SD-1 POWER PRIMER
(Part One)

by

Tony Thomas

On the surface, the SD-1 looks like just about any other MIDI workstation. Buried beneath its front panel, however, you will find a sound creation powerhouse that can replicate just about any acoustic sound as well as any synth texture imaginable. It is this capability that separates the SD-1 from the rest of the workstation pack as far as I'm concerned. While there are a slew of keyboards and modules on the market that can provide plenty of "oohs" and "ahhs" in the showroom, there are very few that are as "deep" as the SD-1 technologically. Unfortunately, in the never ending search for instant gratification, many would be buyers pass the SD up for something a bit more trendy. If you're like me, you'd rather have something a bit more substantial than the latest hip bass or orchestra hit. If that is the case, you probably own or are planning to buy a SD-1.

THE INTIMIDATION FACTOR

I remember the night I brought my SD-1 home. After noodling around on the keyboard a bit, I decided to try my hand at sequencing and programming. Since I also own a Mirage and ESQ-M, I didn't think that it would be difficult to figure out the SD-1. As I began to dig into its architecture, I began to realize just how powerful and complex an instrument it is.

After glancing at the manual, I saw that I would be spending quite a bit of time with my head buried between its pages learning about my newfound friend. It's very easy to become intimidated with an instrument as sophisticated as the SD-1. Don't be. Even though it is complex, if you will just be patient and take your time, you can unearth many of its hidden treasures.

TAKING CONTROL

One of the most powerful and useful features of the SD-1 is its versatile multi-controller interface. In addition to standard controllers like the pitch bend and modulation wheels, the SD-1 also offers exclusive patch select buttons which enable you to bring in different parts (actually oscillators) of a sound or change its character completely. Once you learn how the patch select buttons work, you will be able to open up the true sonic potential of the instrument.

Unfortunately, many people looking at the instrument for the first time fail to realize the incredible implications those two little buttons can have on their playing. In their search for "instant gratification", they overlook two of the most powerful weapons in the instrument's sonic arsenal. With those two buttons, you can change a sustaining lead guitar sound, for example, into a "chunk" guitar in a split second. A legato string sound can be turned into a marcato or pizzacato sound and back again just as rapidly. When

combined with the traditional mod and pitch bend wheels, these buttons can add a great deal of articulation and realism to your playing. The SD-1 also has performance parameters which can be adjusted in real-time during a performance. They can also be recorded into the sequencer as you play. These parameters include volume, pan, timbre, key zone, transpose, release, patch select, pressure and sustain. Finally, the SD-1 has polyphonic key pressure—a feature found on very few keyboards—which enables you to add vibrato, for example, to a single note in a chord.

STEADY AS SHE GOES

Patience is not only a virtue. It is an outright necessity if you are going to unleash the power inherent in the SD-1. Take your time and understand that you are not going to learn everything about the instrument in one sitting. In future issues of the Hacker, we'll be here with articles to make the process less arduous.

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THE SD-1 POWER PRIMER

(Part Two)

by

Tony Thomas

One of the endearing qualities of the SD-1 is its uncanny ability to sound like a meaty analog synth one moment, a delicate digital synth the next and a stunningly realistic sampler the next. This chameleon-like quality is due to the fact that those wonderful people in Malvern loaded its ROM with plenty (3.5 megabytes to be exact) of samples, analog waveforms, digital waveforms and what Ensoniq calls "transwaves". By understanding these sonic building blocks, you will begin to realize the SD-1's true music making potential.

LET'S MAKE WAVES

Unlike many other synthesizers which utilize numbers or cryptic names to identify the waveforms and samples contained in ROM, Ensoniq has assigned waveforms and samples to "classes", thereby enabling you to find the sound you want quickly and easily. It also takes a lot of the guesswork out of sound creation. If you need a piano sound, you simply check out the various piano waveforms. Need a string patch? Go to the string group. Just about any type of sound you need is there. Listening to the waveforms inside the SD-1 isn't as straightforward as punching up a preset patch, so you'll have to do a few things in preparation.

First of all, select the POP GRAND patch (Internal #12) Next, hit the voice select button and select the PIANO-16 waveform. Double-click on this wave (hit the soft button twice in rapid succession). Then, hit the filter button and change the cutoff parameter to 127. Finally, go to the wave page. There, you will be able to select the waveforms with the top left soft button and the wave group with the top middle soft button and use the slider to run through them.

CATCH A WAVE

After you enter the wave page, you will find yourself at the PIANO-16 waveform which is a member of the PIANO-SOUND wave class or category. The SD-1 has sixteen wave classes. They are: Strings, Brass, Bass, Breath, Tuned Percussion, Percussion, Transwave, (Synth) Waveform, Inharmonic, Multi-Wave, Drums, Multi-Drum, Piano, Hip-Percussion, Misc. Samples and Drum-Map. Within these sixteen wave classes, you

can probably find just about any kind of instrument you are looking for and then some! By my count, there are 168 different waveforms/wavesamples to choose from.

These sonic building blocks allow you to unleash your creativity and to develop a myriad of sounds. Take some time to go through each wave class and individual instrument. Become intimately familiar with each timbre and try to envision how each one can be utilized in a musical context. It will also become apparent that these waveforms are not finished sounds in themselves (except for the percussion sounds). They will need envelopes (start/sustain/release characteristics) filtering and scaling to bring them to life. Some of the waves contain only the attack portions of the sounds they represent and must be used in conjunction with waves that sustain.

Yet, it is much easier to develop sounds on the SD-1 than with most other synthesizers since you don't have to build your sounds from scratch. Plus, since most of the waves are actual sampled sounds, they have the realism that you just can't get from imitative synthesis techniques.

RIDING THE CREST

There are four basic parameters associated with the wave page. They are: WAVE DELAY which allows you to control how long it takes to hear the sound after you hit the key (useful for bringing in parts of the sound gradually), START which enables to you decide where within the wavesample it will start playing, VEL-STARTMOD which allows you to change the START point using key velocity (both forwards and backwards), and FORWARD which toggles between FORWARD and REVERSE mode.

This allows you to actually play waves backwards. For TRANSWAVES, the last two parameters change to MODSRC (Modulation Source) and MODAMT (Modulation Amount). For The MULTI-WAVE parameter, they change to length (determines the number of waves that will be played in the loop) and FORWARD which toggles between FORWARD and REVERSE. For the WAVEFORM and INHARMONIC classes, the bottom line is blank since these are static single-cycle waves. By spending time in the wave page and learning the waveforms in the instrument, you will be laying the foundation that will enable you to quickly edit patches and even program the SD-1. It will also take much of the guesswork out of programming since you'll be able to go to the exact sound you want in just seconds. We'll build on that foundation in coming articles.

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