that the bottom line indicates Trun Start 0039000 cuts one second off the beginning of the sample at the highest sample rate.



Adjusting the Truncation Start to 0039000, cuts one second off the beginning of the sample at the highest sample rate.

4. After setting the desired truncation points, press **ENTER**. The display asks:

```
Make Truncation
Permanent?  Y/N
```

To permanently erase the truncated sections, press **YES**. To retain the truncated information in memory (so that you can truncate the sample again later in a different way), press **NO**. Note that if you exit the Digital Processing module or change the current voice (**DIGITAL PROCESSING 0**), this temporary truncation will be lost.

5. If you invoke this function to try and truncate a sample that has already been truncated, but for which the truncation has not been made permanent, the display will first ask:

```
Make Truncation
Permanent?  Y/N
```

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If you press **NO**, the Emax II enters the truncation function. **YES** permanently truncates the voice, the voice will be truncated at the previously selected truncation point(s), and the Emax II will return to the module identifier.

Note: As you change the truncation points of a looped sample (see **DIGITAL PROCESSING 2**), the loop(s) may disappear and reappear depending on the exact location of the truncation points. If the sample is permanently truncated while the loop is inaudible, then the loop will be lost. The minimum size of a voice is 79 samples.

DIGITAL PROCESSING 2 SET LOOP START and LOOP LENGTH POINTS

"Looping" lets you mark off a section (called a loop) of a voice with a Start Point and Loop Length. When you press a key, the voice plays normally until it reaches the end of the loop. It then jumps back to the Start point and re-plays through the loop. Upon reaching the loop end, it again re-plays the loop. This looping process continues for as long as the key is pressed.

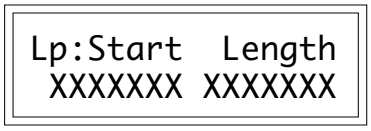
Note: DIGITAL PROCESSING 4 controls three aspects of looping: loop on/off, forwards/backwards, and loop in release. Refer to this section for specifics.

Note also that the Emax II offers two loops, each of which can loop a different portion of the signal. The Sustain Loop is operative when the key is down, and the Release Loop is operative in the release phase, when the key is up.

Applications: Looping provides "infinite sustain" effects, extends short samples, and if the loop time is rhythmically related to a composition, produces interesting rhythmic effects.

■ *Each side of a Stereo Voice must be looped separately! Loop the primary voice, then write down the loop points and loop the secondary voice so that it exactly matches the primary. This will save time. Alternately, you may wish to have different loop points on each side.*

1. Activate **DIGITAL PROCESSING 2**. The display shows:



The seven digits under Start indicate, in number of sample points, the Start of the Loop in relation to the beginning of the voice. A higher number moves the Start point closer to the end of the sample. Example: At a 39K sample rate, if the Start point reads 0039000, the Start point is located one second into the sample. The seven digits under Length indicate the Loop Length in number of sample points. A higher number increases the loop Length. The minimum start point is 3 samples and the shortest possible loop length on the Emax II is 32 samples.

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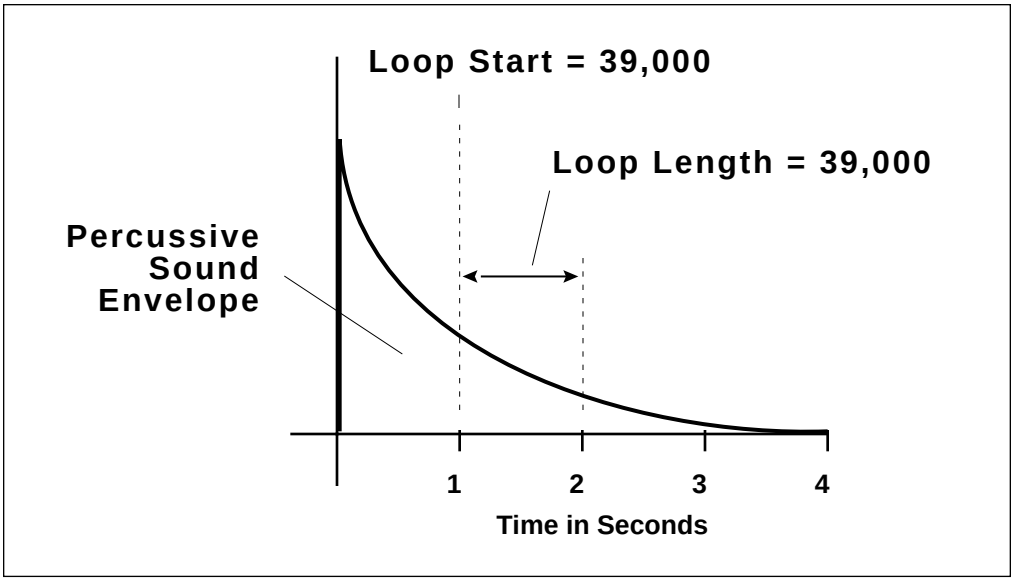
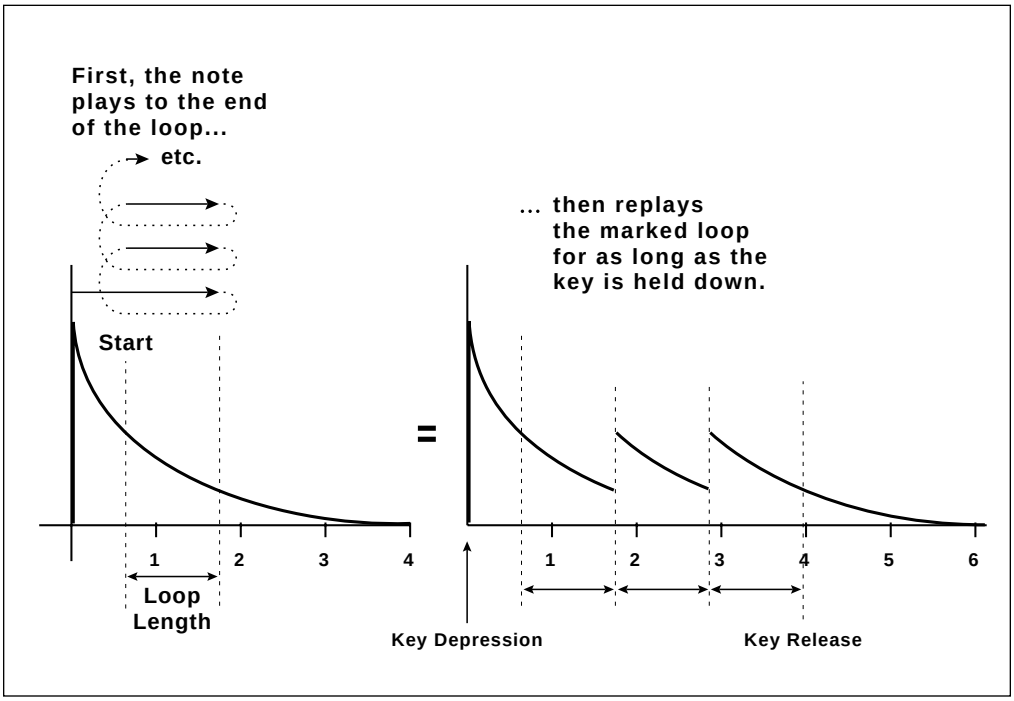


Example: If L reads L0039000, the loop is one second long at the highest sample rate. Select the parameter to adjust with the cursor buttons. Adjust the coarse value with the data slider and fine value with the increment and decrement keys, or enter a six-digit number. Loops have a minimum start point of 3 samples, and a minimum length of 32 samples.



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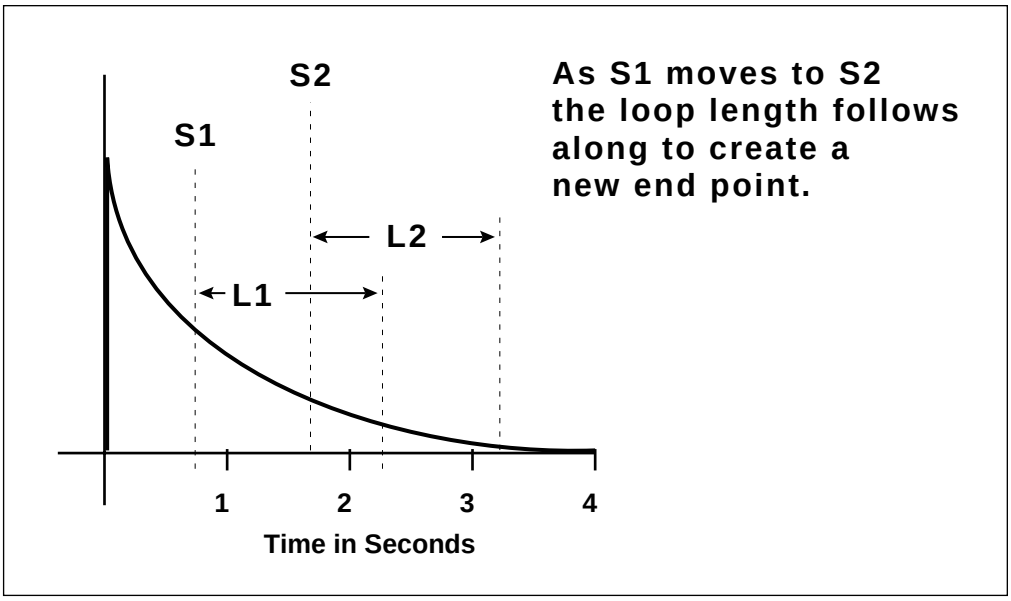
2. Remember—L sets the Length, not the end point, of the loop.When S moves, the loop end point (as determined by the loop Length) moves in tandem with S.

After finding a good loop, press **ENTER**.

Hint: If the Loop Length is at maximum (as occurs when you first call up a voice for looping), you cannot set a new S point since that would force the loop to "run out of sample". Shorten the Length before moving the S point.



Moving the loop's Start Point adjusts the End Point of the loop as well.

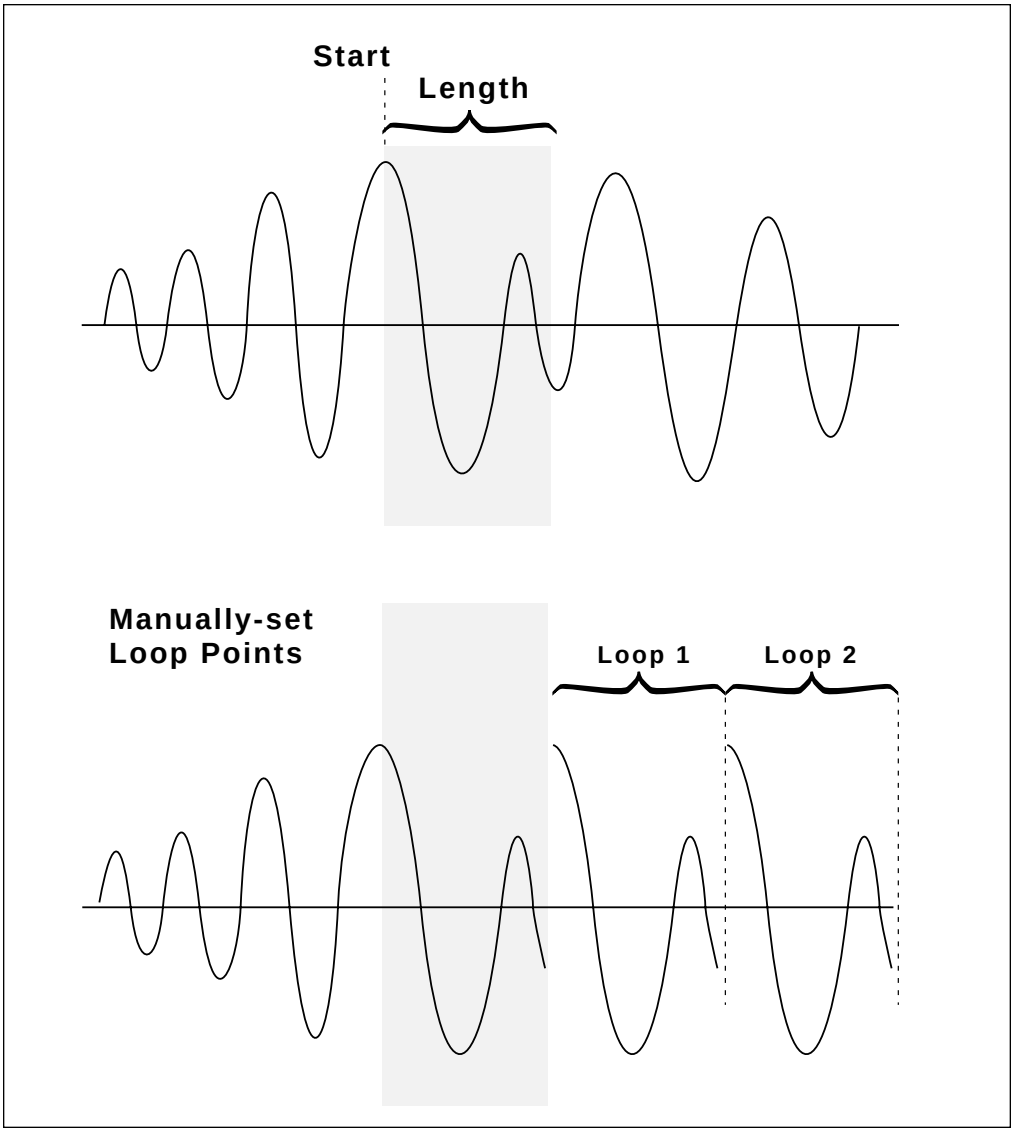
ABOUT AUTOLOOPING

Looping performs an electronic "splice" which sometimes produces annoying glitches. Here's why.

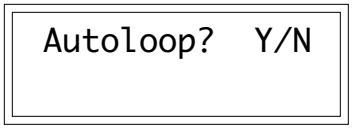
Refer to the diagram on the following page, which shows the waveform where a sample is to be looped. As the signal loops, note the discontinuity at the "splice point." This can produce an annoying ticking or popping sound.

Fortunately, the Emax II can help find the optimum splice point for you. Set loop points as best you can, then press YES to invoke Autoloop. The computer will look for nearby points that can be spliced together with minimum discontinuity. The display will update to reflect the computer-chosen Start and Loop points.

How well does Autolooping work? Incredibly well, once you get the hang of it (getting the most out of this function does require practice). Autoloop can save you much time when doing looped samples, and is remarkably effective with short, sustained samples.



3. The display now asks if you want to Autoloop...



Press **YES** to autoloop, **NO** if you have a good loop and want to continue.

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Note: Sometimes the Emax II will choose the correct splice point from a technical standpoint, not a musical one. Therefore, if you find a good splice point, write down the S and L numbers before invoking Autoloop. Should Autoloop produce an inferior splice point, you can regain your original settings.

4. If desired, repeat steps 2 to 4 until the best possible loop results.

Note: Sometimes it will be impossible for you or the computer to find a perfect splice point. When you first try looping, you will probably think this is a common occurrence. However, you'll generally find that Autoloop, combined with practice and experimentation, can usually produce very smooth loops.

5. After establishing the desired loop points, press **ENTER**. The display asks:

```
Truncate After
Loop? Y/N
```

Press **YES** to discard all voice data after the loop end point (this conserves memory). However, if you might want to use the same sample later with a different loop point, press **NO** to keep the entire sample intact, or save the preset containing the original sample to disk.

DIGITAL PROCESSING 3 SET RELEASE, LOOP START and LENGTH POINTS

For an explanation of Looping and Autolooping, see DIGITAL PROCESSING 2 above. This function is the same, but affects the Release Loop (operational when the key is released) rather than the Sustain Loop (operational when the key is down).

■ *If a Release Loop is not defined, then it will default to the Sustain Loop settings.*

1. Activate **DIGITAL PROCESSING 3**. The display asks:

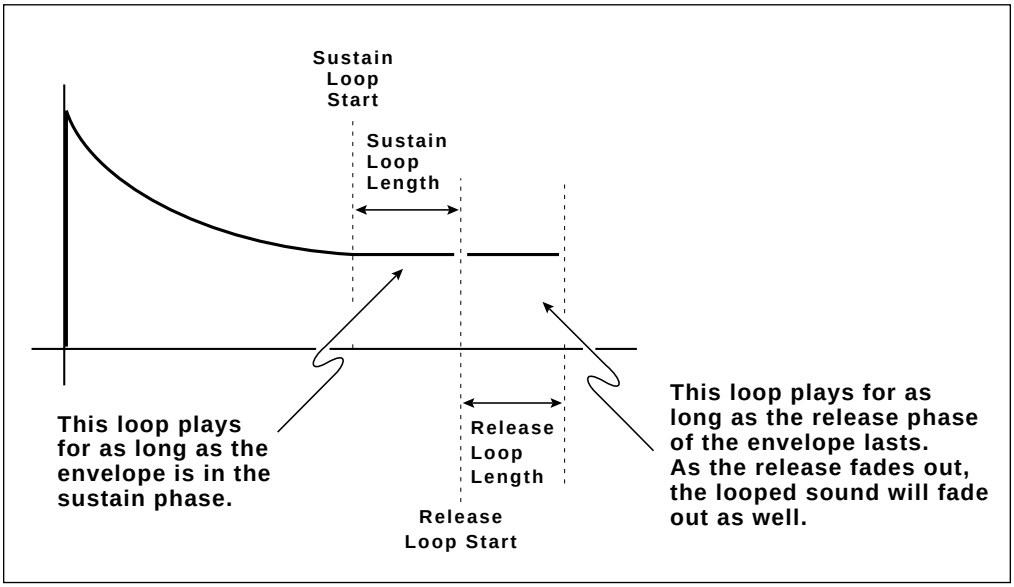
```
Same As Sustain
Loop? Y/N
```

Press **YES** if you want to copy the Sustain Loop parameters to the Release Loop and then return to the module identifier, or **NO** if you want to set different parameters for the Sustain and Release Loops.

2. If you pressed **NO**, the display shows:

```
Lp:Start  Length
 XXXXXXX XXXXXXX
```

The seven digits under Start indicate, in number of sample points, the Start of the Loop in relation to the beginning of the voice. A higher number moves the Start point closer to the end of the sample. The seven digits under Length indicate the Loop Length in number of sample points. A higher number increases the loop Length. Select the parameter to adjust with the cursor buttons. Adjust the coarse value with the data slider and fine value with the increment and decrement keys, or enter a six-digit number.



The Release Loop begins as soon as the key is released and continues until the sound fades out.

3. Remember—L sets the Length, not the end point, of the loop. When S moves, the loop end point (as determined by the loop Length) moves in tandem with S.

After finding a good loop, press **ENTER**.

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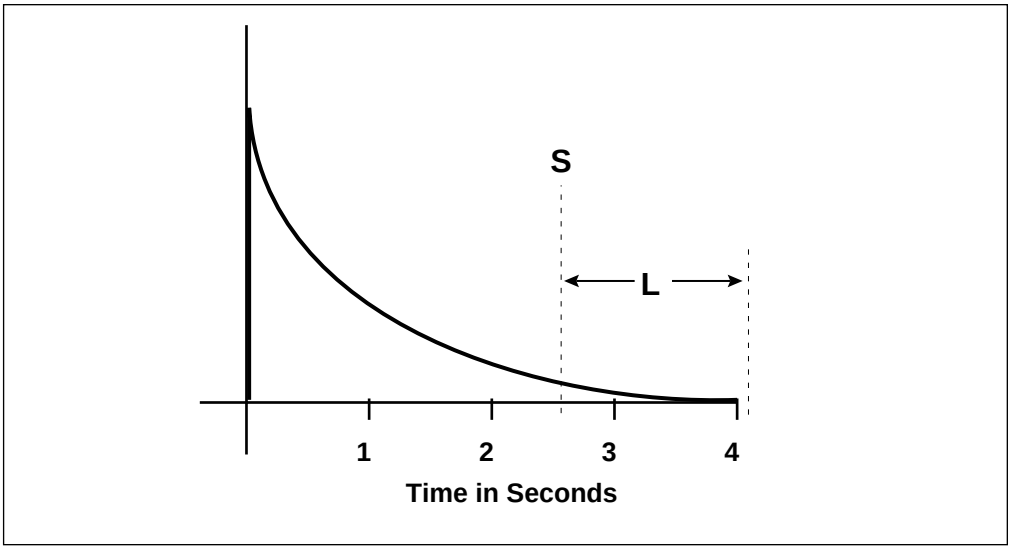
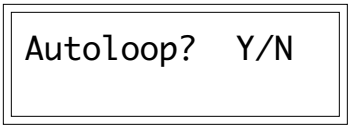


If the loop Length is at maximum (as occurs when you first call up a voice for looping), you cannot set a new S point since that would force the loop to "run out of sample". Shorten the Length before moving the S point.

4. The display now asks if you want to Autoloop (for more information on Autolooping, see **DIGITAL PROCESSING 2**).



Press **YES** to autoloop, **NO** if you have a good loop and want to continue.

Note: Sometimes the Emax II will choose the correct splice point from a technical standpoint, not a musical one. Therefore, if you find a good splice point, write down the S and L numbers before invoking Autoloop. Should Autoloop produce an inferior splice point, you can regain your original settings.

5. If desired, repeat steps 2 to 4 until you get the best possible loop.

Note: Sometimes it will be impossible for you or the computer to find a perfect splice point. When you first try looping, you will probably think this is a common occurrence. However, you'll generally find that Autoloop, combined with practice and experimentation, can usually produce smooth, glitch-free loops.