SAMPLE

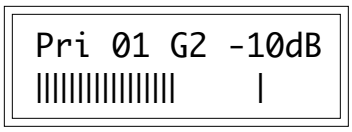
SAMPLE

SAMPLE 1 VU MODE/GAIN

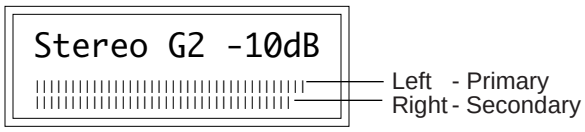
This function sets the proper level for sounds being recorded into the Emax II.

1. First, insert the source to be sampled into the rear panel sample input jack. Select the preset in which you want the sample to appear. Next, activate **SAMPLE 1**.

If the preset already contains a sample in the default range in which a new sample would be recorded (C1 low note, G1 original note, B1 high note), the Emax II will look for the first available empty keyboard space to place the sample. If the Emax II can't find an empty keyboard space, it chooses the standard default and goes to the place sample screen (see **SAMPLE 2**). After this is taken care of, the display shows:



Mono Sampling



Stereo Sampling

There may or may not be some moving vertical bars in the display's lower line.

2. The data slider sets the sampling section gain from -10 to +40 dB in 2 dB steps. Play the sound to be sampled and observe the moving bar display; louder signals will kick the bars further over to the right. The signal can be monitored through the main outputs. The Emax II VU meter is a "peak hold" type which briefly "holds" the highest level attained.

The signal levels on the VU meter should be set as follows for optimum results:

- Emax II with **Mono** Sampling capabilities *only* : The signal level should be set so the peak does not exceed the level shown in the Mono Sampling diagram above.

- Emax II with **Stereo** Sampling option: The signal level should be set so that the peak bar comes close to the extreme right side without actually reaching it. This is the optimum recording level for either mono or stereo samples.

3. If the meter bar hits the extreme right hand side, the headroom of the Emax II has been exceeded. Adjust the data slider, and possibly the output control of the device being sampled (if present), so that peaks are below this overload point.

▼ *High level signals should **not** be present at the sample input jack when entering the sample module because the Emax II autocalibrates the sample inputs during this time.*

■ *Please refer to "The Art of Sampling" in the Advanced Applications section of this manual for more information.*

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SAMPLE 2 PLACE SAMPLE

Emax II defaults to placing the sampled sound on G1, transposed down to C1 and up to B1. However, this can be changed before sampling.

1. Activate **SAMPLE 2**. The display shows:

...where XXX indicates primary, secondary or stereo voice, and YY are keyboard notes.

2. Use the cursor buttons to select the parameter to be changed:

Spl = Use the data slider to select primary, secondary or stereo voice. Move the cursor to the next parameter to be changed or press **ENTER** to return to the module identifier. The status of this control can only be changed *before* a sample is taken.

Orig = Specifies the original key at which the sample will appear. Change this with the data slider, or play the desired keyboard key. Move the cursor to the next parameter to be changed or press **ENTER** to return to the module identifier.

Lo = Chooses the sample's low transposition point. Change this with the data slider, or play the desired keyboard key. Move the cursor to the next parameter to be changed or press **ENTER** to return to the module identifier.

Hi = Chooses the sample's high transposition point. Change this with the data slider, or play the desired keyboard key.

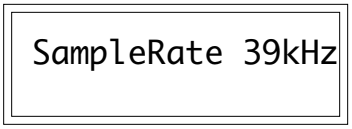
Note: If the display says "Illegal Asngment", you are either trying to place the low note higher than the high note or the high note lower than the low note.

If you want to change a previously selected parameter, move the cursor; otherwise, press **ENTER** to return to the module identifier.

SAMPLE 3 SAMPLE RATE

The Emax II has an adjustable sample rate. Lower sample rates use up less memory, but increase distortion and reduce high frequency response. Higher sample rates give better fidelity but use up more memory.

1. Activate **SAMPLE 3**. The display shows:



SAMPLE

2. Use the data slider to choose from six different sample rates between 20kHz (medium-quality DDL sound) to 39 kHz (almost the same rate used with Compact Disks).

Press **ENTER** to return to the module identifier.

SAMPLE 4 SAMPLE LENGTH

Once sampling is initiated, the Emax II will normally sample until it runs out of memory or is stopped (see SAMPLE 8, the "Stop Sampling" function). However, this function lets you program a particular sample time after which Emax II will stop sampling.

1. Activate **SAMPLE 4**. The display says:

```
Length XX.X secs
(YY.Y Available)
```

...where XX.X is the time in seconds and YY.Y is the maximum time available.

Maximum time will depend on your sample rate; The chart below shows sample rates versus time (this chart assumes that all of the Emax II's sample and sequence memory is empty).

SAMPLE RATES	TIME (seconds)							
	1 M	**2 M**	**3 M**	**4 M**	**5 M**	**6 M**	**7 M**	**8 M**
20.000kHz	26.1	52,5	78.6	104.9	131.1	157.3	183.5	209.7
22.050kHz	23.7	47.6	71.3	95.1	118.9	142.7	166.4	190.2
27.778kHz *	**18.9**	**37.7**	**56.6**	**75.5**	**94.4**	**113.2**	**132.1**	**151**
31.250kHz *	**16.8**	**33.5**	**50.3**	**67.1**	**83.9**	**100.7**	**117.4**	**134.2**
39.0625kHz	13.4	26.9	40.3	53.7	67.1	80.5	94	107.4

Note: The Sample Rates shown in **Bold**, have a maximum *continuous* sampling time equal to that of the 39kHz rate. Emax II samples at the 39kHz rate, then performs automatic sample rate conversion on the sample and frees up the additional memory for subsequent sampling.

The additional rates of 10kHz, 15.625kHz, 41.667kHz, and 44.1kHz are available in the Sample Rate Conversion function of the Digital Processing module.

SAMPLE

2. Use the data slider to change the sample length (the increment length depends on the available memory). When the display shows the desired sample length, press **ENTER**. The sample length will remain as set until changed.

SAMPLE 5 THRESHOLD

There are two ways to initiate sampling: Threshold-sensitive sampling and forced sampling (SAMPLE 7). With threshold-sensitive sampling, once sampling is "Armed" sampling begins whenever the signal to be sampled exceeds the programmable threshold level. This function sets the threshold level.

■ *When sampling in Stereo, sampling will begin whenever either the left or right channel exceeds the threshold.*

1. Activate **SAMPLE 5**. Once you move the data slider, the display will show a single bar on the top line that indicates the threshold level; the lower line will show the level of the signal to be sampled.

2. Set the desired threshold level with the data slider. Generally, you will set threshold just above the residual noise of the sound to be sampled. Therefore, any noise will not initiate sampling, but a signal that exceeds the threshold will.

Hint: Set the lowest possible threshold. If the beginning of a sound is cut off, the threshold is too high. If there's a delay before the beginning of a sound, the threshold is too low and was probably triggered by some noise prior to the actual signal.

Note: Once sampling has begun, the Emax II will continue sampling even if the signal falls below the threshold level. To stop sampling, refer to **SAMPLE 8** or set a specific sample length (**SAMPLE 4**).

SAMPLE 6 ARM SAMPLING

Upon initiating this function, Emax II will begin sampling as soon as the sound to be sampled exceeds the threshold set with SAMPLE 5, or when sampling is forced (see SAMPLE 7).

1. Activate **SAMPLE 6**. The display's top line says "Sample Armed", while the bottom line shows the moving-bar VU meter (see **SAMPLE 1**).

2. As soon as the sound to be sampled exceeds the threshold, the display will say "Sampling." After reaching the end of the sample length (if set with S**AMPLE 4**), being stopped manually (**SAMPLE 8**), or when the Emax II runs out of memory, the display will return to the module identifier.

3. Play the keyboard in the sample range. If you are not satisfied with the sample, repeat steps 1-2 before de-activating the module. Otherwise, de-activate the module. Deactivating the module, then re-entering it, will automatically advance the default sample range to the next available space.

SAMPLE 7 FORCE SAMPLING

Force sampling lets you initiate sampling manually as an alternative to threshold-sensitive sampling. This is useful for situations where the signal to be sampled is more or less continuous (continuous signals greatly complicate the threshold-setting process described in SAMPLE 5).

1. With the module active and levels properly set, as soon as you are ready to sample key in 7. Sampling will begin immediately, and the display will say "Sampling."

2. After reaching the end of the sample length (if set with **SAMPLE 4**), being stopped manually (**SAMPLE 8**), or when the Emax II runs out of memory, the display will return to the module identifier.

3. If you are satisfied with the sample, de-activate the module.

SAMPLE 8 STOP SAMPLING

End sampling at any time by keying in 8. After sampling, the display will return to the module identifier.

SAMPLE 0 CHANGE CURRENT SAMPLE

If you take consecutive samples without exiting the sample module, each sample will overwrite the previous sample. However, you can specify a new sample into which a sample will go—even without exiting the sample module—by keying in 0. Emax II will default to the next empty sample number.

The display says:

```
New Sample
Pri  XX  YY
```

... where XX is the voice number and YY is the keyboard placement of the sample.