

Transoniq

Hacker

The Independent News
Magazine for Ensoniq Users

The Ensoniq TS-10 A Preview

Robby Berman

Ensoniq has just released their new flagship synth. It's called the TS-10, and it's a doozy. With an architecture based on the popular VFX-sd/SD-1, the familiar layout could fool ya, but there's a lot more power under the TS-10's hood than you've seen before. The sound is considerably clearer and punchier, for one thing, and there've been some big changes made.

One of the more muscular improvements is the addition of a second RAM bankset for user sounds, for a total of 120 programs (plus 3 banksets of ROM sounds). No need for a cartridge anymore — there ain't even a slot for one — you can keep all those sounds onboard now. And speaking of storage, the disk drive now reads and writes double-sided high density disks in addition to the traditional double-densities, so you can store twice as much of your genius on a single disk. By the way, the sequencer O.S. is no longer

disk-loaded into RAM, so the TS-10 should be less sensitive to power-related problems than its predecessors.

Here's another big one. The TS-10 reads samples right off EPS and ASR-10 disks. That means you're no longer limited to the ROM waves supplied by Ensoniq (which are all new and quite extensive — we'll get to them later) as the building blocks of your sound. Anything in the huge EPS/ASR library, or any sounds you can sample yourself (or have a friendly EPS or ASR owner sample for you) can now be layered right into your synthesizer programming. And once you've got a sample loaded into the TS-10, you'll find that the same buttons you use for your ROM wave programming do double duty by creating a virtual ASR-10 editing environment for sampled sounds. All of the Edit pages (looping, etc.) so familiar to ASR-10 and EPS users are right there in the TS-10. The basic unit comes with 2



In this issue

Articles:

TS-10 Preview <i>Robby Berman</i>	Cover
Stereo Sampling – Part II <i>Barry Carson</i>	4
Sounds – Part IV: Groovy Guitars <i>Mark Clifton</i>	8
Problem Solving – Sequencers <i>Bryce Inman</i>	10
Memory Expansion on the SQ-1 <i>Mark Haymond</i>	11
Understanding Envelopes – Part II <i>Robby Berman</i>	13
Getting Started With the DP/4: Configs <i>Clark Salisbury</i>	15
Dissectin' Wind With Dr. B – SDs/VFXs <i>Brad Kaufman</i>	18
The Real Thing – ESQs & SQ-80s <i>Jack Stephen Tolin</i>	19

Reviews:

Basement Tapes: Rackley <i>Daniel Mandel</i>	6
Jim's Toybox – SDs & VFXs <i>Michael Mooney</i>	9

Regular Stuff:

Random Notes	3
Hypersoniq	4
Hackerpatches <i>Sam Mims & Jeffrey Rhoads</i>	21
Classifieds	22
The Interface	23
Hacker Booteq	31

meg of sample RAM for you to load up to 10 sampled instruments into. That's the same amount of memory in a new ASR-10 or in a fully expanded 16 PLUS. With relatively inexpensive SIMMS chips, you can have your local Ensoniq-approved techie expand this memory up to a healthy 8 megs (and 20 sampled instruments).

Perhaps you've read about wave sequencing in the last few years. That's the ability to take bits and pieces from different waves, and splice 'em and dice 'em together to create custom-made timbres — a powerful capability. The TS-10 introduces Hyperwave mode: wave sequencing in all its glory, with up to 16 user-definable segments drawn from any of the ROM waves, connected (even crossfaded) pretty much however you'd like. Use this function to create your own unique animated waves. You can even use Hyperwaves to create rhythm loops within your programs.

Presets have undergone considerable pumping up. To start with, you can now name presets, so you don't have to be some kind of mnemonic freak to remember which split or layer is where. And the real-time options available under the Performance buttons (which also apply, of course, to sequencing) have fairly exploded. In addition to being able to adjust Timbre, you now have a parameter called Brightness, which controls your filter cutoff setting for each track. Envelope attack time, velocity ranges and windows, detunes, and LFO rates can all be set for each track, or mod wheels or pitch bend wheel enabled/disabled for each. You can even set individual tracks to send out All Notes Off messages on their individual MIDI channels, or instruct them to reset other MIDI modules they're controlling at the end of a sequence. Whew! And my personal fave: Stereo programs no longer have to get squashed to mono when you change their pan positions — they can now retain their full two-channelness when you move them. One of the unsung virtues of Ensoniq right from the beginning has been their attention to stereo; it's one of the main reasons I became such a big Ensoniq fan in the first place.

The effects section has also been radically expanded. Remember the 24 algorithms you had on the sd/SDs? How about

73 of them? Lotsa reverbs (normal, non-linear and reverse), delays, distortions, choruses, flangers, phasers, pitch shifters, EQs, compressors, pitch shifting, speaker simulations and an exciter. In addition, there are new serial and parallel multi-effect algorithms designed for greater flexibility when sequencing. Effect routing possibilities, which are considerably more comprehensive, are much more clearly laid out in the Effects pages than they were in the VFX-sd/SD-1s. And, as in the ASR, practically any parameter can be modulated.

What else is new? Well, to start with, 254 new 16-bit ROM waves (6 megabytes worth), running the usual gamut and then some. While the TS-10 is something of a marvel at new sounds and textures, it also comes loaded with new and impressive waves for simulating sounds found in the "real" world. Going through the factory programs, you'll notice an unusual number of instruments that are usually simulated actually using waves from the real instruments they imitate. The fact that there are all new waves means, of course, that the TS-10 is not compatible with the VFX-sd or SD-1. Ah, well, time marches on.

There are actually plenty of other tasty new amenities, from wave programming features to double the double foot pedals, that I haven't mentioned, but I don't wanna ruin all your fun. Go down to your local dealer and check out the 300 sounds and 300 presets that are shipped with the TS-10. Start with GENESIS (don't forget to try the aftertouch) and work it on out. Watch out for sounds with the word "GROOVE" (or sometimes "GRUV") in their names, and for banks 6 and 7 in the second user bankset — they've got rhythm loops in their bass registers. And load up the sampled sound disk that comes with it, too.

One last salient point, and one of which Ensoniq is justifiably proud: At \$2595, the TS-10 actually costs less than its predecessor, the SD-1, did! That's something you don't see every day, Chauncey.

Oh, and you read it here first: The TS doesn't stand for anything. ■

Bio: Robby Berman is a musician living near Woodstock, NY, a land beyond time and human comprehension.

Keyboard sounding a bit *b*? You need some *#* new sounds, and *h*ly, we've got them. It's our *f*.

ASR-10, EPS-16 Plus, EPS...

Buy a classic Minimoog, an Ibanez guitar, a K4, and a set of Yamaha Recording Custom drums for \$9.95 each?! Sort of.

Our samples go beyond these originals. Add polyphony to a Minimoog, make a K4 sound incredibly huge, get the ideal drum sound in seconds!

Television versus Sledgehammer! (The hammer wins.)

Syntaur Productions has a dynamic sound effects sample library, ideal for post-production work or for adding an extra dimension to your recording project. Frighteningly realistic sounds, from chainsaws to crickets to Harleys, only \$5.95 per disk!

SD-1, VFX-sd, VFX...

Get the patches straight from the Hackerpatcher himself!

A new set of 60 slammin' sounds from Sam Mims - used on top selling albums and in live touring around the world. Drop \$39.95, and get the absolute best.

ESQ and SQ-80...



Sounds that a *Transoniq Hacker* reviewer found to be "by far the best I've seen. Ever!"

Soundsets 1 through 4, from Sam Mims, use radical techniques to make these keyboards sing like you've never heard them before. New "hidden waveforms" in both the ESQ-1 and the SQ-80? Yep! \$17.95 gets you a Soundset of 40 patches you won't erase.

Mirage...

It may be a dinosaur, but dinosaurs roar loudly!

If you've got one, it's probably hungry. Feed it a new disk. Minimoog basses, DX7 Slam Bass, and cool VFX sounds - all on a single \$7.95 floppy.

Want the complete scoop?  for a free catalog, or drop a  in the box. Your keyboards will love you for it.

Syntaur Productions

2315 Mid Lane #44

Houston, TX 77027

(713) 965-9041

*Can't find what you need anywhere?
Call for a quote on custom digital
recording, sampling, and programming.*

Front Panel

RND (🎵🎵)

Ensoniq News

Introducing four all new 5-disk sound libraries for the ASR-10 Advanced Sampling Recorder:

AS-1 The Session Maker (16 Megabytes of RAM recommended)

This useful grouping of sounds will enable you to fully utilize all of the workstation features of the ASR-10 to produce high-quality music and with innovative features like Resampling With Effects, Patch Select, and Poly-Key-Pressure. Sounds included are: Cool B3, Flglimba Ld, Grooving Kit, Love Bass, Resamp Kit, Resamp Strat, Sml Brass 2, St Pop Brass (requires a minimum of 4 Megabytes), Studio Pad, TV Synth. 5 disks plus manual – Suggested retail: \$39.95.

AS-2 In A Big Way (16 Megabytes of RAM recommended)

This library contains three great-sounding instruments that were designed for use in the most important sessions. Record Pad 1 is a lush pad sound that was conceived by Signature Series artist Claude Gaudette and makes a wonderful support for any music track. Solo Steel is probably the best solo steel string guitar available on the market today. Big Syn Bass is a fat bass sound that will pump-up your music. 5 disks plus manual – Suggested retail: \$39.95.

AS-3 World Percussion 1

(8 Megabytes of RAM required, 16 recommended)

This sound library features two amazing percussion instruments, World Percs and Mapped Conga. Mapped Conga is a specially designed instrument that enables you to play conga grooves with ease, World Percs is a high-quality collection of the most-requested percussion sounds from around the world (requires a minimum of 8 Megabytes). 5 disks plus manual – Suggested retail: \$39.95.

AS-4 Solo Percussion 1 (16 Megabytes of RAM recommended)

This group of ASR-10 instruments will astound you with an authenticity rarely heard in sampling libraries. Each instrument features a unique mapping of sounds and instrument nuances that will make any keyboardist sound like a seasoned percussionist. Sounds included: Cowbells, Ethnic Drum, Full Conga, Full Quinto, Full Tumba, Real Percs 1. (Full Conga and Real Percs 1 both require a minimum of 4 Megabytes.) 5 disks plus manual – Suggested retail: \$39.95.

Hacker News

We made a terrible goof in putting together Aaronstotle Music's brand new ad in last month's issue — got the address wrong! The correct address is 679 N. Five Mile Rd., Boise, ID 83709. (Check out the Booteeq.)

Call for writers: We're still looking for DP/4 material! (Hang in there DP/4 users — we can hear them breathing.)

Third Party News

We'd like to welcome back — after a *really long* absence — Eye & I Productions (samples, patches, hardware) to our Hacker family of advertisers.

TRANSONIQ-NET

HELP WITH QUESTIONS

All of the individuals listed below are *volunteers!* Please take that into consideration when calling. If you get a recording and leave a message, let 'em know if it's okay to call back collect (this will greatly increase your chances of getting a return call).

All Ensoniq Gear – Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 215-647-3930.

All Ensoniq Gear – Electric Factory (Ensoniq's Australia distributor). Business hours – Victoria. (03) 4805988.

Sampling – The International Samplers Cooperative, 310-455-2653 or via MusoBBS, 818-884-6799.

SD-1 Questions – Philip Magnotta, 401-467-4357, 4 pm – 12:30 EST.

VFX Sound Programming Questions – Dara Jones, Compuserve: 71055,1113 or Midi-net and Fido-net. The local BBS is the Nightfly in Dallas: 214-342-2286.

SD-1 Questions – John Cox, 609-888-5519, (NJ) 6 – 8 pm EST.

SQ-80 Questions – Robert Romano, 607-533-7878. Any ol' time.

Hard Drives & Drive Systems, Studios, & Computers – Rob Feiner, Cinetunes. 914-963-5818. 11 am – 3 pm EST. Compuserve: 71024,1255.

EPS, EPS-16 PLUS, & ASR-10 Questions – Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 821-5054.

ESQ-1 AND SQ-80 Questions – Tom McCaffrey. ESQUPA. 215-830-0241, before 11 pm Eastern Time.

ESQ-1 Questions – Jim Johnson, (503) 684-0942. 8 am to 5 pm Pacific Time (OR).

EPS/MIRAGE/ESQ/SQ-80 M.U.G. 24-Hour Hotline – 212-465-3430. Leave name, number, address. 24-hr Callback.

Sampling & Moving Samples – Jack Loesch, (908) 264-3512. Eastern Time (N.J.). Call after 6:00 pm.

MIDI Users – Eric Baragar, Canadian MIDI Users Group, (613) 392-6296 during business hours, Eastern Time (Toronto, ONT) or call MIDILINE BBS at (613) 966-6823 24 hours.

Mirage Sampling – Mark Wyar, (216) 323-1205. Eastern time zone (OH). Calls between 6 pm and 11 pm.

SQ-1, KS-32, & SD-1 Questions – Pat Finnigan, 317-462-8446. 8:00 am to 10:00 pm EST.

ESQ-1, MIDI & Computers – Joe Slater, (404) 925-7929. Eastern time zone.

Subscription Information

US: \$23/year. All others: \$32/year (please use International Money Order, payable in US funds). Please make payable and mail to:

Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221

HYPERSONIQ NEW PRODUCTS

Eye & I Productions has just released a 25-disk sample library, the *VCASR10*, for the Ensoniq ASR-10. The library offers over 270 sampled patches — 116 synth and acoustic samples and over 150 percussion instruments including a full General MIDI Drum Set! This library is so far only available on 3.5" floppy disks. The disk format also allows these samples to be used on the EPS-16 PLUS and the new TS-10. No extra accessories are needed to take full advantage of the library. The suggested retail price is \$199.95. The *VCASR10* is available through your local Ensoniq/Eye & I dealer. For more information, contact: Eye & I Productions, 930 Jungfrau Court, Milpitas, CA 95035. Phone: 408-945-0139.

A new set of sounds for the Ensoniq VFX, VFX-sd, and SD-1 synthesizers has been released by Syntaur Productions. The bank of 60 sounds, "*VFX Set 1*," was programmed by Sam Mims, a professional keyboardist and sound designer, and columnist for the *Transoniq Hacker* and *The Music Paper*. They have been used by Mims in live performances around the world,

and on top-selling albums such as Richard Elliot's *Soul Embrace*, a #1 record on the *Billboard* Contemporary Jazz chart. The sounds are completely compatible with the earliest VFX keyboards, as well as the later VFX-sd and SD-1 synths. They are meticulously programmed, with four evocative patch selects, and take full advantage of all modulators. The sounds range from delicate pads with constant, glittery motion to aggressive transwave patches. *VFX Set 1* is available on VFX-sd or SD-1 disks for \$39.95. For the VFX (which lacks a disk drive), the sounds are available at the same price on sysex disks for other Ensoniq keyboards, or on an IBM disk which includes a generic sysex librarian. *VFX Set 1* is also available on an EEPROM cartridge for \$97.95. For ordering or for more information, contact: Syntaur Productions, 2315 Mid Lane #44, Houston, TX 77027. Phone: 713-965-9041.

CHANGE OF ADDRESS

Please let us know at least four weeks in advance to avoid missing any issues. The Post Office really will *NOT* reliably forward this type of mail. (Believe us, not them!) We need to know both your old and your new address. (Issues missed due to late or no change notification are your own dumb fault — we mailed them!)

Stereo Sampling

Part II: Secrets and Surprises

Those who have been following this series of articles on stereo sampling with the ASR-10 are aware that we have reached the point where we actually can begin to record some stereo samples of our trusty acoustic guitar. We have acquired a matched pair of high quality microphones, new strings have been placed on the guitar, a HD disk has been especially formatted to save the results of this momentous occasion, and the champagne is cooling. We are ready.

Position the microphones near the guitar. You don't want to sample the sound of the room along with the guitar — keeping your sound as dry as you possibly can will give you more flexibility when it comes to using the built-in effects to create a space in which to place your newly sampled guitar. You may want to experiment a bit to find the exact locations where the mics give you the very best stereo effect. When you are ready to go, you have a few last jobs to take care of. First, with the ASR you must sample through an effect or through a "non-effect." This is how you choose the sampling rate. We will be sampling dry (though you could try going through the effects if you want), and let's pick the high sample rate. Now we get to check out the input level meters — these give you signal and peak indicators for both inputs

(kind of like the old two bar meter on the Mirage). When you hit the sample button (for some reason Ensoniq switched the positions of the sample and effects buttons from how they are on the 16+ — this takes a bit of getting used to for 16+ers) the display becomes the full meter (giving the level of the louder side).

The sampling procedure is just like on an EPS. The stereo sounds are placed in two adjacent layers (1 and 2, for example). Multi-sampling is still remarkably easy (hit the root key and the instrument picks the split points for you). Once you begin to get some valuable data in the ASR, I strongly suggest you this stuff to disk often. The ASR is (at least at the time I'm writing this) a fairly new instrument and the O.S. appears to be not as hardy as the EPS O.S. I'm used to jumping all over the switches on the 16+ quite quickly and it never seems to mind. The ASR will occasionally crash when you do too much too quickly and once it does, your valuable sample data, your work and sweat, your perfect loops are lunch meat.

As I mentioned last time, almost all editing of stereo sounds can be with the Layer Link on. This lets you set the filter set-

tings, amplitude envelopes or whatever of both halves of a stereo sample at the same time. This is certainly the way it should be, though in some situations you might want to get in and edit one side. To do this, simply turn the Layer Link off. Looping, as I mentioned last time, should be done with it off.

Speaking of loops, the last tip I'll give now has to do with short loops. One advantage that the Mirage had over the other early samplers was that a sample could be layered with itself and detuned (without cutting the polyphony to 4). This was handy for adding a little animation to short loops which could sound awfully static by themselves. The same trick can be even neater on the ASR-10. When you loop your guitar note samples, you will probably use short loops. Each note will have two short loops, one on the right and one on the left. It would be possible to have these loops be exactly in tune, and that might seem at first glance to be the way to do it. I would suggest however that you try having the two loops a very little bit out of tune to add a little animation to the sound as it fades away. The same kind of thing could work with long loops. If the loop points are at different parts of the two stereo samples, one side would hit the loop as the other is sustaining. This sustaining sound would help cover whatever glitch is at the loop point (and there usually is some kind of tiny bump or glitch). Having both sides hit the glitch at the exact same time would have to be less desirable.

So there you have it. Your guitar sound is now a digital, stereo sample. Playing this kind of sound back from the keyboard is a tasty experience. Playing with stereo acoustic samples gives me the same kind of rush I got ten years ago playing the first sampling instruments, the unbelievable sensation that what I was playing was unquestionably real. But, enough about that. It's contest time!

That's right! As promised, it is time for the first ever ASR *Creative Stereo Sampling Conceptual Concept Contest!* As we've discovered, stereo sampling is wonderful for recreating instrumental sounds with startling realism; that is, after all, what it designed for. However, anyone who has read this magazine for long realizes that *Hackers* like to take Ensoniq instruments and use them for things they weren't designed for. That is, after all, the fun of being a *Hacker* and that's the point of this contest. Here's the story: The winner of the contest will have come up with the best use of the ASR's stereo sampling capabilities; the only catch is that this use will not have a sample that plays in stereo as its final product.

Let me give you an example to help clarify the situation: Let's say we want to create a very realistic sample of an organ playing through a Leslie speaker. We don't have to worry about the Leslie effect because the ASR (and the 16+) has a Leslie simulator built in. When you play an organ note through a Leslie though, something else happens besides the rotary effect; the sound goes through a crossover and the high

part goes through a driver into a plastic horn, the low part goes through a bass speaker and into a wooden or foam baffle. Since each of these speakers has a very distinctive sound (even when not spinning), here is how we can use the ASR to create the ultimate Leslie Simulation. Turn off or disable the motors on the Leslie so the rotors are stationary, use a mic to pick up the sound coming out of each rotor (you may need to turn each rotor by hand to make sure the sound is going pretty much directly into the microphones). Set up the ASR to sample in stereo, one side for each rotor. After you have sampled your organ notes, pan both layers at, or very near, the center (since the sound of the Leslie is not perceived with the bass in one ear and the treble in the other). You now have a mono sound that includes the characteristic sounds of both speakers in the Leslie cabinet. The final bit of magic we perform is route this sound through the rotary speaker effect that not only recreates the spinning sound, but creates a stereo effect of its own. Get it?

What we're looking for are innovative ways to use the ASR's capabilities to sample separate sounds into two different layers simultaneously and use them for purposes other than creating stereo samples. This is just a conceptual thing, you don't actually have to do it, just think of it, so you don't need to have an ASR to enter. Just send your ideas to me, care of Minotaur Studios, 52 State Street, Canton, NY 13617. The winner gets an actual Mirage sample (suitable for framing) especially formatted to play on the Ensoniq sampler of your choice (if a synthesizer user is actually reading this, enters and wins, he or she will be presented with a carefully preserved copy of an "AfterTouch" magazine highlighting the DX-100). We're still looking for somebody to autograph the grand prize, but I'm sure we will get someone to do the honors before the thing is awarded.

I have to go enlarge my mailbox in preparation for the deluge of entries, so enjoy your stereo guitar samples and be careful not to spill champagne into the disk drive. ■

[TH — Readers should be aware that this whole contest thing is between them and Barry Carson. We're just standing back and watching this one.]



Bio: Barry Carson has sampled everything from lutes, violas and krumphorns to Vox combo organs and digital synthesizers. He has sampled on the Mirage, EPS, EPS-16+, and ASR-10 — as well as the Roland and Prophet samplers. He is eagerly awaiting the 10th Anniversary Mirage reissue.

Tape: Folk-Song Fantasies.
 Artist: Lawrence Rackley.
 Contact: Lawrence Rackley, 440 North Arlington, Kalamazoo, MI 49007.

Back in Time — The Folks Revisited

Equipment: SQ-80 recorded direct to an Advent cassette deck. Some tracks worked out with Master-Tracks Pro on an Apple IIe and then fed to the SQ-80. Lonesome Valley was driven by a Macintosh running Pro-4. Tapes were copied on a Technics home stereo unit. Dolby was disconnected throughout as it was wreaking all kinds of havoc.

Remember the good old days when Wendy was Walter and everybody was fascinated by *Switched On Bach* (not because it was Bach, but because it was switched on)? Rick Wakeman was putting Brahms back to back with acid rock (not rain — rock!), and Moog was the synthesizer. Well, maybe they really weren't the good old days, but they certainly did give some classical music a new twist.

Enter Lawrence Rackley with *Folk Song Fantasies*. Lawrence revisits ten folk songs that you no doubt have heard around campfires since you were knee-high to a grasshopper. All the tunes remain recognizable, and most have enhanced accompaniments, although some of the accompaniments eclipse the original tune from time to time.

Lawrence describes his background. "...About my involvement in electronic/experimental music — I got started in the early '50s when tape manipulation meant cut-and-paste in the literal sense. A big move-up came in 1971 when I got an ARP-2600 synthesizer and a TEAC 4-Track simulsync deck. In 1983 I moved into the digital world with an Apple IIe and the SoundChaser. The SQ-80 came along in 1989, and the Apple II was replaced by the Macintosh in 1990. The electronic composition has always been a fascinating sideline, while my main efforts went to putting notes on paper for other musicians to make music from."

His treatment is very old/modern, past/future, synthetic/electric. Many of the patches used could very well have been generated on a Moog-type synthesizer. Beside the array of electronic keyboard patches, Lawrence also used some different tuned percussion, string, pipe organ, piano, harp-sichord and percussion. However the tone or feel of the whole sound palette used was quite synthetic.

Volume choices (or results) were at times very sudden and sharp. In other words they sounded somewhat like mistakes. Although I have heard sudden changes in volume used as an effect or a transition, I felt that here they were too sudden and

interrupted the flow of the music. The same transitions and changes would have been more successful had they been made more gradually. This problem could have been avoided if the cassette had been listened to on various stereos to hear the result.

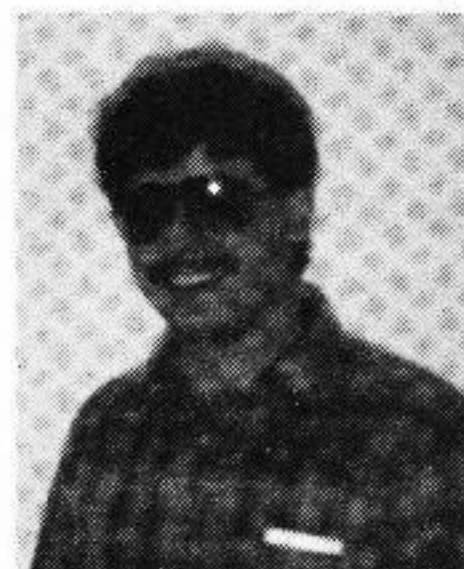
Lawrence's take on *Scarboro Fair* is most enjoyable. There is a choppy staccato flow that surrounds the melody. The use of stereo is nicely done. Again, I had a problem with volume changes on this one. *Black Is The Color Of My True Love's Hair* becomes a soothing ballad that flows well. This also uses a choppy, syncopated background and a nice sort of spreading (stereo) lead instrument on top.

She'll Be Coming Round The Mountain. The main twist here is that the mountain she'll be coming round is located somewhere in southern China, or so it seems until the pace quickens and the zithers sound like an old-fashioned arcade game from the 1920s. The volume-fade problem is not quite so pronounced here, but is noticeable.

Sweet Betsy From Pike sounds like she's had a few too many at the Pike Pub.

This concept, as Lawrence has put it together on tape, works best when it does more than simply remind us of the original song. These are reinterpretations of folk songs and where they wander away from the melody, they take on a new life. ■

If you want your tape run through the ringer, err, Hacker, just mail it off to: Basement Tapes, *Transoniq Hacker*, 1402 SW Upland Dr., Portland OR 97221.



Bio: Daniel Mandel is a songwriter, sound designer, and has sold pro audio and keyboard equipment and produced demo tapes for local bands.

BACK ISSUES

Back issues are \$2.00 each. (Overseas: \$3 each.) Issues 1-38, 61, 67-72, and 82-84 are no longer available. Subscriptions will be extended an equal number of issues for any issues paid for that are not available at the time we receive your order. ESQ-1 coverage started with Issue #13. SQ-80 coverage started with #29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage got going with #35 (and also applies to the ASR-10). VFX coverage (which also applies to the SDs) got started in #48. The SQs got going in #63. (SQ articles also apply to the KS-32.) DP/4 coverage started in #88 (much of which also applies to the ASR-10). TS-10 owners should check out sample reviews (EPS/ASR) and SD & VFX programming tips. Permission has been given to photocopy issues that we no longer have available — check the classifieds for people offering them. A free back issue index is available which contains the tables of content for all issues since Number 43.



(800) 800 - 4654

THOROUGHbred

MUSIC

FAX (813) 238-5443

Your Music Department Store.

NOW IN STOCK



	Carpet Cover	ATA
EPS, EPS-16+, SD-1, SQ-1, VFX, VFX-sd	\$119 ⁰⁰	\$235 ⁰⁰
Mirage, Mirage DSK	\$119 ⁰⁰	\$235 ⁰⁰
SQ-2	\$150 ⁰⁰	\$270 ⁰⁰

**Memory Expansion Kits
for SD-1, SQ-1, SQ-2**

Roexix

Only \$129⁰⁰

CUSTOM DESIGN YOUR OWN CASE!!!

Roexix

**Internal And External
Hard Drives**

Customize your sampler

**20 Meg Internal
from \$199⁰⁰**

Any type HD available
Any size, any format
Also available for HD recording

**Universal Sync Box with
SMPTE, Song-Pointer, &
Direct-Lock!**

SYNCMAN is a full-feature, professional quality sync box which supports all major synchronization formats including SMPTE, MIDI Time Code, Direct Lock (for Performer) and Song Pointer. With **SYNCMAN** you can precisely synchronize any sequencer to tape and meet all of your synchronization needs.

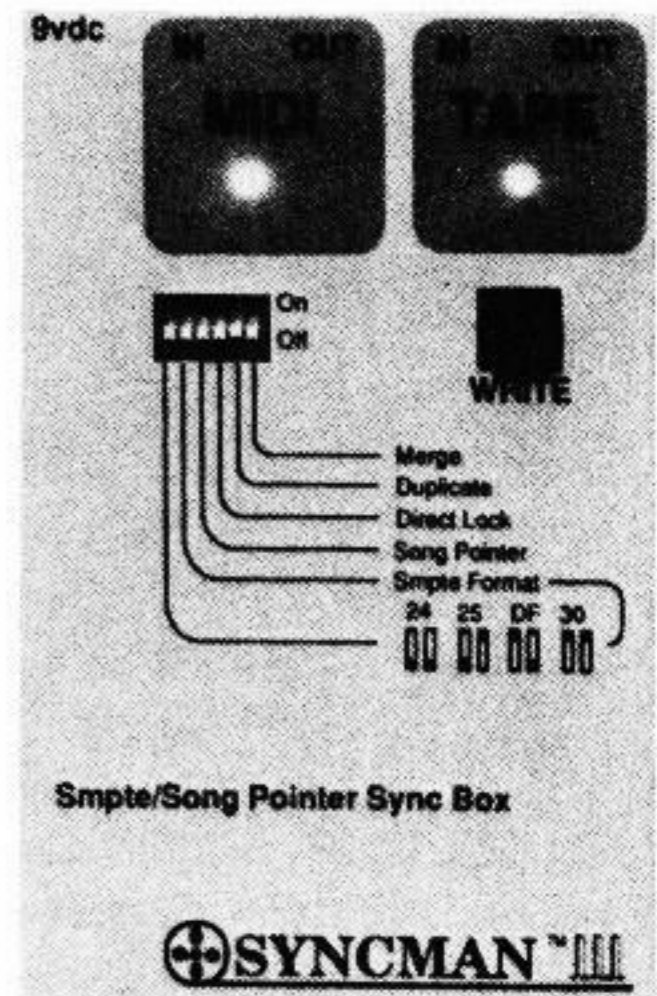
SYNCMAN features include:

SMPTE Time Code Generator/Reader

- Generates and reads all SMPTE formats including 24, 25, 30, and Drop Frame.
- Converts SMPTE to either MIDI Time Code or Direct Time Lock (for Performer).
- Special Duplication Feature allows you to duplicate recorded SMPTE Stripes.
- Includes special SMPTE "Jam" Sync to recover from tape drop-out.
- Can write SMPTE manually (with 0 offset) or remotely with specified offset upon receipt of a User Bit message and a Time Code message.

Song Pointer Sync Generator/Reader

- Special Song Pointer Sync (SPS) Duplication feature allows you to duplicate recorded SPS Stripes.
- Includes "Jam" Song Pointer Sync to recover from tape drop-out.



midimanTM
Guaranteed for life.

Additional SYNCMAN Features:

- Built-in Merge Mode allows you to merge all keyboard or sequencer MIDI information with either MIDI Time Code or Song Pointer Sync information
- Dimensions: 4" x 6" x 1"
- Weight: under 1 lb.

Lowest prices on anything musical in the USA!

How Sounds Work

Part IV - Groovy Guitars Galore!

Mark (The Kid) Clifton

What?? Another installment of that wacky SQ-1 programming series with the cheesy title? You betcha! And this time around, as promised, I'll tape on my trusty Geraldo mustache and present a shocking, in-depth expose into the dark murky world of acoustic guitars. Of course, this article focuses only on the way guitars generate sound and how to imitate them and not on the actual playing of the patches themselves. To go into detail about all the little tricks that make up a good fake guitar performance would take hundreds of pages, which would surely provoke more than a few fistfights with the editor. [Ed. — Mark, dear, I don't make fists. I use my little red pen.]

So I, being the peaceful guy that I am, will merely suggest that you do your own research on the subject. With a little digging, you're bound to find some useful books and articles (you know, from those *other* magazines) or maybe even a guitar player who will cooperate with a nerdy keyboardist like yourself and help you out.

The first thing to do is look at the envelopes of the accompanying patch, ACOUSTIC GUITAR. You'll notice that I've set Keyboard Tracking to 28 on all of them, making them sustain for a shorter amount of time in the upper range of the keyboard and longer on the bottom. This is to accurately reflect the fact that the higher strings on a guitar are stretched tighter than the lower ones so they vibrate for a shorter amount of time. This characteristic is inherent in almost all plucked string instruments. You'll also notice that I've applied some Env 2 modulation to the filters, making the sound mellow out as it fades, just like on a real guitar.

The next major feature of this patch is the pitch modulation on the Pitch Mods page. I've programmed a slight amount of modulation from Env 1, which I've shaped into a sharp downward slope. This makes the initial attack of the sound slightly sharp, then quickly evens it out to the correct pitch. This characteristic on a guitar is caused by the increased tension of the string when it is first plucked. This light pitch

Prog: Acoustic Guitar

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	On	Off
Wave Class	String	String	
Wave	AcousGtr	AcousGtr	
Delay Time	000	000	
Wave Direction	Forward	Forward	
Start Index	00	00	
MODSCR	Off	Off	
MODAMT	-	-	
Restrk Decay	39	39	

LFO	1	2	3
LFO Speed			
Noise Rate			
Level			
Delay			
MODSRC			
Wave			
Restart			

AMP	1	2	3
Initial	99	99	
Peak	99	99	
Break	88	88	
Sustain	00	00	
Attack	00	00	
Decay 1	36	36	
Decay 2	67	67	
Release	29	29	
Vel-Level	90	40	
Vel-Attack	00	00	
Vel Curve	Convex	Convex	
Mode	Normal	Normal	
KBD Track	+28	+28	

PITCH	1	2	3
Octave	+0	+1	
Semitone	+00	+00	
Fine	+00	+04	
ENV1	+01	+01	
LFO	+00	+00	
MODSCR	Off	Off	
MODAMT	-	-	
KBD Ptch Track	On	On	
Glide	Off	Off	
Glide Time	00	00	

FILTER	1	2	3
Filter 1	2Lo	2Lo	
Filter 2	2Hi	2Hi	
FC1 Cutoff	000	000	
ENV 2	+70	+70	
FC1 KBD	+00	+00	
MODSCR	Veloc	Veloc	
MODAMT	+11	+14	
FC2 Cutoff	000	000	
ENV2	+70	+14	
FC2 KBD	+00	+00	
FC1MOD-FC2	On	On	

OUTPUT	1	2	3
VOL	82	88	
Boost	On	On	
MODSRC	Wheel	Wheel	
MODAMT	-06	+99	
KBD Scale	+00	+00	
Key Range	-	-	
Output Bus	FX1	FX1	
Priority	Med	Med	
Pan	+00	+00	
Vel window	>000	>000	

ENV1	1	2	3
Initial	00	00	
Peak	40	40	
Break	00	00	
Sustain	00	00	
Attack	00	00	
Decay 1	19	19	
Decay 2	00	00	
Release	00	00	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Quikrise	Quikrise	
Mode	Finish	Finish	
KBD Track	+28	+28	

ENV2	1	2	3
Initial	99	99	
Peak	99	99	
Break	65	65	
Sustain	00	00	
Attack	00	00	
Decay 1	38	38	
Decay 2	71	71	
Release	66	71	
Vel-Level	66	66	
Vel-Attack	00	00	
Vel Curve	Convex	Convex	
Mode	Normal	Normal	
KBD Track	+28	+28	

EFFECTS — CHORUS AND REVERB

FX-1	22
FX-2	15
Decay time	35
HF Damping	59
Chorus Rate	20
Chorus Depth	16
Chorus Center	50
Feedback	+00
Chorus Level	00
MOD (Dest)	Level
BY (MODSRC)	ModPed
MODAMT	+50

bend on the attack of many instruments (not just the guitar) is a very subtle but important aspect in the accurate recreation of that instrument's sound and is overlooked too often by many programmers.

Vibrato is another often abused aspect of an instrument's character that I chose not to include in this patch since it is used sparingly, if at all, in most styles of guitar playing. The only exceptions that come immediately to mind are slide playing and certain blues, jazz and Latin styles. If you do use vibrato, remember that a guitar, like all other fretted instruments, can produce only a slight bending of the pitch and that it always bends sharp. The positive LFO shapes are used to accomplish this. Only slide playing and electric guitar whammy-barring, to be covered in some future article, break this rule, since the slide allows greater freedom of movement up and down the string. Non-fretted instruments, such as the

violin, have this greater freedom of movement and are therefore capable of producing a pure up-down pitch vibrato.

The mod wheel on this patch brings in another guitar wave tuned an octave higher to simulate a twelve-string guitar. The mod pedal increases chorusing, an effect that really complements the sound of an acoustic guitar. For a dreamy new age-type sound, turn up the mod wheel all the way and bliss out until next time when I'll blow some hot air about woodwinds. ■

Bio: Mark Clifton is a player and composer of Jazz, New Age, Orchestral and Rap (yes, Rap!) music and an aspiring Cyberpunk writer who also wouldn't mind going into sound design or film scoring. His favorite color is the infinite, star-speckled blackness of space.

Mrs. Samp, Can Jim's Patches Come Out and Play?

Michael Mooney

Product: *Jim's Toybox*.

For: SDs and VFXs.

Price: Price: Offered as trade (in like media) for *original* VFX programs — no tweaks, copyrighted sounds, etc.

From: Jim Samp, 90 N. Bell St, Fond du Lac, WI 54935.

Jim's Toybox is an aptly named bank of 60 sounds for the VFX-SD1. About half are sound effects of one type or another, going from real world sounds (HELICOPTERS) to the silly (SQUEEZETOY). Not being a composer for commercials or cartoons I found many of these sounds to be of limited value musically. On the other hand, there are a couple of very musical patches, in a more traditional sense, that even professional programmers could learn a thing or two from. This may sound waffleish (wafflish?) — nevertheless, it is the case.

Two sounds in particular, SONIC CLOUD and PULSAR are both examples of the creative possibilities inherent in the VFX, but have been largely ignored. Both are reminiscent of the Wavestation while retaining the unique personality of the VFX. SONIC CLOUD is a lesson in vector synthesis with its complex envelopes, filters, and pitch constantly modulating to form a wonderfully animated vocal/hiss pad perfect for new age or soundtrack applications. And PULSAR is a rhythmic wave-sequence that invites you to build a Depeche Modeish (Modish?) groove around. This kind of programming makes you wonder why more isn't being done in these areas.

There are also several outstanding emulative sounds including:

MELLOPHONE — a beautifully dark French horn. It's obvious that Jim has some experience with the real thing.

1000 PIPES — a rich pipe organ that owes its fullness to layering all six voices simultaneously. Yes, it's a polyphony hog, but she's worth it

SNAPPY BOWS — realistic orchestral tremolo strings

OCTAFLUTES — an impressive mallet/flute hybrid that crossfades and transposes up an octave via pressure

SWEET NOISE — a synth bell patch with subtle octave arpeggiations

COLISEUM — an all-purpose digi-analog pad

GAMMA RAY — an entire '50s sci-fi flick unto itself

Overall, there is a lot of creative programming going on in Jim's little toybox — even in some of the sound effects that I haven't mentioned. Sure, there are some amateurish touches and a few head-scratchers, but there's also some oddly cool patches, a few of which rank among my favorite VFX sounds. And, heck, how critical can you be of sounds that you aren't being charged for? Actually, that, in and of itself, makes this job kind of tricky — it's so much clearer to know how you feel about a product when there's a price tag to judge it by. Ah, well.

And if you have a penchant for sound fx, you'll probably like this collection twice as much as I did. So go ahead and pull out a few toys from Jim's box. You're bound to find something you like and don't be surprised if you end up playing with them for quite a while. ■

The Hitchhacker's Guide to Problem Solving

Bryce Inman

In Douglas Adams' zany trilogy of novels that began with *"The Hitchhiker's Guide to the Galaxy"* (a trilogy which contains, at this point, four novels...go figure), we learned that the planet Earth is actually a colossal organic computer constructed millions of years ago for the sole purpose of calculating the answer to *"Life, the Universe and Everything."* In the thrilling conclusion of the second novel we learn that the answer is...42! That's right, 42! What? You don't understand? Well, that's the joke. The people who programmed the "Earth Computer" got the answer they wanted, but they forgot to ask what the question was.

So what's that got to do with the price of oscillators in Malvern? Not much other than it's an example of how the failure to put a little extra thought into something can lead to a costly loss of time and hard work.

Let me explain.

Having spent several hours sequencing a song on my EPS 16+, I was working on the finishing touches. As one of the final steps, I was eliminating tracks that were no longer needed. All was going fine until I tried to "Erase/Undefined" one track in a particular sequence. All of a sudden I got the dreaded "Error 149 — Reboot?" message. I rebooted, loaded all the sounds and sequences and tried to erase the track again but got the same result. Not being easily deterred, I again loaded everything and tried recording over the track...same result. I tried everything I could think of, but whenever I tried to edit that particular track — "Error 149 — Reboot?".

Out of desperation I finally called our friends at Ensoniq to tap into their infinite wisdom. The techwizard I talked to told me that the offending track probably had some corrupted data (mostly likely as the result of a power surge or spike in the power) and there was nothing I could do about the track. He said that the only way to permanently remedy the situation was to save all the sequences except the one with the bad track, erase all the sequencer memory, load the good sequences and re-record the other sequence from scratch.

Re-record from scratch!??

After the initial shock wore off, I collected my wits (which were running all around the room) and tried to search for some alternative, any alternative. I dreaded the thought of spending the next couple of hours reconstructing that sequence. And, as you suspected all along, I found a solution to my problem that required only a couple of minutes to execute.

The solution to my predicament was found in the nifty little

COPY TRACK command. These simple steps are all it took:

1. Create a new sequence the same length as the one with the "corrupted" track.
2. Copy all of the tracks (except the one with the corrupted data) from the old sequence to the new sequence.
3. Delete the old sequence.

If you get the same error-reboot message when you try to delete the sequence (this happened to me too), the following steps will resolve the problem:

1. After creating a new sequence and copying the tracks as above, save each individual sequence to disk (except the one with the corrupted data).
2. Erase all songs and sequences from memory.
3. Load the individual sequences into memory and reconstruct the song.

I don't know if I caught the technician at Ensoniq on a bad day (quite possible) or if I found something that the gurus at Ensoniq had overlooked (highly improbable), but this little experience taught me some important lessons.

The immediate lessons are obvious: 1) When encountering corrupted data, follow the steps listed previously and 2) always use a surge protector with electronic equipment. (After this problem first occurred I bought a protector for my keyboards. Oddly enough, I've encountered another track with corrupted data on a sequence recorded after I got the surge protector.)

The larger, long-term lesson I learned was keep an open mind and think things through thoroughly before jumping into a big project. In the *Hitchhiker Series* the failure to fully analyze a

problem before getting started resulted in the loss of millions of years of hard work. Of course the couple of hours I saved is small in comparison, but on that day I felt like I'd saved myself an eon or two. ■

Bio: Bryce Inman is a free-lance music editor and arranger for Word, Inc. in Irving, TX. Although he has decided to make Texas his permanent home, he refuses to say "y'all" or "fixin'."



Inside The SQ-1

SQ-1 Memory Expansion

Mark Haymond

I recently purchased an SQ-1 memory expansion from Maartists, Inc., currently retailing for \$149.95. This is quite a bit less expensive than the Ensoniq SQX-70, which retails at \$249.95.

Having had over ten years experience in the field of electronics, I can honestly say that installing EPROMS or changing RAM IC's is really no big deal. For all you power sequencer users who need a lot more room to work with, the SQ-1 memory expansion is the answer.

I understand that some of you may not be technically inclined, or even thrilled with the idea of tearing into the beloved SQ-1. Therefore, some basic instruction seems necessary.

Tools that you will need consist of a #2 Phillips screwdriver, a small size flat blade screwdriver (1/8" wide), a 10" x 10" piece of aluminum foil, a blanket or quilt, and of course, your new RAM ICs.

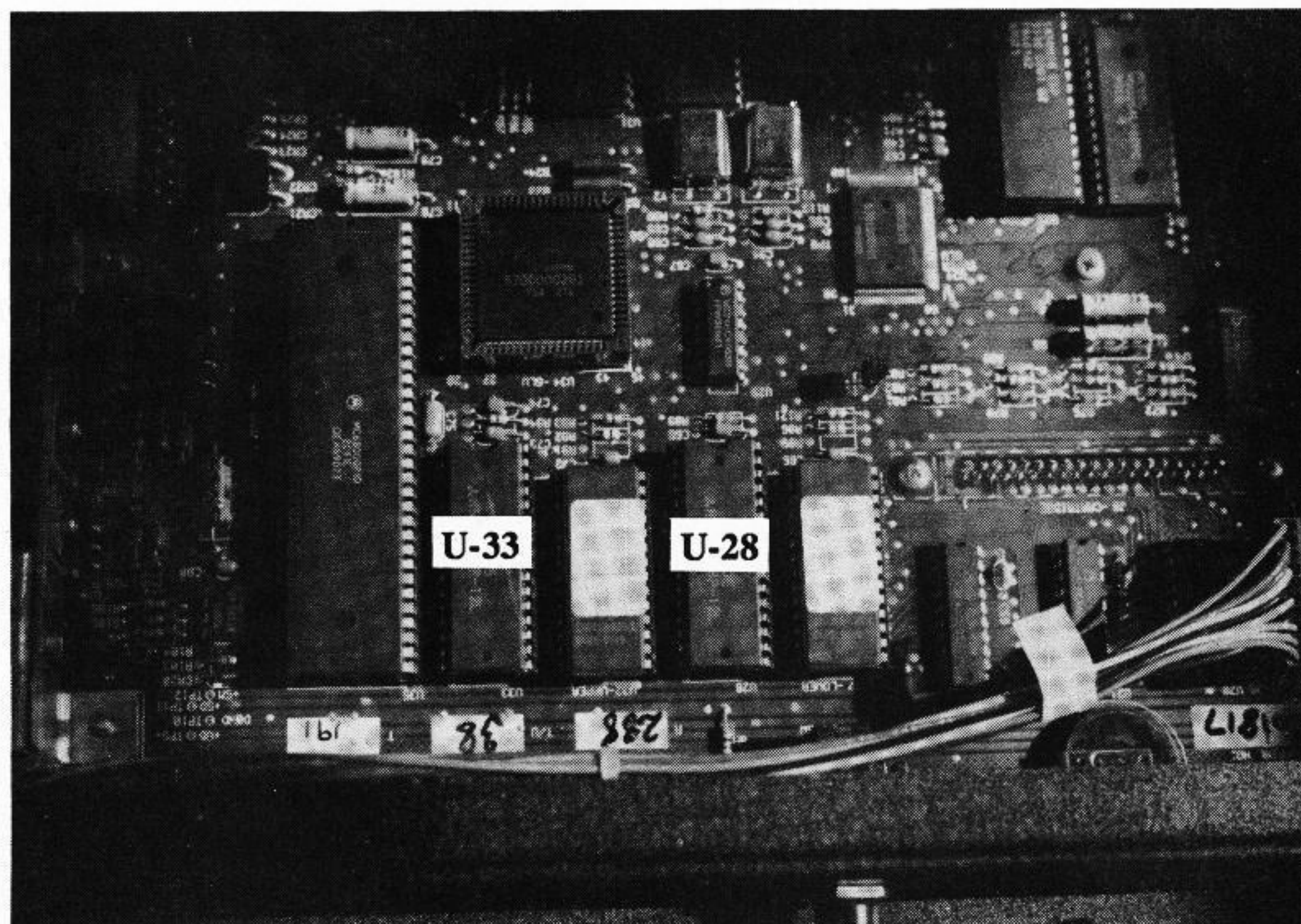
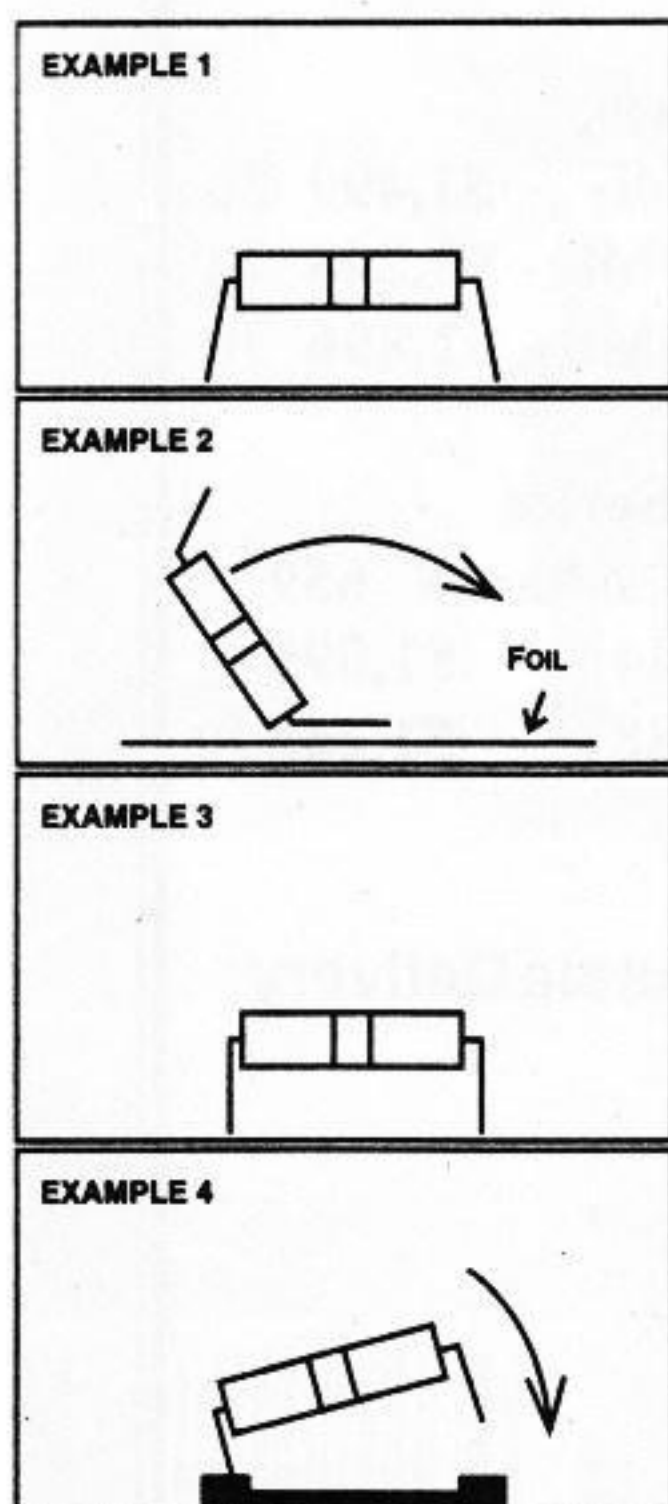
NOTE: ICs are susceptible to static electricity. When handling these devices avoid wearing nylon, polyester, or wool clothing. Suggested locations for disassembly of your SQ-1 are the kitchen table or garage work bench. In general, if your hair isn't bushed-out all around your head by static, or your pants aren't carrying around a spare sock from the dryer,

don't worry *too* much — these chips are pretty tough.

First, store ALL sounds and sequences on a RAM card or data disk.

Next, check your RAM IC's pin alignment. New ICs are usually bent out too far for proper insertion, as shown in example #1. To make installation easier and more accurate, place a piece of foil on a table or work bench. While holding the IC between the thumb and index fingers of each hand, (example #2) press all the pins of one side inward toward the middle of the IC. Now flip the IC over and repeat for the opposite side. When completed, your ICs should look like example #3, with the two rows of pins nearly vertical. Temporarily return both ICs back to their protective foam package.

Unplug ALL cables from your SQ-1. Place a blanket or quilt on the table and turn your SQ-1 over so the back input jacks are facing you. You will see 20 screws and 4 rubber feet (which will remain on the cover panel). Now remove the 20 screws from the bottom cover. (Note: There are 3 screws with star-lock washers. These are for proper grounding of your keyboard and *MUST* be returned to the same location during reassembly.) Lift the panel cover off and carefully set aside. The main PCB (printed circuit board) is located on the right side above the MIDI and audio jacks. The PCB is ap-



proximately 14" x 8". (See photo.) The RAM ICs reside in sockets U-33 and U-28 next to the large 64-pin MC68000 processor. The current RAMs are only 28 pin. Ensoniq knew there would be a need for an upgrade, and kindly provided us with 32-pin sockets.

Here's the fun part: Use your small flat blade screwdriver to gently pry up the top edge of the IC U-33, and then the bottom, until the IC is free from its socket. Note: Be careful not to dig the blade of the screwdriver into the PC board. Repeat these steps for U-28. Notice that both U-33 and U-28 sockets have notches that match the silk screen pattern on the PCB. The RAM IC notch **MUST BE INSTALLED IN THE SAME DIRECTION**. Partially insert all in-line pins of one side into socket U-33 (example #4). Gently rock the opposite side downward until all remaining pins are aligned, and press firmly into place. You may hear a crunching type sound as the IC seats, but don't worry. This is normal.

Recheck:

1. Was the notch oriented toward the top of the socket?
2. Look for pins that may be outside the socket. If this happens, simply remove the IC and carefully straighten the misaligned pins and reinstall.

After both ICs have been installed, replace the bottom cover and loosely install all 20 screws. (Remember the three ground screws.) Now tighten all screws completely. Reconnect AC power to your SQ-1 and reinitialize the sequencer memory (Edit/Copy Sound- Bank 1 Select 7). That was pretty simple, wasn't it? Now see how many times you can load your favorite sequence!

Maartists can be reached by calling 800-832-2737. ■

Bio: Mark Haymond is a Customer Service Rep for Van Ausdall & Farrar, a distributor of Lanier Voice Products equipment. He works on everything from micro-cassette portables to 48-channel digital recording systems. He also assists his professional musician wife in sequencing and sound hacking for all her programs. His favorite color is molten solder.

Missing or Damaged Issues?

Every month we mail out thousands of issues and every month about a dozen get "misplaced" by the Post Office. If you're ever one of the winners of this lottery, just give us a call (503-227-6848, 8 am - 8 pm Pacific Time) and we'll be happy to mail a replacement copy — no prob. (However, if you accuse us of nefarious schemes to "rip you off," you will be offered a refund and given helpful subscription info for other musician magazines.)

And now.....A drive for all reasons !!

No Hassle Design

R-Series

44 Meg Removable
\$629.00
 88 Meg Removable
\$799.00

Each unit comes complete with sounds for the EPS
 The R-Series includes a cartridge and cable.

No Hassle Selection

We fix and upgrade Eltekon Drives and other manufacturers!



No Hassle Service

D-Series

D525Mb - \$1,499 2u
 D1050Mb - \$2,248 2u
 D1900Mb - \$2,896 3u

CDR-Series

CDR-CD-Rom-\$ 659
 CDR-44 - \$1,095
 CDR-88 - \$1,248

No Hassle Delivery

Buy Factory-Direct and Save the Hassles!

Ramtek, Inc.
 Memory Driven Technology

Call 313-462-4181 to Place an Order
 37507 Schoolcraft Road · Livonia, MI 48150

Understanding Envelopes in the SD and VFX Synths

Part 2 - Into the Fray

Robby Berman

In Part 1 of this series, *Basic Concepts*, I discussed what envelopes do in the most basic terms: They shape sound. In the VFX and SD-1 synthesizers, they do that by sculpting pitch, volume, frequency filtration and panning. The next question is how do you get them to do such crazy things.

Envelopes shape the above aspects of sound through the adjustment of two factors, Level and Time. So what do these innocent-sounding words mean?

Levels and Times

Though “Level” implies volume, that’s not fundamentally what it means when you’re discussing envelopes. Rather, it refers to the level of modulation. Ah, I see your eyes glazing over — come back! How about this? Level is simply the amount, or degree, of change your envelope will enact on your basic pitch, volume, filtration or panning setting. Better?

“Time” refers to how long the change will last. Easy enough.

When one constructs an envelope, as we will in this article, what one creates is a shape. This shape is then imposed on a straight line if you will, a static amount of pitch, volume, filtration or panning. That static amount would be the pitch played from the keyboard (in concert with any adjustments made on the Pitch page), the volume setting on the Output page, the cutoff frequencies set on the Filters page or the pan position set on the last Output page. Ensoniq refers to these as “manual” settings.

Envelopes can impose their will on manual settings to varying degrees from +99 — where the envelope totally dominates the static setting, causing it to completely take on the envelope’s shape — down to 0, where it has no effect at all. You can also impose mirror images of the envelopes (like a reflection in a lake) onto manual settings by employing values below 0, going all the way down to -99. More about this later in this series.

So, to put this much together, envelopes change the manual settings of pitch, volume, filtration and panning to a degree we determine, for a particular length of time.

Now, what’s all this talk about shapes? In the VFXs and SD-1, each envelope allows you to change the manual setting not once but five consecutive times, and to decide how long each degree of change will last before the next degree of change takes effect. This moving from one Level to the next is not an abrupt jump, by the way — it’s a smooth transition.

When you consider these changes and their durations in graph form, shapes emerge. With a little ear practice, the shapes are apparent through listening as well.

Time to turn to the *Musician’s Manuals* for a little visual backup here. On page 8-30, you’ll see a visual representation of an envelope in graphic terms (no, it’s not erotic, it’s a graph — it is explicit, though). You might refer to this diagram as we go through the various components of envelopes in the following paragraphs to give you a visual sense of how envelopes travel through their five stages and times.

The five Levels, or amounts of change, are referred to as INITIAL, PEAK, BREAK 1, BREAK 2 and SUSTAIN. While these are indeed lovely names, they can be confusing.

INITIAL is the degree of change that the envelope is imposing on the manual setting when you press the key on the keyboard down. That’s pretty straightforward. The fly in the digital ointment is the second Level, PEAK, which really oughta be called something more neutral. It is not at all necessarily the peak, or maximum, amount of change, i.e., any one of the other five could very conceivably be set to a greater value than it is. It’s just the second one, that’s all (in the manual’s illustration it actually is the peak, but it doesn’t have to be). In fact, if you get confused, just remember that these five named settings could just as easily have been called Levels 1 through 5. SUSTAIN is the amount of change the envelope imposes after the other four have done their numbers.

The names for the Time settings, which determine how long it takes to travel from one Level to the next, are also a little misleading. DECAY 1 and 2 are not necessarily decays, for instance; they could actually refer to crescendi if, say, Level #4 (BREAK 2) is greater than #3 (BREAK 1). Again, you can think of them as Times 1 through 5.

When you press a key down, remember, the amount of change imposed on the manual setting is called INITIAL. How long it will take the envelope to travel to the next Level, PEAK, is determined by the Time setting referred to as ATTACK. DECAY 1 defines how long it will take PEAK’s level to change into BREAK 1’s. BREAK 1’s tenure is controlled by DECAY 2. DECAY 3 decides how long it will take for the amount of change called for by BREAK 2’s setting to change to the one called for by SUSTAIN’s. Whatever effect SUSTAIN is having on the manual setting will continue until you let go of the key (or the sustain pedal). Finally, the amount of time it takes for that amount of change to drop back to the unaltered manual setting after you’ve let go of the key or the

sustain pedal is determined by the RELEASE Time.

By the way, Times are not relative settings; they have absolute values, which are listed in a chart on page 8-32 in the *Musician's Manuals*.

Making an Envelope

Okay, the time has come to demonstrate one of these beasts by actually making our own envelope and showing how it can effect pitch (we'll get to its effect on volume, filtration and panning in Part 3 of this series). I hope you saved RAW WAVES, the program included in Issue #94. We need it now — load it, find it or program it — I'll wait.

Once you've got RAW WAVES in hand, so to speak, press the button in the Programming section labeled "Env1." This gets us to the Envelope 1 pages. Envelope 1 is assigned to pitch (though it can be used elsewhere as well).

What we're going to do is set up an envelope that will make the pitch fly up into the stratosphere, come back down to earth, fly up again, come back down halfway and then hover until we let go, after which it will gently touch down. As we create our envelope, you may want to consult the diagram on page 8-30 in the Manual to keep track of where we are and what we're doing. Of course, the shape we're creating is not the one depicted — ours will look like a camel with two humps and a big butt.

You're looking at the LEVELS page, where we'll determine what five changes we want to impose on the manual setting, which is the note we'll play on the keyboard. Each of these Levels can go from 00 to 99. For our little demo, set INITIAL to 00. This means that when we press middle C down, we will not have changed the manual setting at all, and we'll hear middle C (but don't play the keyboard yet). Next, set PEAK to 50, so that when it's PEAK's turn to change the manual setting, it'll push the pitch up halfway as far as it can go (which will be high enough, believe me). The next change is BREAK 1, with which we want to send the pitch back to ground zero — set it to 00. BREAK 2 is scheduled to head back into the wild blue, so set it to 50. The fifth change we can set is the Level the pitch will stay, or sustain, at until we let go of the key or pedal. Since we want our pitch to drop halfway back to the ground and hover, set it to 25.

Now press Env 1 again to get to the TIMES page. These settings also go from 00 to 99, but 00's too quick and 99's too slow for now. Let's set all of the times to 70. Now our up-and-down pitch should go through its changes at even intervals, slowly enough to hear what's a-goin' on.

If you've tried to play middle C and don't hear anything yet, not to worry, there's a good reason for that. Though we've created our envelope, we haven't yet instructed the VFX/SD to change anything with it. Let's do that now. Press the Pitch

Mod button. Select (underline) MODSRC in the top center of the screen and scroll down to ENV 1. In the upper right of the screen, set MODAMT to +99. This sets up Envelope 1 to impose its shapely will on the manual pitch setting to the maximum degree allowable. You may've noticed the ENV 1 option in the lower part of the screen — it's got some very special properties we'll get to later in this series.

Before we actually listen to what we've accomplished, I'd like you to do one more thing. Press the Env 3 button twice and set the RELEASE Time to 70. Envelope 3 is the volume envelope and, if you recall, we've had it set so that letting go of the key makes the sound immediately stop. For our demonstration we'd like the sound to trail away so that we can hear our hovering pitch settle softly to the ground. Why not save these changes we've made as a new program called UP+DOWN?

Press the Env 1 button so you can follow the action on the LEVELS page. Now press middle C on the keyboard and hold it down until you hear the pitch slowly travel way up, back down, up again and then settle in the middle. Once it's sustaining there, and you've had enough, let go, and the pitch will slowly settle back to middle C.

Are things going too slowly for you? Set the times to 35. Too quickly? If you're in a really patient mood, set 'em to 99 (and have a seat — you'll be making a short story very long). Here's an idea — set the TIMES back to 70. Set DECAY 1 and DECAY 2 to 35. Can you predict what'll happen? Right. We'll travel slowly upward to the top pitch, drop down quickly and back up again just as fast, then slowly cruise halfway back down as we originally did. And you might try experimenting by changing the Levels in various ways.

One really easy way to see firsthand some of the more typical envelope shapes employed in programming is to examine some of the 17 default envelopes built into your sd/SD. To find these, first press the Env 1 button to establish the proper copying context. Then press Copy and DEFAULT. Use the increment/decrement buttons or the data slider to scroll to RAMP UP and press YES. Now play middle C. Yoiks! Press Envelope 1 and examine the Levels and Times to see what's been altered. Press Copy and DEFAULT again and try RAMP DOWN (don't forget to press YES after you find it). Check out the Level and Time pages.

So far, we've only been demonstrating the effects of envelopes on pitch, and at optimum positive torque (+99, that is). There's so much more to discuss. In between now and next time, you might try visualizing what envelopes would do to volume, frequency filtration and panning. If that lands you squarely in mind-bending territory, don't worry. We'll deal with all these topics and more in Part 3. ■

Bio: Robby Berman is a musician living 'neath starry skies in New York's beautiful Hudson Valley. His latest album is "Rings and Rings."

Getting Started with the DP/4 Configs

Clark Salisbury

Because of its unique architecture — four discrete processors which can be digitally interconnected in any configuration — the DP/4 presents a vast potential for effects design not previously available in stand-alone processors. With the DP/4, for example, you could have a preset that includes a reverb and a delay fed by a single source, such as a guitar, and set up in parallel, mixed to stereo, along with a pair of compressors (each with EQ) set up in mono, each fed by its own source (such as the left and right channels of a stereo mix). You could have a preset with a single source feeding a plate reverb routed into a phaser, then to a DDL, and also feeding an 8-voice chorus, routed into another plate reverb, with some of the output of the plate routed back into the chorus in a feedback loop. This could all be mixed into two pair of stereo outs, with the plate -> phaser -> DDL chain appearing at one set, and the 8 voice chorus <-> plate chain appearing at the other. Why, it can get overwhelming just writing it out, much less creating these monster combinations.

Still, it's not as hard as one might think to master the DP/4. The key, in my humble opinion, lies in mastering the Config (short for configuration) — the way in which the four processors can be interconnected.

In the world of multi-effect processors, the DP/4 Config is somewhat unique, and therein lies a potential for confusion. With most processors you plug your source signal into the effect inputs and plug the effect outputs into your mixer or audio system. With the DP/4, though, you have a choice of four inputs and outputs to route signals through. And to further complicate matters, different sets of inputs and outputs might be used depending on your application. To help clear up some potential confusion for the new DP/4 user we're going to spend a little time dealing with the heart of the DP/4, the Config.

Each of the four processors that reside in the DP/4 has an input, called a Source. A single, massive effect that processes one input signal, for example, uses a 1 Source Config — a configuration in which all the DP/4 processors are driven by a single mono or stereo input signal.

Each of the processors in the DP/4 are called Units. In the example above, all four DP/4 Units are driven by the same Source (input signal), so this preset is thought of as a 4 Unit Preset. We can say, then, that an effect which processes a single input signal through all four DP/4 processors is a 4 Unit preset using a 1 Source Config.

Of course, other Configs are available. There are also 2, 3, and 4 Source Configs available. The Config you'll use in a

given application will depend on how many different input signals you want to process through how many Units.

There are a couple of different ways to select the type of Config you'll use in a given situation. One is to simply scroll through the DP/4 presets until you find one that more or less matches your needs, and then edit any parameters that you find lacking.

First, hit the SYSTEM/MIDI button, and scroll to parameter 59, Show 100 Config Presets. If this is set to NO, use the data entry knob to change it to YES. This allows you to access the pre-programmed Config Presets that are included with the DP/4 when it's shipped from the factory.

Now press the SELECT, then the CONFIG button. Simply scroll through the Config presets until you find one that matches your needs. For example, if you want to process two mono signals (such as a snare drum and a lead vocal) separately, scroll until you find a likely effect — perhaps preset 06, Drums Vocals, might work in such a case.

Once you've selected the preset, you'll want to check to make sure that it is configured appropriately for your purpose. Press EDIT, and scroll through the parameter listings to check it out.

In the case of Preset 06, Drums Vocals, the first page you come to will tell you that this preset does indeed use a 2 Source Config. Scroll once to the right reveals that Units A and B are routed in parallel. They will each receive input signal directly from the source (these could also be configured in serial, in which Unit A would first receive the source signal, and then pass it along to Unit B, or in either of the two feedback modes, in which one or both Units return their output back to the input of the other Unit).

Scrolling once more to parameter 02 will reveal the routing relationship for Units C and D — in this case, they are connected in series. Scroll again to parameter 03, and you'll find that Units A and B are set up to receive a mono signal from input 1. If you wished, you could use the data entry knob to change this so that Units A and B would receive a stereo signal from inputs one and two. And scrolling once more will allow you to edit the same parameters for Units C and D.

Scrolling again will take you to parameter 05, where you can set the amount of dry, unprocessed signal that will be mixed with the output from Units A and B; scrolling again allows you to set the same parameter for Units C and D. Note that you can also control the wet/dry mix for any effect algorithm

by hitting EDIT, then pressing the appropriate A, B, C, or D button (depending on which effect you wish to edit), and scrolling to parameter 02.

The other way to create a custom Config Preset is to select one of the pre-programmed Config templates, and then assign to it the effects you wish to use. To do this, press the SELECT button, and scroll to Preset 53, 1 Src: Mono In. This is the first of several templates designed to make it easy to put together more complex Config Presets. You'll notice that all effects assigned to this preset (and the other Config templates) are "Dry" — no effects are used.

It's a simple matter, though, to select the Config that most closely matches your needs, and then simply assign the effects you want to use. For example, let's say you'd like to design a distorted guitar effect. The first step is to select the correct Config Preset. In this case, you might want to use all four Units to process the single guitar input. Since you're probably using a mono signal from your guitar, then, it should be pretty obvious that the most appropriate Config template is number 53, 1 Src: Mono In.

Selecting this Config Preset will set up a chain of all four Units configured to process the mono input signal. If you wish, you might press the EDIT button and scroll through all the Config parameters to make sure that they are set up to do what you want. You'll find that this Config is set up to process a mono signal presented to input 1 through all 4 Units, and that the Units are all connected in series. This should be pretty much what you want for this type of application.

Now all you have to do is assign the effects you want to the chain in whatever order you'd like. For example, you may want to place a compressor at the beginning of the chain. To do so, simply press EDIT, then button A (to select Unit A for editing). Make sure that parameter 00 is selected for editing, and simply use the data entry knob to

scroll to the appropriate effect — in this case, probably one of the EQ-Compressor effects. Once you've selected the effect, of course, you can scroll through its parameters to make any changes you might wish.

Next, hit button B, (to select Unit B for editing), make sure that parameter 00 is selected, and again scroll through the available effects until you find the one you next like to assign in the chain — maybe a distortion effect or an amp simulator. Once this effect has been selected, you can continue in the same way until you've assigned (and possibly edited) an effect for each of the four Units. Once the entire thing has been tweaked to your satisfaction, you can save it for later recall.

If after doing this you still don't feel completely at ease with Configs and Config Presets, I'd suggest putting on a fresh pot of coffee and spending some quality time getting comfortable with

them. If need be, talk to your local dealer, or give Ensoniq a call. The true potential of the DP/4 cannot be realized without a solid understanding of the Configs and Config Presets. But once you nail them, you can do just about anything with this crazy box. ■



Bio: Clark Salisbury is a partner in the MIDI Connection, a Portland-based consulting firm. He has long been actively involved in the composition, performance, and recording of electronic music and is now producing his own pop-oriented compositions. His favorite color is chrome.

Introducing ...

The Rubber Chicken Introductory Pak

**10 disks of great sounds - from the
entire RCS Library - Only \$59.95!**

*You want some great drum sounds - but
you also want good basses and strings
and... well, you want everything! Here
you'll find the best samples we've got -
in one dynamite collection! You'll also
find coupon for 15% off your next buy.*

Call today!

Piano!

*Even for you ASR-10 owners, this piano is the standard that you play
around! With full body and resonance, just like a real piano, and not
like the non-"sustaining" fakes. Try it out - at a rock-bottom price!*

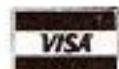
Only \$24.95!

Subscribe to the

Chicken Chronicle

*If you want to know more about your EPS, and the Hacker just isn't
enough, turn to the Chicken Chronicle. With interesting articles,
regular monthly columns, and up-to-the-minute information on new
EPS releases, you'll know all there is to know about your keyboard.*

Only \$10.00 yearly



TOLL-FREE ORDER LINE

1-800-877-6377

RUBBER CHICKEN SOFTWARE CO.

Serious Samples for the EPS family of instruments

**Call Today for your free Catalog
and Sound disk!**

(available only to first time customers)

Organs!

Minotaur Ultimate Organ Library!

*Killer Hammond samples you'd swear were the real
thing! With this 10 disk set, start finding good reasons to
sell your B-3, and the rest. Distortion Hammond, Chorus/
Vibrato, Fast - Slow Leslie, and more!*

Only \$59.95!

MicroWave Chicken II!

*The ground-breaking vector synthesis pioneer, the Korg
Wavestation is the now favorite of many top performers
and studio musicians. Great samples for you EPS for
thousands of dollars less!*

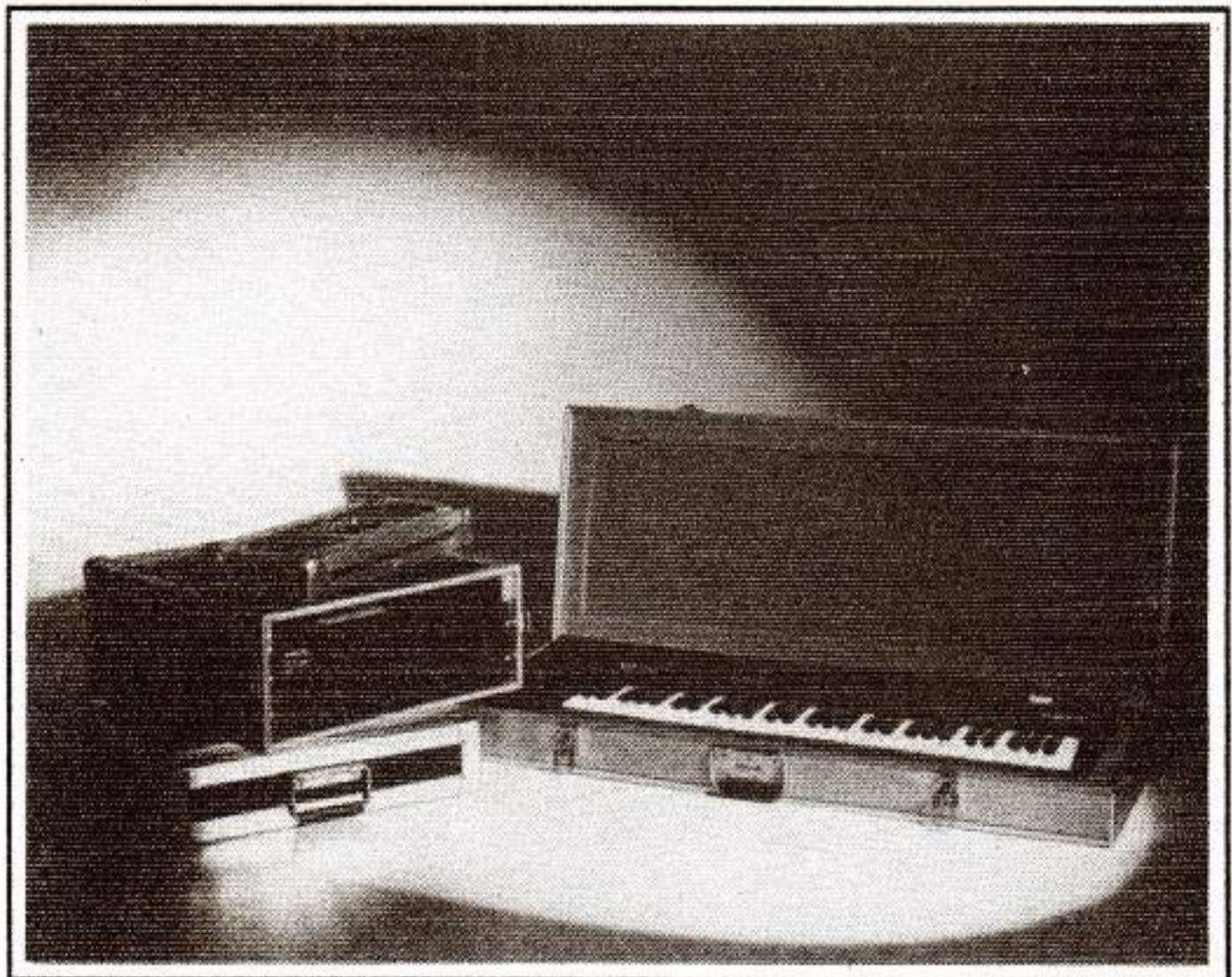
Only \$59.95!

Flock to: **RUBBER CHICKEN
SOFTWARE CO.**

P.O. Box 2513 • Kirkland, WA 98083-2513



Cases for Ensoniq Equipment



Shown: 4-space rack with EPS-16 PLUS module,
2-space rack, Eagle-I VFX-sd case

Now available direct from factory (except in current dealer areas) our full line of ATA cases Category I and II

Keyboards: EPS, EPS-16 PLUS, VFX, VFX-sd, SQ-80, SQ-1, SQ-1+, SQ-2
Module rack cases: 3-space, 4-space, 5-space, 6-space. (2-space racks available with surface mount hardware only.)

Mention the (TH) code number 839 when inquiring to receive our special factory direct pricing.

CALL US AT 1-800-637-6635

8:00 am to 4:30 pm CT, Mon. - Fri.

We accept: COD, Visa, Mastercard, American Express.

Dealer Inquiries Welcome!



OPTI-CASE • RT. 6, BOX 235 • HENDERSON, TX 75652 • FAX: 903-657-6030

LEARN JAZZ IMPROVISATION WITH YOUR MIDI SEQUENCER!



INTRODUCING JAZZ THROUGH MIDI™

A FUN AND EXCITING NEW
METHOD FOR LEARNING JAZZ.

Now you can learn authentic jazz solos, study jazz theory, practice scales, and jam with your own jazz band anytime you want. Jazz Through Midi has levels of skill for beginning, intermediate and advanced players, and features a variety of popular jazz standards and practice exercises in the following jazz styles: Bebop, Modal, Blues, Latin, New Orleans and Fusion. Leadsheets are also provided with complete transcriptions of all the solos. Requires a midi soundsource with drum sounds. Available for Mac, IBM, Atari, Amiga (Type 1 Midifiles) Roland, Yamaha, Kawai, Ensoniq, and Korg sequencers.



\$49.95



NEW SOUND MUSIC

P.O. Box 37363 • Oak Park, MI 48237
Phone: (313) 355-3643



**PROFESSIONAL QUALITY
LOW COST
SEQUENCES
FOR**

**THE EPS/EPS-16 PLUS, SQ-80,
ESQ-1, VFX-sd, SD-1, Roland,
IBM/DOS**

**TOP 40
COUNTRY
ROCK ('50s, '60s, '70s, '80s)
BIG BAND**

**CALL OR WRITE
ANY TIME 24 HOURS**

**MUSIC MAGIC
10541 EARL AVE.
BENNINGTON NE 68007
1-402-238-2876**



**Power Crank
Productions**

A Division Of
Midwest Digital Services

**We are soon to be
the first word in Rock
Sequences!**

**EPS, SQ-80, VFX-SD, SD-1
01/W FD, Cakewalk-IBM
Custom Sequencing Available!
Over 26 years of keyboard experience!
Free Catalog Available!**

Midwest Digital Services
PO Box 21
WHAT CHEER, IA 50268
(515) 634-2019

Dissectin' Wind with Dr. B

Brad Kaufman

In a recent edition of the *Hacker*, a writer to the Interface column wanted a VFX/SD-1 patch for the sound of blowing wind. This set those little cogwheels turning: What special sonic features make us recognize wind when we hear it and can the VFX mimic these features?

I offer WIND as my answer to this challenge. It's easy to program with only two voices and only one envelope active in each voice. If you're an old hand at programming, you can use the COPY function to save yourself even more time as Voice 2 is nearly identical to Voice 1. Otherwise, just plug away until both voices are entered.

Now let's take apart the patch to see what makes it tick.

Riding Your Wave

The wave is the basic ingredient needed to trick our ears into hearing wind. I was looking for a non-musical wave, perhaps with irregularities in its cycle. This brought to mind NOISE, INHARMONIC and MULTIWAVE. The result: Nothing sounded like wind. The NOISE wave was *very* disappointing and the INHARMONIC waves were even worse — but the ANVIL LOOP would help give the patch a shrieking quality, so I saved it for Voice 2.

I wasn't ready to give this one up, so I tried substituting *each of the remaining 109 VFX waves*. Lo and behold, the CRASH-CYMBAL wave sounded perfect. As I've found out many times, trying every wave to get the right sound will often succeed where the best planning fails. I have beautiful Rhodes pianos which use the ORGAN waves and transwaves, and terrific organ sounds made up only of the FRETLESS or 2HARM-SAW waves. Go figure.

A Bone-chilling Howl

The mod mixer is the key to the realism in this patch. By modulating pitch with a mixture of LFO and NOISE, the wind howls at random. The LFO "restart" parameter is OFF so the wind will sound a little different each time a key is pressed.

Filtering

The settings are simple and only FILTER 1 is active. Select Voice 2 and go to the FILTER 1 page. Now change FILTER 1's MODSRC to LFO and MODAMT to +19. This makes the wind's bite change along with the pitch. Way cool.

SD & VFX Prog: WIND

By: Bradley Kaufman, Fair Lawn, NJ

WAVES	1	2
Wave	CrashCym	Anvil
Wave Class	TunPerc	Inharm
Delay	0	0
Start	99	-

SELECT VOICE	1	2
00	1	2
0*	1	2
*0	1	2
**	1	2

MOD MIXER	1	2
SRC-1	LFO	LFO
SRC-2	Noise	Noise
SRC-2 Scale	0.5	0.5
SRC-2 Shape	Smooth	Smooth

ENV1	1	2
Initial		
Peak		
Break 1		
Break 2		
Sustain		
Attack		
Decay 1		
Decay 2		
Decay 3		
Release		
KBD Track		
Vel Curve		
Mode		
Vel-Level		
Vel-Attack		

PITCH	1	2
Octave	-2	+1
Semitone	-04	+05
Fine	0	0
Pitch Table	All C4	All C4

PITCH MODS	1	2
MODSRC	Mixer	Mixer
MODAMT	+58	+58
Glide	No	No
ENV1	0	0
LFO1	0	0

ENV2	1	2
Initial		
Peak		
Break 1		
Break 2		
Sustain		
Attack		
Decay 1		
Decay 2		
Decay 3		
Release		
KBD Track		
Vel Curve		
Mode		
Vel-Level		
Vel-Attack		

FILTER 1	1	2
Mode	LP2	LP2
Cutoff	067	062
KBD	0	0
MODSRC	-	-
MODAMT	0	0
ENV2	0	0

ENV3	1	2
Initial	29	29
Peak	99	99
Break 1	99	99
Break 2	99	99
Sustain	99	99
Attack	44	44
Decay 1	20	20
Decay 2	20	20
Decay 3	20	20
Release	68	68
KBD Track	0	0
Vel Curve	CV1	CV1
Mode	Nor	Nor
Vel-Level	0	0
Vel-Attack	0	0

FILTER 2	1	2
Mode	LP2	LP2
Cutoff	127	127
KBD	0	0
MODSRC	-	-
MODAMT	0	0
ENV2	0	0

OUTPUT	1	2
VOL	99	64
MODSRC	-	-
MODAMT	0	0
KBD Scale	0	0
LO/Hi Key	A0/C8	A0/C8
Dest Bus	FX1	FX1
Pan	50	50
MODSRC	-	-
MODAMT	0	0
Pre-Gain	Off	Off
Voice Prior	Med	Med
Vel Thresh	0	0

PGM CONTROL	
Pitch Table	Off
Bend Range	**
Delay	X1
Restrike	0
Glide Time	0

LFO	1	2
Rate	13	13
MODSRC	-	-
MODAMT	0	0
Level	99	99
MODSRC	Off	Off
Delay	0	0
Waveshape	Sine	Sine
Restart	Off	Off
Noise SRC RT	50	50

EFFECTS (1)	
Effect	Lg Hall Reverb
FX1	To taste
FX2	To taste

PERFORMANCE	
Timbre	0
Release	0
Pressure	No

Smooth Fades

The purpose of the only envelope in this patch is to make the sound fade in gradually. ENV 3 Initial level 29 and Attack level 41 take care of this. The Release value of 68 lets the sound linger and avoids a sudden cut-off.

Playing Techniques

Throw another log on the fire and wear a heavy sweater. Now you can enjoy WIND. For those of you who like playing 5 and 6 note chords, secure all past editions of the Hacker under a heavy paperweight (or any old 8-bit sampler you may have in the closet).

The wind program uses four techniques to shape sound. Ran-

dom modulation of pitch by the Mod Mixer makes the howling believable. Filtering makes both voices sound less electronic and adds a slight rumble to the ambience. The waves are chosen for their non-musical, rough characteristics. And, finally, shaping the attack and decay by Envelope 3 gives a professional fade-in and decay.

In upcoming articles I plan to dissect other Dr. Brad patches to show basic and exotic programming techniques I've stumbled across in my programming adventures on the VFX. And I'd like to thank the many past and present contributors to the *Hacker* for lots of educational, not to mention inspirational, articles which have made programming this critter so thoroughly enjoyable.

So, does anyone out there have a patch for rustling leaves? ■

...Nuthin' Like the Real Thing

Jack Stephen Tolin

In the beginning, there was thesis. When evil came into the world, there was antithesis. When the ESQ-1 came into the world, there was synthesis. Life was, at that point in history, found to have a diversity of expression via manifold grace through the music of sonic vibrations in the ether. Uh... yeah.

So anyway, the year is 1987 — reminisce with me: Ensoniq introduces the ESQ-1, a product that later becomes chosen as the Most Innovative Keyboard of 1987 — even over the Yamaha DX7II, the Roland D-50 and the Korg DSS-1. "Why?" you may ask. Well, it wasn't simply because the let-

SQ-80 PROG: AMSYNQ								BY: Jack Stephen Tolin			
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH			
OSC 1	+0	05	00	BRASS	LFO2	+01	LFO1	+05			
OSC 2	+0	00	00	NOISE1	LFO2	+01	LFO1	+05			
OSC 3	-2	00	00	METAL	VEL	+63	*OFF*	-			
	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH					
DCA 1	00	ON	ENV1	+63	PRESS	+63					
DCA 2	00	ON	ENV2	+63	ENV2	+35					
DCA 3	63	ON	*OFF*	-	*OFF*	-					
FILTER	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH				
FILTER	048	09	22	ENV3	+63	*OFF*	-				
DCA 4	FINAL VOL	PAN	PAN MOD	DEPTH							
DCA 4	63	08	LFO3	+63							
LFO 1	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD			
LFO 1	24	OFF	ON	TRI	00	00	00	WHEEL			
LFO 2	22	OFF	OFF	TRI	00	03	20	PRESS			
LFO 3	10	OFF	OFF	TRI	00	00	00	PEDAL			
ENV 1	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK	
ENV 1	+63	+60	+58	00X	00	04	32	22	48	01	
ENV 2	+63	+63	+63	10X	00	07	20	32	54	00	
ENV 3	+63	+24	+06	32L	15	00	29	32	37	15	
ENV 4	+63	+56	+48	15X	63	00	32	32	32R	26	
MODES	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC			
MODES	OFF	ON	OFF	00	OFF	OFF	ON	OFF			
SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY					
SPLIT/LAYER	OFF	-	OFF	-	OFF	-					

SQ-80 PROG: QOOOOL								BY: Jack Stephen Tolin			
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH			
OSC 1	+0	00	00	STEAM	LFO1	+05	*OFF*	-			
OSC 2	-1	00	02	DIGIT2	LFO1	+05	*OFF*	-			
OSC 3	-2	11	30	SQR2	LFO1	+05	*OFF*	-			
	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH					
DCA 1	50	ON	PRESS	+63	*OFF*	-					
DCA 2	58	ON	PEDAL	+63	KBD2	-13					
DCA 3	58	ON	PEDAL	+63	KBD2	-13					
FILTER	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH				
FILTER	000	19	30	ENV1	+63	*OFF*	-				
DCA 4	FINAL VOL	PAN	PAN MOD	DEPTH							
DCA 4	63	08	LFO2	+63							
LFO 1	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD			
LFO 1	24	ON	ON	TRI	02	00	00	WHEEL			
LFO 2	15	OFF	ON	TRI	00	00	00	PRESS			
LFO 3	-	-	-	-	-	-	-	-			
ENV 1	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK	
ENV 1	+55	+29	+23	00L	18	14	24	26	27	00	
ENV 2	-	-	-	-	-	-	-	-	-	-	
ENV 3	-	-	-	-	-	-	-	-	-	-	
ENV 4	+63	+53	+23	00L	18	10	20	45	30R	00	
MODES	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC			
MODES	OFF	OFF	OFF	00	OFF	OFF	OFF	OFF			
SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY					
SPLIT/LAYER	OFF	-	OFF	-	OFF	-					

ter "D" fell out of favor that year. It was, in fact, according to a later advertisement, "for its great sound and versatility." (*Keyboard*, November 1987.) The ad (and subsequent ads) went on about features that, today, sound a bit pre-historic — "...32 different waveforms, 8-bit synthesizer..., 8-track sequencer...." Ah, well.

However, I doubt that you could find a synthesizer on the market today that has the same functions and yields the same type of effects in its end sounds. The contemporary synthesizer is, for the most part, a sample play-back unit. You'll find these all across the board; they're being produced by every major synth manufacturer. I'm sure you've heard the complaint: "The ESQ-1 and SQ-80 just don't have that pristine 16-bit quality that all the new instruments have." They sure don't! But, on the other hand, why sweat it? The sound of the ESQ-1 and SQ-80, overall, is unique — the way synths *used to be*. You just can't get this sound with a brand new 1993 synth — sorry. E-mu is beginning to discover this; they've come out with a sound (sample playback) module of classic synths — a far cry from the programmability of the real thing.

For a shot at the real thing, I've included two programs: AM-SYNQ and QOOOOL. AMSYNQ is rather diverse in its potential. Playing it as it is written yields a somewhat playful sound-effect type that will differ depending on velocity, CV pedal position, modwheel position, and pressure. You may

want to try something different with each variation. Afterward, switch the OUTPUT on DCA3 to OFF and SYNC on the Modes page to ON for a more musical derivative. QOOOOL is a rather nice and simple sound that you *won't* find on any new synthesizer — *period!* (Forget about "Keyboard Scrabble" with these!) If you're an ESQ-1 owner, simply replace the waves — e.g., BRASS, DIGIT2, and BREATH — with any wave you prefer sonically — e.g., SAW, SQUARE, and VOICE1 are common favorites. Play around with the real-time modulators for optimum effect.

The moral of the story is this: If you own an older synth, don't let all the sugar-coated negativity in the current MIDI-mags get to you; they will *never* make them like they used to. What you've got has its own unique way of making a sound that has features that owners of new synths can only dream of having. ■



Bio: Jack Tolin is currently a Psychology major at Eastern Nazarene College in Quincy, Mass., owns CrossWave Sounds (a music production studio that markets sounds for Ensoniq instruments), and performs at Boston area churches with his econo-band, "Clay in Hand."

Who says you have no RESONANT FILTER?

The ASR-10 and EPS-16 PLUS can now go "Bwaaoooww."

The **REZ FILTER** algorithm is a striking re-creation of an analog synthesizer, the classic Minimoog. A four-pole low-pass resonant filter is coupled to a lightning-fast ADSR envelope generator. The filter's resonance control (also known as emphasis, bandwidth, or Q) gives it that distinctive analog sound by creating a sharp peak in the frequency response. This peak is swept by the envelope or any modulation source. It does things you can't do by sampling an analog synth.

To demonstrate some applications of **REZ FILTER**, the disk comes with a collection of raw Minimoog samples that come to life when they hit the resonant filter. But what *you* want to do is warp your own sounds, and you can— you'll quickly be transforming your entire library of clean digital samples into fat and juicy *dweeps*, *bwops* and *darnts*.

The **REZ FILTER** effect algorithm also incorporates some of WAVEBOY's trademark **parallel effects**: both **chorus** and **reverb**. Other fun features include a choice of single or multi-trigger modes on the envelope generator, and a sample-and-hold.

But wait... *there's more*: this disk includes another algorithm that does *frequency modulation* (FM.) Again, an example sound is included that sounds terribly much like the DX-7. But The DX-7 used only sine waves—you can go further. This algorithm allows you to modulate any sound with any other sound! The results can

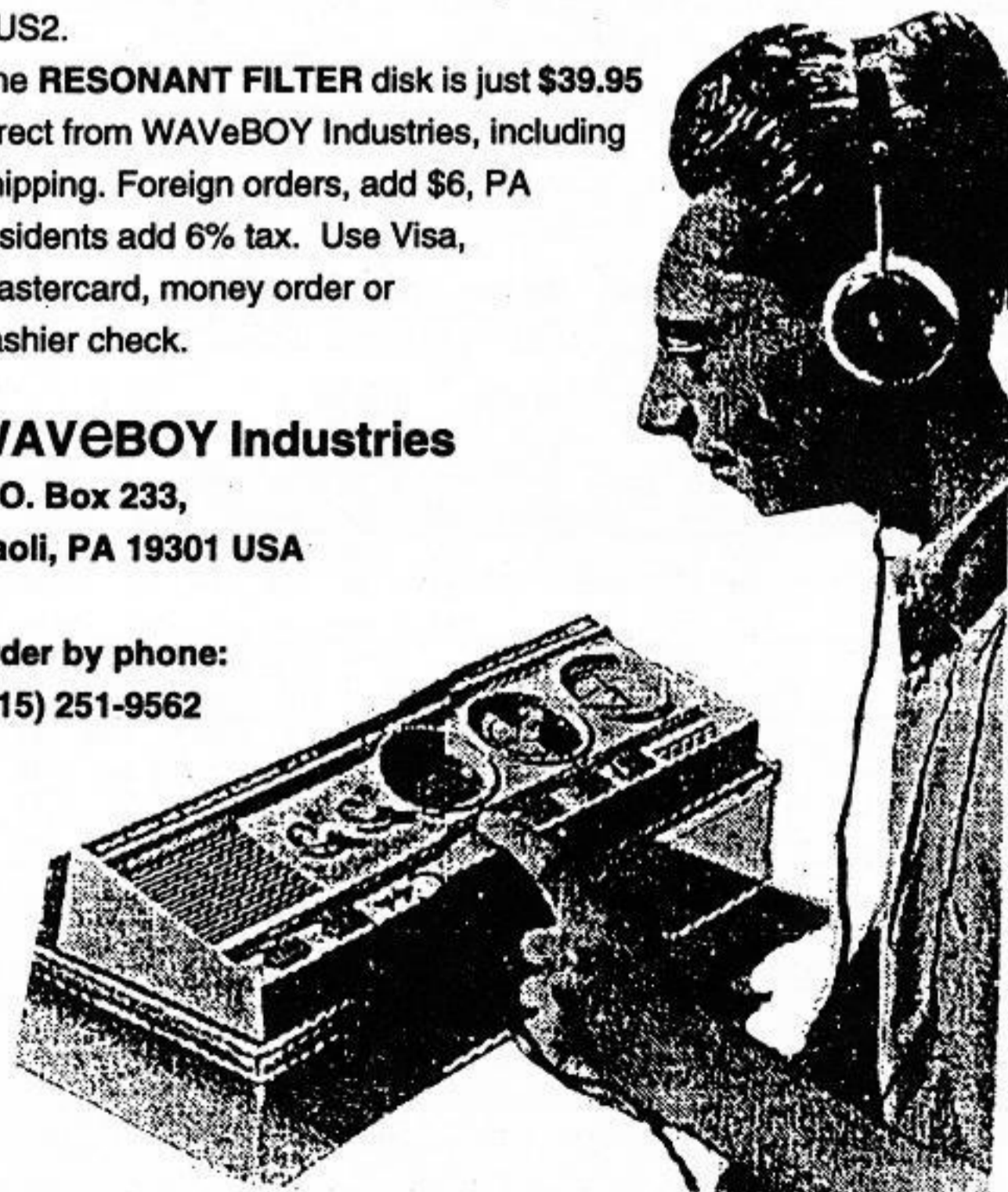
be unpredictable: really crazy, really fat, and sometimes really grungy. Like **REZ FILTER**, **FM+FX** includes chorus and reverb which can be added to the FM output or used for other sounds on BUS2.

The **RESONANT FILTER** disk is just \$39.95 direct from WAVEBOY Industries, including shipping. Foreign orders, add \$6, PA residents add 6% tax. Use Visa, Mastercard, money order or cashier check.

WAVEBOY Industries

P.O. Box 233,
Paoli, PA 19301 USA

order by phone:
(215) 251-9562



Prog: Consulation Effect

By: Bengt Karlsson, Sweden

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Transwave	Transwave	Inharmonic
Wave	Res 4X	FormantX	NoiseLoop
Delay Time	0	0	0
Wave Direction	-	-	-
Start Index	00	76	-
MODSCR	Env1	Noise	-
MODAMT	+57	-67	-
Restrk Decay	99	99	99

LFO	1	2	3
LFO Speed	29	14	99
Noise Rate	66	93	99
Level	00	22	99
Delay	99	00	99
MODSRC	Wheel	Wheel	Max on
Wave	Sine	Pos/Sine	Square
Restart	On	On	On

AMP	1	2	3
Initial	00	00	00
Peak	00	00	99
Break	99	83	80
Sustain	99	72	68
Attack	04	00	78
Decay 1	13	46	46
Decay 2	00	81	81
Release	61	46	46
Vel-Level	13	00	00
Vel-Attack	00	06	06
Vel Curve	Convex	Quikrise	Quikrise
Mode	Normal	Normal	Normal
KBD Track	+28	-14	+00

PITCH	1	2	3
Octave	+0	+1	+00
Semitone	+0	+00	+00
Fine	+0	+00	+00
ENV1	+00	+00	+00
LFO	+00	+02	+00
MODSCR	LFO	Noise	Wheel
MODAMT	+17	+00	+00
KBD Ptch Track	On	On	On
Glide	Off	Off	Off
Glide Time	00	00	00

FILTER	1	2	3
Filter 1	2Lo	2Lo	2Lo
Filter 2	2Hi	2Hi	2Hi
FC1 Cutoff	034	014	062
ENV 2	+41	+99	+99
FC1 KBD	+00	+00	+00
MODSRC	LFO	Veloc	Wheel
MODAMT	+22	+36	+39
FC2 Cutoff	127	000	019
ENV2	-99	+00	+00
FC2 KBD	+00	+00	+00
FC1MOD-FC2	Off	On	On

OUTPUT	1	2	3
VOL	41	78	80
Boost	On	Off	Off
MODSRC	LFO	Veloc	Veloc
MODAMT	+00	+00	+99
KBD Scale	+00	+00	+00
Key Range	C2-C7	C2-C7	C2-C7
Output Bus	FX1	FX1	FX2
Priority	Medium	Medium	Medium
Pan	+00	+00	+98
Vel window	000	000	124

ENV1	1	2	3
Initial	99	00	99
Peak	69	00	99
Break	00	00	99
Sustain	30	00	99
Attack	38	00	99
Decay 1	71	00	99
Decay 2	28	00	99
Release	25	00	99
Vel-Level	00	00	99
Vel-Attack	00	00	00
Vel Curve	Linear	Linear	Quikrise
Mode	Normal	Normal	Normal
KBD Track	+00	+00	+00

ENV2	1	2	3
Initial	55	99	99
Peak	99	50	50
Break	49	50	99
Sustain	99	50	50
Attack	46	09	09
Decay 1	55	26	26
Decay 2	61	94	68
Release	60	50	70
Vel-Level	00	00	00
Vel-Attack	00	00	00
Vel Curve	Linear	Linear	Linear
Mode	Normal	Normal	Normal
KBD Track	+00	+00	+00

EFFECTS — 8-VOICE CHORUS

FX-1	99
FX-2	79
Chorus Rate	99
Chorus Depth	18
Chorus Center	99
Feedback	+22
MOD (Dest)	FX1-Mix
BY (MODSRC)	Pitchwheel
MODAMT	+99

The Hack:

Another out-the-window offering from Bengt Karlsson. (He lives where it's very cold.) This time around it's a stirring and positively sinister fade-pad that should easily wake the dead (or near-dead). Bengt uses plenty of programmed delay and noisy modulation at every turn to create an uncomfortable, whirling palate that would be right at home with *AlienVI*. (?... Nah.)

Since a patch of this order is so very subjective, I'll deviate from the usual practice of suggesting exact parameter value alternatives. Instead, here are a few general ideas: Try using different waves for Voice 1. For example, if you prefer Peter Lorre at his monstrous best, use one of the four Organ Variations. Square, Sawtooth and the harmonic variations seem to work well also. Experiment with different Output Levels and Filter settings.

The 8-Voice Chorus does give this sound some of its fright value. However, different effects can deepen the patch some. Find the Reverb (or Reverb and Chorus) that shakes you up the most. Then don't be afraid to overstate some of its values — so you're really shaken up. After all, a dead Plutonian in your shower isn't really normal... and neither is this patch. Bengt, you're an evil man.

Jeffrey Rhoads



Bio: Jeffrey Rhoads has been a keyboardist/composer on the Philadelphia Jazz and R + B scene for a period of time resembling forever. He has an interest in cinema and has developed some film courses. Jeff still believes in magic and longs for city lights.

Hackerpatch is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Once something's published here, it's free for all. Please don't submit patches that you know to be minor tweaks of copyrighted commercial patches unless you have permission from the copyright owner. All submitted patches are subject to consideration for mutilation and comments by Sam Mims and Jeffrey Rhoads — our resident patch analysts. If you send in a patch, please include your phone number. Requests for particular patches are also very welcome.

Pending Hacker-Requests: SQ-1/2 — An "Elton John" Oberheim Bass patch — like in *Rocket Man*.
SD/VFX — A sitar patch.

Classifieds

EQUIPMENT

VFX-sd with large sound library, \$1150. Sam Mims, 713-965-9041.

EPS-16+, max memory, FB1 Flashbank: \$1500. EPS-16 Output Exp: \$200. Phone: 503-245-3752 or 503-452-9491.

SQ-80 w/out operational keyboard; 2 sound carts: 80 & 160 patches; many sounds on disks including demo sequences; power cord; manual; gig bag. \$515 obo. HR-16; power-pack; manual. \$150 obo. Jack Tolin, 23 E. Elm Ave., Quincy, MA 02170, phone: 617-770-0654 (leave message).

Looking to trade fully loaded EPS-16+ keyboard (memory expansion, output expansion, SCSI) for an EPS-16+ rackmount. (Will ship U.P.S.) IBM sequencing program: Sequencer Plus Gold by Voyetra. Original, not copy. Includes MIDI interface, all docs & manuals. \$300 obo. Also, Boss Dr 550: \$150. ART SGE Mach II: \$450 obo. John, (908) 566-3872 or 566-4092, (NJ), leave message.

Ensoniq SD-1/32 plus extras. 7 months old. Home use ONLY. Need cash NOW!!! Reasonable offer. Call Robert, 412-378-7396, 3 to 7 EST.

EPS: 4X/SCSI, Mint, all manuals, huge sound library included. \$999 obo. Phone: 800-776-3199.

SD-1/32 Voice, mint condition, home use only, still under warranty, 2000+ sounds, two cartridges, \$1395. Mike, (504) 752-9199.

Kurzweil 1000SX string module. Upgraded with HX block. Pro II equivalent: \$550. Lexicon LXP-5 Effect Processor studio quality FX: \$400. Alesis 3630 Stereo Compressor/Gate: \$235. (708) 427-1615.

Ensoniq EPS 2X expander, \$80. 303-688-2628.

I have an EPS-16+ keyboard with memory expander and would like to trade even for an EPS-16+ rackmount. Interested, call George at 310-318-8294 (voice mail).

Desperately looking for a Mirage Input Sampling Filter. Call Garfield at (212) 681-3880.

SQ-80, latest OS, CV and sustain pedals, 80- and 160-voice RAMs, manual, box, 2000+ sounds (many pro sounds), VGC (church/home only, never on road). \$750 (including shipping) obo. (804) 740-5367 after 6pm and weekends.

EPS 4X expander. Fits completely inside case. Best offer. Call Jim, (914) 246-9047.

EPS-16 PLUS. Absolutely like new. Used approx 15 hrs. 1.5 years old. All disks as new. \$1350. Call Bill, 406-873-2027 or 406-873-5063, ext 39.

USER GROUPS / CONTACTS

The International Samplers Cooperative is available for all sampler users to meet and trade non-copyrighted, proprietary and non-proprietary samples. We also offer user support via MusoBBS (818) 884-6799, Midilink, and FidoNet. Check out our newsletter, "The Loop." For details write: ISC, 20920-47 Ventura Blvd, Suite 293, Woodland Hills, CA 91364. Voice: (310) 455-2653.

SAMPLES

Incredible 16-bit samples of Minimoog, Matrix 6, D-5, SQ-80, VFX, Prophet VS and more. They're cheap, but sure don't sound it! Send large SASE for catalog. Tom Shear, 706 University Drive, State College, PA 16801.

The *Hacker's* Jack Tolin presents CrossWave Sounds: The classic drums of the HR-16 (2-disk set; 49 sounds); SYNTH-BITS! - turn your EPS-16+ or ASR-10 into a synthesizer with these low-memory samples - M1 Series (5-disk set; 50 sounds). All disks are \$5 each (foreign s/h - add \$5.) To: Jack Tolin, 23 E. Elm Ave., Quincy, MA 02170.

ASR-10 owner will trade custom guitar loops for samples. I need dance, R&B drums, other synths (ID-800, etc!). Send me a guide disk with your sequence & I'll create a state of the art guitar loop and send it back to you. B. Presomt, 6950 NW 186th St., #209, Miami, FL 33186. Phone: 305-460-5888.

EPS, EPS-16+, ASR-10 samples you can really use: Grand Piano, B-3, Rhodes, Flute, Nylon Guitar, Pedal-Steel, etc. Quality not quantity. Tweaked for months. Minimal blocks. For sound list write: "Little Buddy Sounds," P.O. Box 254, Sandy, Utah 84091-0254.

Blow-out sale! This is your last chance to get the complete SoundProcess library for Mirage with the run-time O.S. on each Disk. I have the "Lush," "X," "DeMity," "Addy," "Turbo," "Keyboard," and now a 1-bank disk of "SQ-1+" sounds, normally a \$160 value, for \$79! Add \$4 p/h. Also, used MIDI equipment for sale. Send a SASE for my list. Bob Spencer, 703 Weatherby Ln., Greensboro, NC 27406.

ECCENTRIC SAMPLES (Mirage and EPS). Ethnic, Ancient Greek, Medieval instruments; Patch creations; Industrial Percussion & more. Mirage demo tape: \$3. EPS demo tapes (Vol. II or Vol. III): \$6 each. U.S. funds only. Demo tapes include disk list. For lists alone, send SASE to: NIGHTWIND Sound, 170 Mar Monte Ave., La Selva, CA 95076.

MIRAGE SAMPLES. 57 new samples for \$30. Most are unusual. 5 disks, \$6 each (US funds). Demo \$3. SASE for free listing. Treehouse Sound, PO Box 18563, Boulder, CO 80308-8563.

SUPERB EPS/ASR SAMPLES of E-mu Procusion, Minimoog, K-4, guitars, drums, and more, from the *Hacker's* Sam Mims, \$9.95 per disk. Post-production quality sound effects samples \$5.95 per disk, \$5.45 each for six or more. *Mirage Disk 1*, samples from Minimoog, DX-7, and VFX, for \$7.95. Send SASE for free catalog to: Syntaur Productions, 2315 Mid Lane #44, Houston, TX 77027, or call (713) 965-9041.

PATCHES/SOUNDS

SD-1 Studio-endorsed sounds from programmer Eric Olsen. Top quality sounds that can't be beat! Get an edge with these! Volumes 1-4: \$25 each. Check or M.O. to: Eric Olsen, 6050 Adaway Ct., Grand Rapids, MI 49546.

60 VFX-sd patches created by Jim Grote. Wide variety of sounds with complete documentation. Call for free Information Packet, or send \$30 for

VFX-sd disk to: Jim Grote, 3721 Frances Ave., Cincinnati, OH 45211. Phone: (513) 661-8885.

MAGICAL VFX/VFX-sd/SD-1 SOUNDS from the *Hacker's* Sam Mims! VFX SET 1 offers exciting transwave patches, killer pads with motion that just won't stop, and much more. Completely VFX compatible. 60-Sound bank is just \$39.95 on disk, \$97.95 on EEPROM cartridge. Also available for the ESQ and SQ-80 are the acclaimed Soundsets 1 through 4. Forty patches per set, for \$17.95. Send SASE for free literature. Syntaur Productions, 2315 Mid Lane #44, Houston, TX 77027, or call (713) 965-9041.

INSTRUCTION

TALKING OWNER'S MANUALS, 90 to 120 minute length cassette instructions are available for SQ-1, SQ-2, KS-32, EPS-16 PLUS, SD-1, SD-1-32 Voice and VFXsd models. Request ordering info from TALKING OWNER'S MANUALS, PO Box 10822, Costa Mesa, CA 92627.

MUSIC

The Ministry for the Absorption of Protohumans, Androids & Cyborgs. Original New Age/retro/ synth/rock/ArtMusik. Composed and performed by William Holt Penninger, Jr. *Man/Machine/Music* (1991) \$6.00; *The Accessible Penninger* (1991, reviewed in TH 11/92) \$10.00; *Fdt=mdv* (1992) \$6.00. To order, contact: Computer Musician Coalition, 1-800-4CMC, 1024 W. Wilcox Ave., Peoria, IL 61604.

SEQUENCES

SD-1/VFX-sd: Sequences for weddings, church, dinners. \$7.00 each (\$1 p & h); 5/\$25.00 (\$2 p & h). For demo tape and information, send \$5.00 to: Dan Briggs, DATA BASE MUSIC PRODUCTION, Box 1164, Archer City, TX 76351.

OUT-OF-PRINT BACK ISSUES

M.U.G. will provide Out-of-Print issues for cost of materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4 Productions, PO Box 615TH, Yonkers, NY 10703. Attn: TH Back Issues. Phone: (212) 465-3430.

Photocopies of out-of-print past issues of the *Hacker* can be obtained by calling Jack Loesch, 908-264-3512 after 6 pm EST.

Folks in the New York City area can get copies of unavailable back issues of the *Hacker* - call Jordan Scott, 718-983-2400.

FREE CLASSIFIEDS!

Well - within limits. We're offering free classified advertising (up to 40 words) to all subscribers for your sampled sounds or patches. Additional words, or ads for other products or services, are 25 cents per word per issue (BOLD type: 45 cents per word). Unless renewed, freebie ads are removed after 2 issues. While you're welcome to resell copyrighted sounds and programs that you no longer have any use for, ads for copies of copyrighted material will not be accepted. Sorry - we can't take ad dictation over the phone!

The Interface

Letters for The Interface may be sent to any of the following addresses:

U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221

Electronic mail - GEnie Network: TRANSONIQ, CompuServe: 73260,3353, Internet (via CS): 73260.3353@compuserve.com.

This is probably one of the most open forums in the music industry. Letter writers are asked to please keep the vitriol to a minimum. Readers are reminded to take everything with a grain of salt. Resident answer-man is Clark Salisbury (CS). Letter publication is subject to space considerations.

Dear Hacker,

Thanks for the prompt response to my subscription. My first issue (April 93) answered some of my questions – now three more.

1. I'd like to create a slow, mellow phaser effect on my VFX – listen to Jean-Michel Jarre's "Equinoxe," track 2, to get what I mean. I have had some success using CHORUS with the delay down to 1 to simulate a phase shift, and rate 10, depth 10, mix 50. Is there a better way? I just can't get any FLANGER settings to sound quite the same.

2. My setup is a VFX, an EPS-M with an 80-Meg Quantum hard drive. I sequence the two from a PC running Cakewalk. I would like to load vocal samples into the EPS during a song using program changes as described in the *Musician's Manual*. It works fine off a floppy, but off the hard drive, the EPS's voice output pauses as the sample loads. I understand that hard drive data transfer is a lot more CPU intensive than a floppy, but is there any way around this?

3. A friend told me that sampling at the EPS's highest rate, then converting down to your usual one using CONVERT SAMPLE RATE gives a cleaner sound than just sampling at your desired rate in the first place. What's the difference?

Thanks,
Mark Sheldon [100032,1716]
Brisbane, Australia.

[CS – I] Although I'm not familiar with the Jean-Michel Jarre piece, I can tell you that it is difficult to emulate a phaser effect with other effect algorithms. My first suggestion would be to do exactly what you've already tried – use the chorus with a very low delay setting. Other than that, the only suggestion I have is that you might try using one of the Transwaves, swept slowly by an LFO. This will only work, of course, if the Transwave you select has a similar harmonic content to the sound you're trying to emulate.

2) Discussions with Ensoniq would seem to confirm your hypothesis – your hard drive is indeed too fast for your EPS. The upside is that sounds should load very quickly for you (if they don't, you might need to de-fragment your hard drive, which is accomplished by backing up your data, reformatting the drive,

then moving the data back onto the drive). The downside is, there's really nothing you can do about it, short of purchasing a slower hard drive.

3) It may be that the reason samples sound crisper when converted from the higher rate is that when sampling at the higher rate, the input filter defaults to a higher setting. Try this: Make a sample at the highest rate and convert it down, then try making a sample at the target (lower) sample rate, but manually set the input filter to OFF before sampling. Compare the result – my guess is that the two samples will sound pretty much the same.]

[Ensoniq – It is true that sampling at a higher rate will reduce aliasing on hi-frequency components of a sound, leading to a cleaner pitch transposition, even when played back at a lower rate. The only drawback is that sampling at a higher rate does use up more memory, so there is a trade-off to consider when sampling in the first place.]

Dear TH:

In Issue #94 someone asked how to create a MIDI instrument with the ASR-10. It's outlined on page 373 of the manual, I think.

Besides what you mentioned, you must change the TRANSMIT ON to INST CHANNEL and also, I forget what page it's on, change to MIDI from LOCAL. I'm using a SQ-R+/32v just like they outline. You must put the SQ-R in the POLY mode too.

After that pressing LOAD gets your page to vary the VOLUME using the DATA ENTRY slider. However, as soon as you move the slider, the volume goes to zero. Sometimes reloading the instrument gets the volume back but most times rebooting the ASR and/or the SQ-R is needed. I stumbled upon a fix for this, which sounds like a bug more than a left out step. If you put the ASR in the POLY mode it doesn't do it. Since POLY is a receive mode, it doesn't make any sense.

I called Ensoniq and they asked if I had a cable going to the MIDI IN. Why of course I do! They said that I'm creating a MIDI loop and should remove the cable as it's not needed. A rather dumb answer and besides that's why I have a MIDI patchbay, so I

don't have to change cables all the time.

I also removed the MIDI IN cable and the volume still drops to zero! So how do you get them to listen to reason?

Bill Turczynski
CS: [72277,3524]

[CS – Most MIDI patchbays that I'm aware of allow you to direct the flow of MIDI data. You probably don't need to disconnect your MIDI cable from the MIDI in of your ASR-10 – just set up your patchbay so that the MIDI out of the ASR-10 is not routed back to its own MIDI in.]

[Ensoniq – It is very difficult to trouble-shoot your situation based on the information you give in your letter. While it is most important that you call Customer Service we will try to shed some light on your situation. The symptom you describe is a classic case of what we call a MIDI volume vortex – the ASR-10 is sending out volume information which is echoed back to itself creating a continual controller "battle" that results in the volume being turned off. This is why Customer Service asked if you have MIDI coming back into your ASR-10. It is not dumb. The question is, "Why do you need to create a loop from the output of the ASR-10 back to itself?" It is already talking to itself from the keyboard, and the purpose for a MIDI instrument is to talk only to external gear. With a patchbay in your rig the answer is to leave the cabling in place and be sure that you are using EXT mode for the MIDI instrument, not MIDI. MIDI will both send and receive MIDI data, EXT will only send the data.

However, when we ran experiments with a MIDI loop present and the ASR-10 in Multi mode (which we assume you were using) we did not get your symptom. What happened is that when we tried to move the volume slider (or data entry keys) the ASR-10 tried to access its disk drive, to load a sound. That is because the act of selecting an Instrument location causes the ASR-10 to transmit a program change (set by pressing EDIT, then INSTRUMENT) which is mirrored back to itself, and in Multi mode you can load files directly from disk or SCSI by sending a program change on a given channel. Changing to Poly mode disables this loading from program change feature and therefore seemed to solve your symptom.

When we removed the MIDI loop status of our rig we had no problem adjusting the volume of our MIDI instrument from the front panel. So it seems that you have not communicated some critical detail of your setup, or we didn't ask enough questions to troubleshoot your problem. When you call us back, other important pieces of information are the O.S. version (ROM and disk) you are using, and whether you have a CV pedal connected. Give us another chance. MIDI loops can cause many headaches in complex systems and no product should need to have a loop present to achieve whatever communications goals your setup requires.]

Dear TH,

Would it be possible for Ensoniq or someone to explain upward and downward capabilities of samples between the EPS, '16+ and ASR-10? Specifically, how does one sample on an ASR-10 and have it sound okay on an EPS or a 16+?

I understand that an ASR-10 stereo sample can't be played on an EPS, but will it play correctly on a 16+? If a ASR-10 mono sample is made and then the filters are edited GLOBALLY to be 127 or less, will these samples play fine on the EPS Classic?

I guess the bottom line here is, what are the sampling procedures on an ASR-10 to get the samples to play perfectly on both the EPS Classic and the EPS 16+?

Last question, when will Clark start calling MIDILink!?

Dave Nosek, SYSOP,
Sound Management BBS

[CS - Generally, ASR-10 samples will play back fine on the EPS or the EPS-16 Plus. Although neither the EPS or the EPS-16 Plus will sample in stereo, stereo samples from the ASR will play back fine because the ASR assigns left and right channels of a stereo sample to two consecutive layers (layers 1 and 2, for example). Since the EPS and EPS-16 Plus are designed to play multiple samples assigned to various layers, this presents no problem for them.

You can run into difficulty with other parameters, however. The EPS, for example, has no BOOST parameter, so samples made on the EPS-16 Plus or ASR-10 that have BOOST set to on may play back too quietly on the EPS. Also, the filters on the EPS have a maximum cutoff setting of 127. This has been increased to 150 on the EPS-16 Plus

and the ASR-10. And of course, the EPS has no on-board effects, and the ASR-10 has additional effects beyond what's included with the EPS-16 Plus. So to guarantee compatibility across all three platforms, the bottom line is this: Leave the BOOST parameter set to OFF, do not use filter cutoff values above 127, and make sure the sample sounds OK with the on-board effects turned off.

As far as calling MIDILink, give me the number and I'll give you a call (even though my wife constantly complains about the phone bill as it is.)

[TH - Clark, you can reach the MIDILink BBS at 708-949-6434. Once you're there you can find a whole bunch of other numbers that also work.]

To: Transoniq Hacker

Page 2-9 of the *Musicians Manual* states that "If the 16+ is in Omni mode, Poly, or Mono A mode, program changes 1-24 will Select, De-select, or Stack the instruments." Page 2-9 states that if the 16+ is in Multi or Mono B modes, program change loads an instrument into a track location.

Ok, now dig this. Opening for Elton John at Carnegie Hall, you are on one the right side of the stage and use your master controller keyboard to load a bunch of instruments (the 16+ is in Multi Mode) into your 16+ (which is on the left side of the stage). The next song is about to begin, but your instruments ARE NOT selected yet! It would take too long to run over to stage left where the 16+ is and manually select the instruments. Besides it can be done through MIDI IF YOU ARE IN OMNI or POLY modes. So I ask you, how do you change MIDI in MODES via MIDI on the 16+?

Tony Cappellini
Sound Management BBS

[CS - EPS-16 Plus instruments do not need to be selected to be available to play via MIDI when the EPS-16 Plus is in multi mode - simply send your data on the channel that corresponds to the EPS-16 Plus instrument for which it is intended. For example, if you have 8 instruments loaded into Instrument/Track locations 1-8 on the EPS-16 Plus, and these are set to respond on consecutive MIDI channels (1 though 8, for example), sending on MIDI channel 1 will play the Instrument loaded into Instrument/Track 1, sending on channel 2 will play the Instrument loaded into Instrument/Track 2, and so on. If you want to "stack" 2 or more Instru-

ments, simply send on two or more MIDI channels.

MIDI Mode Change messages are not supported on the EPS-16 Plus.]

Dear TH,

I've received two issues so far and am a little disappointed that most of the space seems to be devoted to the sampling side of Ensoniq products. I just purchased a KS-32, and this is the kind of stuff I was hoping to find:

As a semi computer nerd, I would like to know what basic software would allow me to store sequences and patches. I know there must be a cheaper method of storage than buying \$100 RAM disks. At the moment, I've got a PC with Soundblaster Pro as my MIDI interface. I feel that if I knew just a few of the technical basics, a librarian or sequencer dump program would be fairly easy to make.

While I'm comfortable programming in C, I'm still a little mystified by MIDI. Just what is SYSEX? What are the compatibilities among different Ensoniq products? And for that matter, maybe every once in a while you could print a very brief summary of the history and capabilities of the Ensoniq products - reading about EPSs, SDs and ASR-10s leaves me at a loss.

Brad Reynolds,
Bellingham, WA

[CS - "SysEx" is short for "System Exclusive." Most (if not all) currently available MIDI products use system exclusive messages to communicate data that is non-standard (in terms of other MIDI devices) and intended only for that particular type of product. Among other things, SysEx messages can be used to transmit program information to a device capable of reading and storing it. It is this information that makes editor and librarian programs for personal computers possible.

In the Macintosh world (where I seem to spend all too much of my time), there are a number of free and shareware Bulk SysEx Librarian programs available. I'd have to assume that this situation holds in the PC world as well; perhaps Ensoniq will have some input here. As far as compatibility goes, sounds and sequences are forward compatible (meaning that sounds and sequences developed on earlier instruments will work on later models) among all SQ-series instruments and the KS-32; among

all VFX- and SD-series instruments; and among all EPS-series instruments and the ASR-10. Sequences are backwards compatible, too, in all but the sampling instruments (the EPS, EPS-16 Plus, and the ASR-10). In addition, many sounds are backwards compatible within these same instrument groupings. The caveat is that sounds that are developed using new waveforms in later instruments will probably not sound right when played back on earlier instruments, and sounds that use effects developed in later instruments may not sound when played on earlier instruments. Also, sounds that utilize pressure on newer instruments may or may not sound right when played back on instruments that do not have pressure-sensitive keyboards.]

Hello again, Hackers,

First, I'd like to thank Rob Berman and Clark Salisbury for their help in solving the SQ-80 to VFX-sd dumping process. Unfortunately, the entire reason for taking on this task was to enable me to free up my SQ-80 in order to put it on the market which would then allow me to have my VFX upgraded. Why did Ensoniq wait until March to announce that this would no longer be possible after February 4th? This only tells me that the VFX will soon be relegated to dinosaur status. Why did Ensoniq make this decision?

There are a number of other things I need to express myself about – such as your reply to Dan St. Armand's letter. (Hi Dan. I'll be in touch soon.) Since purchasing my VFX-sd (which I'm beginning to believe is just a prototype for the SD-1 until the bugs got worked out) a few years back, it has never been 100% reliable. In fact, not even close. This machine will not remember program numbers on my outboard gear and defaults to 001 even after saving changes again and again. Also, once the sequencer memory begins filling up, I'm no longer able to make program changes, stereo pans or volume changes in Mixdown mode whether the changes are local or outgoing. If I erase all memory and reinitialize and then reload the sequencer, I can get these features to work but it eventually gets to the point where, even if I'm playing a song made up of various sequences and there's a program change in the second sequence, that change will not be made. If I underline each sequence as they are playing, then I get the desired change, but in song mode it just doesn't work.

I have spoken to the local dealer here in Las Vegas (mine was purchased in CT) and he

said that of the twelve VFX-sds they've sold, five have had inherited problems that have never been fixed to the owners' satisfaction. I'd like to know what I can do to get this board up to the reliability I've come to expect (and keep hearing about) after using the SQ-80. Don't get me wrong: I love this machine when it works, but it drives me crazy and makes me very apprehensive about taking it on the road. Can I get some help here?

Also, I wonder if someone can explain how to get multi-voices out of a solo patch. The Solotrumpet program has a wonderful sound and I would like to be able to turn it into a trumpet section. Is there a shortcut to doing this or am I stuck copying all the parameter numbers of the trumpet voice to the other voices one by one?

I would also like to clarify my last letter by saying that I'm looking for any sound effect programs for the VFX-sd and not the SQ-80. In particular, I'm seeking storms, winds, thunder, rain, etc., but anything will do.

Last, but certainly not least, here's my check for my renewal. I don't know what I'd do without you guys. Even if I have to wait weeks for an answer to a problem it's a lot cheaper than a long distance phone call.

Okay, Rob, what are we going to do next, event editing part III? I'm ready.

Sincere thanks,
Nick St. John
Henderson, NV

[CS – It's possible that some of the difficulties you describe might be attributed to operator error, but without a more detailed description I couldn't make much of an evaluation. In my experience, Ensoniq has been most diligent in tracking down customer problems, so I suggest you give their customer service department a call at 215-647-3930. (And it sounds to me like your local dealer is suffering from a bit of "Sour Grapitis" when talking about the number of problems he's had with VFX-SDs. I worked in a retail music store for a number of years, and we had great success with all Ensoniq products.)

Switching a program out of mono mode (allowing it to be played polyphonically) is quite simple. Select the Solotrumpet program and press the Select Voice button. Select the voice you wish to edit by pressing the soft button nearest the name of the voice. Next, press the Pitch Mod button, and set the value for GLIDE to NONE. If you wish, save the

program, and that's it!]

Dear TH and your readers,

I am one of Ensoniq's biggest fans. I have a Mirage rack – and use it! 8-Bit grunge is all the rage today, and the beast still has some beautiful sounds that sit well in my mixes – and don't forget the magic sampling rates for that clean one-shot sound. I rediscovered the beauty of my ESQ after getting bored with all the M1 sounds I hear on Oprah. My EPS-16+ is my only keyboard at live gigs, where it has to cover everything except drums – and if it had 32-voice polyphony, it could.

I was rereading Orwell's *1984* the other night and I happened to think about one of the main reasons I bought the '16+. The initial advertising blitz promised the ability to load samples while the sequencer was playing. I bought the unit partially because of this claim. In *1984*, if a person became a threat to the order, he was eliminated and became a "non-person" – all traces of him and his history were eradicated. I wonder if load-while-sequence playing has become a "non-feature." Nobody seems to say anything about it. Ensoniq moves on and doesn't seem to be looking back on this one, certainly not openly stating, "Well, we thought we could pull that one off, but it turns out we couldn't..."

So whadaya supposed ta do? Caveat emptor? With Ensoniq?? Heresy!! How could a company so wonderful in terms of bang for buck, user accessibility to deep levels of their machines' architectures, excellent customer service, and fair and affordable repair policies, etc. be so slippery as to not make good on an ad claim?

What's the point? Am I the only one who's noticed this? I really tried to keep the Slinkard to a minimum. TH – thanks for being there. You are truly unique in the music industry, and greatly appreciated.

P.S. No way the '16+ will be upgradable to ASR-10 status, right?

Joe Rose
North Attleboro, MA

[Ensoniq – Actually we did communicate just what you stated – although we had full intentions of delivering the "load while sequencer plays" feature, after many months of trying to fine tune it we could not get it to work to the level that we felt was acceptable to our users. The timing interruption of the sequencer during the load was too noticeable and

was actually accentuated when using SCSI, due to the fast data transfer rate. We regret the inconvenience it has caused you and other customers. When we realized it, we did admit it to our dealers and users. If you have to blame us for something, please blame us for trying to deliver something that turned out to not be possible, not for deception.

P.S. No, the EPS-16 PLUS cannot ever be upgraded to an ASR-10; everything inside (and outside) is different – even the disk drive and power transformer.]

Dear Hackerfolk:

I wish to register my utmost thanks to Mr. Ferrara for the extremely concise and well-written article on synchronization. I had been peripherally aware of the sync compatibility offered on many of the Tascam multi-tracks, but Mr. Ferrara's article led me to begin using the capability in areas heretofore unexplored.

Thanks also to Mr. Hjelte for his revealing article, Business As Unusual. It is this kind of article, which imparts knowledge gleaned from personal experience, that really helps us readers advance while saving time and money. This is where it's at.

Sincerely,
J. D. Ryan
The Bros. Ryan
Ocean View, DE

Hacker Editors,

I wonder how many VFX-sd owners out there have been paying attention to the fine print in the recent *Hacker* issues about the abrupt cancellation of the VFX upgrade program? Even the *Hacker* editors fell prey to this sudden abandonment, as the last issue contains an article boasting about the upgrade and a notice of its cancellation!

I happened onto the upgrade from a *Hacker* review and immediately started saving up the big pile of kagoonabeans. This was exactly what the doctor ordered for my sick baby. I've been bitten by each of the VFX surprises (embarrassing lockups, excessive noise and constant tinkering with voice priorities). Let's face it, despite the many wonders of the VFX, it's probably a risky proposition to depend on it for live action.

Despite the tall price tag, I was extremely pleased to see Ensoniq offer a solution that would allow me to proudly strut my VFX

again. I even planned my vacation so I could personally deliver my board to Malvern for its surgery. Then I saw the fine print... cancelled!!!

I immediately called Steve Coscia at Ensoniq who says they haven't got the manufacturing capabilities to produce the upgrades! Steve claims he projected the right number (others like myself might argue this point), but they can't build them due to newer models tying up manufacturing resources and they have no intention of restarting production later. Gee, Steve, it's not like these upgrades were freebies ya know...

One would think that Ensoniq would take special care of its "problem children" like the VFX to assure their customers will continue to return. This upgrade gave those of us that have been burned by VFX problems a chance to recover our questionable investment.

My biggest gripe is that Ensoniq failed to properly advertise the upgrade, and certainly its cancellation. With access to a magazine as focused and direct as the *Hacker*, why wasn't there some effort to alert owners of the problem and allow them to "sign up" for an upgrade? This would have also given them a solid count of how many boards to build!

Steve's only advice was to trade my VFX in for a TS-10. What the heck is a TS-10 anyway? Is it backwards compatible with my VFX patches and sequences? He didn't know. I, for one, am real reluctant to give any new business to Ensoniq after the "business" they just gave me!

Considering that it takes time to uncover the shortcomings of a product (we are just now starting to see good VFX user feedback and articles in the *Hacker*), I have to believe that I am not the only one out there who is still interested in the upgrade.

I hope Ensoniq will pay attention to the needs of their current customer base and work with the *Hacker* to identify those of us who have just been burned by their poor planning. Ignoring the needs of your customers is not a good way to remain in business or excite people about your new products.

By the way, thanks for producing a top notch magazine!

Gary Newsted,
Wilton, New Hampshire

[TH – Wadaya mean, "...just now starting..."??!!

Anyway, the notice you mentioned (Issue #93, March) was certainly the first hint we had of this program cancellation. The notice was received in our monthly last-minute batch of news that we get just before we go to press. The retroactive effective date of the notice (February 4th) seems to indicate that somebody at Ensoniq must have gotten surprised by something. We'll probably continue to have occasional articles which mention this upgrade – just 'cause nobody can get one anymore doesn't mean that those who have it should be ignored – hope it doesn't grate too much...]

[CS – Yeah, I think the cancellation of the upgrade came as a bit of a surprise for a number of folks. And we were just beginning to get letters complaining about the cost of the upgrade. Oh well.

By the way, I got to do some work with the TS-10 recently, and I love it! It sounds great, has a bunch of cool features (not the least of which being the ability to load, edit, and play samples from the ASR-10 and EPS-series libraries), and looks real snappy. It is not backward compatible with sounds or sequences, though. The waveform ROM has been completely re-worked (some great new on-board wavedata, by the way), and the sequencer has several new features which make it incompatible with earlier sequences. It's the price of progress, I guess.]

Dear Ensoniq,

I own an SD-1/32 and have just purchased an ASR-10 (coming in my mail next week). Using the SD-1 as my main keyboard and only sequencer has made me very dependent on the built-in sequencer. After extensive thought and several actual problems I have derived a list of what I imagine are practical revisions for the current 4.10 operating system. Without these in the next O.S. I will have to purchase an off-board sequencer, or even more frightening and less dedicated, a serious computer. As a major customer and experienced user of Ensoniq equipment, I sincerely hope some of my suggestions will be incorporated in the next O.S. upgrade.

First, here's my list of actual bugs I've found in 4.10:

- 1) Velocity is recorded in multiples of four, and although I know this has been mentioned in the *Hacker* before, I find it ridiculous to accept this, as it effectively reduces velocity

resolution to 32 steps, not the 127 steps MIDI velocity usually has.

2) After step-entering or recording material and on the play/keep page, if the step entry switch is set to ON it is impossible to access the Locate page for a Go To command so you can hear the newly recorded material without waiting through the whole sequence. This may sound moot, but becomes a serious pain when one is step-entering at measure 93 of a sequence and is faced with either having to save what you did and pray it sounded alright, or sit through the 93 measures for the umpteenth time while inspiration gets its face shut in the door of technology.

3) Through extensive use I have become quite wary of several functions which are unreliable. For instance, the Save All Changes page for a sequence or a song only shows up about seventy percent of the time, even if Save Changes is set to ON.

Detailed insertions, and most often timing corrections inside of event-edit sometimes seem to have no effect. More often these corrections sometimes double up information, somehow resulting in a slightly harsher tone only in the sound of the edited section. A good duplication of this mysterious sound can be had by stacking any program on top of itself. I imagined event-edit might be a subtler brand of recording and thought that having my mode set to Add would be the culprit, but even with Replace I'm stuck listening to something worse than I had.

Very often, I stack two or more different programs together to play a line in a composition (give my hearty thanks, appreciation and love to the R&D man at Ensoniq who blessed us with 32 notes – anything less would be sacrilege) and am forced to record the line with one program and then copy the identical sequence information to the other program's track to make my stacked sound. Luckily, the choice to copy program parameters or not exists, but it doesn't always show up. And I find it a tremendous pain to have copied all that material, and then discover that I'll have to spend a few minutes with replace program to find my lost program, and once it's in, I have to rack my brain to remember all the performance parameters it had.

4) When playing a song and being in the sequence's set of 12 tracks (with the flashing track light) it is impossible to solo by double clicking a sequence instrument's volume and have the song tracks go mute as well. Only the sequence tracks are muted. Obviously, I can go back to the sequence. but that

wouldn't allow comparison between the entire song and my aspiring solo track.

Enough of the problems – here's my little Christmas list of what I imagine are reasonable things to ask Ensoniq Claus for in the SD-1/32 5.00 OS:

- An alternate kind of scaling command that will ramp any controller information within certain levels. Used on velocity info it could create a crescendo or decrescendo depending on the ramp ('80s Yamaha QXs have it – why don't you?)

- Using the sequencer at double speed is a great old trick that turns my sequencer into a 192 ppq machine but with our 250 bpm max I can only use this trick up to 125 real bpm and I'm doing techno at a glorious 155 and would love the extra resolution. I suggest the limit be at least 350 bpm with a little warning sticker on the side that says Ensoniq can't be responsible for 64th/triplet accuracy past 250 bpm. But after all, who actually attempts to drive anything past a handful of 32nd notes?

- I would give my first born child for those mighty MIDI tempo changes in my recorded sequence. Maybe Ensoniq can surprise us.

- Although it's possible to work around, I would really appreciate being able to inset blank measures into tracks instead of the whole sequence.

- Even with a holy 32 notes of polyphony. I'm constantly counting voices and flipping coins on the odds of throwing just one more track into the pile. if we had a little read-out updated in real time that told us the number of voices being "dynamically allocated" moment to moment in a song, I would cherish the new OS.

- Last of all, I often use a pitch-bend wheel to deepen drums for that added bass kick. If I stop and continue in a sequence or song my drums pop back up to their mousy original sound. With more extensive "chasers" monitoring all the recent controller information within each track I wouldn't have this and other similar problems. I realize that the sequencer goes back and checks the last volume or pan message and updates them to wherever one starts their sequencer, but I really wouldn't mind waiting at the "locating..." page a little longer if the sequencer checked the rest of what happened since the top.

Please excuse me for being a little long-winded, but I think that sums up what I real-

ly need in the perfect sequencer within the confines of the SD-1/32 and reality. I really hope Ensoniq can explain to me just how much of this is feasible and, if so, incorporate it in their next OS.

Yeah, one more thing. I'm going absolutely nuts thinking about sampling possibilities with my new ASR-10, but I want to keep samples I rip off from CDs in the digital domain and don't know if I can get an adaptor to stick between my CD player's coaxial output and this mysterious optional AES/EBU digital I/O board. I mean what's the use if I can't find anything compatible with it? In the meantime I guess I'm stuck running through two A/D converters, right?

Excellent company, excellent magazine – thanks for listening.

Nathaniel Reichman
Valdez, AK

[CS – 1) Although the MIDI Spec makes provisions for 127 velocity steps (a velocity of 0 is generally taken to mean Note Off), nowhere is it stated that 127 discrete steps must be used, and as a matter of fact, a number of instruments use lower resolution for velocity. It is my feeling that multiples of four are quite adequate to represent velocity, particularly on a synth-action keyboard; at any rate, this has never given me any problem.

2) Since my SD-1 is currently set up at the local club where we've been performing for the past several weeks, I'm afraid I can't actually check to see how this works; I'm sure Ensoniq will have some input, though.

3) The Save Changes prompt will only appear if you have made changes to the volume, pan, MIDI channel and status, program, or other such sequence data. New information recorded into a track is automatically saved, and the Save Changes prompt will not appear.

The problem you're having with "harsh tones" is probably the result of inadvertently inserting a duplicate note at a location already occupied by that note. It sounds like you may be inserting new notes when what you really want to do is edit an existing note (the mode setting – ADD or REPLACE – makes no difference in this context). To step-edit a note:

- Make sure the track you wish to edit is selected.

- Press Edit Track twice (or press *MORE* from the Edit Track page), then select

EVENT-LIST.

- Select NUM=XXXX and scroll to the event you wish to edit.
- Press *EDIT*; the event editor sub-page will be displayed.
- Use the soft buttons to select what it is you wish to change for the current event – velocity, start time, or duration; an event editing sub-page will be displayed.
- Use the Data Entry Slider and/or the Up/Down buttons to edit the value.
- When finished, press *EXIT* to return to the event list. From here you can select a new event to edit, or else press *EXIT* again to exit the event list and move to the audition page.

As far as using layered programs with the sequencer, apparently you didn't realize that you can copy a preset into a sequence, with all its performance parameter settings preserved. Try this:

- Press Tracks 1-6 or Tracks 7-12 and select a track from the upper or lower line of the display (the preset is copied into the three tracks on the upper or lower line).
- Press Preset and use the Bank Buttons to select the preset you wish to copy.

• Press and hold Preset. While continuing to hold the Preset button, press the Tracks button (Tracks 1-6 or Tracks 7-12) that corresponds to the location into which you want to copy the preset. The preset will be copied to the upper or lower line of tracks, depending on which you had selected.

As far as "ripping off" samples from CDs goes, the ASR-10 digital I/O will be in the S/PDIF format – the same format almost universally used for consumer CD players. You should be able to plug your CD player directly into the ASR-10 digital I/O and sample in the digital domain with no additional hardware.]

[Ensoniq – You present a lot of great ideas and feedback and we thank you for them. Of course we cannot just promise to stop what we are doing and implement all your suggestions, but we will certainly share them around Engineering and consider them seriously.

Clark is wrong (sorry, Clark!) about copying Presets into sequencer tracks in the sense that while you can copy the programs and track parameters into the sequence you can-

not automatically have a single recorded track play back on two different tracks without copying the note data, as the customer states he has to do.]

Dear TH/Ensoniq,

First, let me say congratulations on the ASR-10 – great effects, great sounding unit and an extremely complete workstation since you can have vocals recorded into sequences and songs and they become part of the sonic architecture of the machine with doubling, stereo layers and effects! I have already done a jingle using only the ASR-10 in this fashion and even at the 30k sampling rate, the vocals sound great – studio quality. And you can jam along on guitar thru effects.

But I have a few requests on the sequencer with a new concept – perhaps. This is for Pro Software Update Series for people like me using ASRs for preproduction etc. We will pay to subscribe to these updates which might also require a ROM update or co-processor but, so what, it's worth it. These updates would incorporate these and other user suggestions for sequencing:

Voice™ Crystal VFX VFXSD SD-1

Eye & I Productions is closing out one of the most popular sound libraries ever;

The Voice Crystal VFX Sound Library.

Now is your final chance to own the library that VFX owners worldwide have been raving about for years, at it's lowest price ever!

- VC1VFX: Deep Blue
- VC2VFX: Cherry Red
- VC3VFX: Mellow Yellow

Each cartridge is \$49*!

All 3 cartridges only \$99.95*!

Blank EEPROM Carts Available!

EYE & I PRODUCTIONS
930 Jungfrau Court
Milpitas, CA., 95035

Send S.A.S.E. for complete sound list.
*Add \$5 S/H per order.\$10 overseas.

Voice™ Crystal KS-32 SQ Series

Eye & I Productions is offering a plethora of sounds for your Ensoniq KS-32 or SQ-Series synth!

VC1SQ1: 80 Voice/80 User-location RAM Card with a general collection of 80 acoustic and synth sounds.

VC2SQ1: 80 Voice/80 User-location RAM Card with a collection of oddity synth and new-age patches.

VC1SQ2: 160 Voice RAM Card that shows the versatility of your KS or SQ synth. Heavy orch and analog!

VC1SQ2: 160 Voice RAM Card that highlights the rich pads and filter capabilities of your KS/SQ!

Voice Crystal KS/SQ 32k Sound RAMs are only \$99.95 Retail!

Call Eye & I Productions to find the nearest Voice Crystal dealer today!
(408) 945-0139/Fax; (408) 945-5712

Voice™ Crystal ASR-10 TS-10 EPS16+

Eye & I Productions has made available what may be the most comprehensive Ensoniq library to date!. VCASR10 is a 25 disk library that will add new life to your ASR-10, TS-10, or EPS 16 Plus. Experience 116 NEW synth and acoustic sounds PLUS 154 percussion instruments including a General MIDI Drum set! All patches contain fully activated patch selects, thorough effects routing, and mod wheel, pressure, and data-slider controls!

VCASR10 is only \$199.95!

Ask for VCASR10 at your local Voice Crystal/Ensoniq dealer!

1. SPOT ERASE. In overdub/replace mode when you hold the enter button it would spot erase, while the sequencer runs, to notch out holes, for example on 2 and 4 for snare in percussion tracks. You could go through whole tracks this way just pressing as needed in real time.

2. 192 PPQ resolution. Yeah, I know this would use more memory but we don't care – at least I don't.

3. Tempo track – *without* using up a sequencer track.

4. % Quantization and polyrhythmic quantize like I heard will be on the TS-10 synth. Basically the ability to quantize to any time signature.

5. Scale Event – volume of any event scaled (my version 1.25 won't accept key range and bar beat for this).

6. Bar beat key range for shift track by clocks (see item 9).

7. This is a tough one – the ability to load samples while sequencer plays. This would be a great way to audition sounds.

8. Expanded copy functions including the ability to copy seq tracks 1-8 to song tracks with bar beat key range (pattern data becomes linear) and using filter mode (copy to track ...). This could also be extended to move events anywhere and/or repeated. That is a 3 bar phrase could be copied to another track or a song track to occupy any number of measures on the destination track!

9. In event edit track have a "Simile" function where changes made to a snare in bar 1, for example, can automatically be copied to other bars so that after painstakingly editing drums in bar 1 it could become the rhythmic template for the whole track without moving every snare in every bar.

So, Ensoniq, would do you say? Since this would require some engineering time above and beyond the call of duty I (and I'll bet many, many other ASR owners) will gladly send our \$92.50, or is it \$73.84, to get these functions. Okay? How much and when?

Thanks,
Robert Present
Miami, FL

[CS – Some good ideas here (and in the previous letter, too), at least in my opinion. Keep 'em coming – Ensoniq really does pay attention.]

[Ensoniq – Mr. Present has presented these concepts directly to us as well, and as we said above they are great ideas but we cannot just commit to requests that are sent to us and promise to be able to implement them, charge or not. Rest assured that we will consider them and if we can do them you will hear from us (in the Hacker of course!)]

Interfacing Individuals:

What timing! Just when I started looking for a word processor, I read in the latest issue of TH that Ensoniq comes out with Wordsynth for the EPS-16 PLUS. It sounds just too good to be true. Sure it's a strange interface, but for less than \$40 and including the hook-up, why not give it a shot? I just have to make sure that the overlay fits the rack module.

It wasn't until the day after that I actually thought of the most obvious question, "If this is something put out by Ensoniq, why did I just now hear about it?" There were no ads *anywhere* for it. It wasn't even mentioned in the Random Notes section. And on top of that, it sounds undoubtedly silly that there would be a function which allows the sampler to play the file as a song – and how would it be possible to load both sound samples and word processor materials in the same operating system?? And why? Then it hit me – this is the *April* issue! Okay, everyone, you got me! (Is Bill Setheres even an actual person?)

Of course, the *real* twister is the TS-10 mentioned on page 3: a synthesizer/sampler/sequencer/effector combo that has so much memory for notes and samples and so many innovative synthesis features that it's ridiculous – the ultimate music and sound synthesis machine, literally! And for only \$2495? Yeah, right! Again, there are no ads anywhere. The only reason this had me going for so long was the fact that there were no ads for the SD-1 in the May issue of *Keyboard Magazine* at all...

And now for a tip for SQ-1/32 (looks like a chemical formula – not vitriol, I'm sure) owners. As I was nearing completion of one of the hippest R&B songs I have ever programmed, something extraordinary (to say the least) happened. As the screen blinked, "Editing sequence data. Please wait..." I waited. About half a minute later, I figured something might be wrong. I decided that if I turned the unit off and on again, I would probably lose the section I just programmed – oh, well (it wasn't a major section). Lo and behold, I turned the SQ on

again and eventually realized that something was not as it should be: ALL OF THE SEQUENCE DATA IN THE ENTIRE SQ HAD BEEN ERASED!

I checked the available memory readout in the Control bank and, sure enough, I was dealing with 99% free memory. Play did not work. I even punched through each preset location, but to no avail. We're talking major shock to the system here!

Here was the situation: Tracks 1 and 2 were the only tracks with any data recorded; eight keys were being held down on track 1, maybe five on track 2; I was recording a fast two-handed trill (2 note to 2 note) on track 3 for about one measure. Nothing was MIDled up to the SQ. I have the SQ expanded to the top. I figure polyphony had something to do with this mess. WARNING: Do not try this at home! This is no April Fool's joke.

I hope I've spared someone some grief.

In mourning for his lost song,
Jack Stephen Tolin
Quincy, MA

[CS – Ever since I lost seven hours of work on an Emulator II I've backed up my data faithfully and frequently. Well, pretty much. The way I look at it, if you can answer yes to the question, "Would you mind losing everything in memory right now?" – then it's time to back it up.]

[Ensoniq – 1) We spoke to the Hacker about this April Fools joke when we saw it (in fairness they sent it to us a day before they went to print but it wasn't clear that this was a time-sensitive article and we didn't get to it until it was too late) and asked them to be sure to have a payoff in future jokes so people won't be misled. Are we being too paranoid? Well the one Hacker reader who has sent us a check for \$36.95 (we are sending it back to you, W.J.) might not think so. But it was a well-intentioned joke that was certainly not meant to harm anyone.

2) But the TS-10 is not an April Fools joke, it is very real and thriving at your local Ensoniq dealer. The Hacker just happens to have a shorter lead time than the bigger publications and is a great place for the most up-to-date news from us. And the final price is \$2595, since we decided to ship it standard with 2 Megabytes of sampled instrument RAM. Sometimes dreams do come true...]

[TH – Yes, Jack – Bill Setheres is a real, albeit somewhat strange, person. (And, well

actually, that was several days before we went to print – just not sufficient days...)]

Dear Trans,

I have an SD-1/32 that I want to use as a slave sound source with a Notator Logic 1.2 program on a Mac. How do I get the SD-1 to understand more than 12 voices in Multi mode? Since I use my set up for performance primarily, I was hoping to eliminate the need for 21 some-odd disks for the SD-1's sequences and store everything in my Mac Power Book. Unfortunately, I've only been able to access 12 programs at a time! Is there a way around this perhaps using program numbers, Sys Ex, song select, etc with the Notator Logic?

Pulling my hair out in South Dakota,
Fred R. Rutledge
Newell, SD

[CS – The SD-1/32 will not recognize more than 12 MIDI channels at one time. While this means that you can't use more than 12 sound programs at once, it doesn't mean you can use only 12 sounds. Sending program changes from your sequencer on the appropriate MIDI channel will allow you to load new programs into any of the 12 tracks. Just make sure that each of the 12 tracks has its own unique MIDI channel, and that its MIDI status is set to LOCAL or BOTH (also, the SD-1 should be in MULTI mode, but you probably knew that). You can select any of the 60 programs in the current BankSet in this way, and you can select programs from other BankSets by sending a special combination of program changes (as described in your manual).]

If you actually need to use more than 12 sounds at one time, you might think about combining the sounds you need into a single program. For example, create a program that has 2 octaves of bass in the lower note ranges, and 4 octaves of piano in the upper. While you can't access all the notes in this program from the SD-1 keyboard, your sequencer can (since it can play notes on the SD-1/32 that are outside the range of its five-octave keyboard).]

Dear Hackers,

I just recently acquired my first piece of Ensoniq equipment, a DP/4. Thus, I also just subscribed to this mag. A great idea, I must say. You were asking for DP/4 material and I had some questions for you, so here goes.

I am currently using the DP/4 for sound rein-

forcement. Works great! The board I am using only has three sends so I have configured the DP/4 for two mono sources and one stereo source – we are a “stereo” band due to sequencing. Unit A is for drum berb, unit B is for vox verb and C and D are stereo effects. Works well. I build one unit “PSETS” and save as a config, name the song title and have MIDIED up for program changes. (Unit A is driven by a send from the drum mixer.)

Q #1: This is a marvelous piece of equipment with params galore that you can change. Very nice. I would really like to use it to its potential. Is anyone ever going to start “transcribing,” for lack of a better term, effects?? Meaning, are you ever going to be able to read an article that says, on this song, for this effect, this amount of pre-delay, this amount of HF damping, etc. Do you know what I mean? Maybe you guys should start a column or a whole new concept business.

Q #2. Compared to my others, this machine is advanced. I have read the manual and can perform all the functions, but it's the individual concepts I'm having problems with. Anyone out there know of any detailing books or whatever on FX concepts, set-ups, usage, params, tips or specific applications? We all know you can put verbs, chorus, flange, delays on whatever you want, but what about things like I'm in a 30' x 60' room with carpet on the floor and halfway up the walls, an acoustical tiled ceiling 9' high (acoustical value unknown, of course) what would be the best reverb param for vox, decay time, linear or non-linear? If you use a verb on drums is a different type of param going to clash? Why doesn't the flange on a particular program stick out enough to be heard? Why am I not hearing the program's EQ changes I'm making? Etc.

I'm not a total novice at signal processing or the use of effects for specials or embellishing, but I'm also not a genius either. I like using effects live and I guess I just want to get professional about it and need some sources. Does Ensoniq offer anything? Anyone have a suggestion I can work with? Remember this is for reinforcement, not recording. Recording is easy due to lesser variables. Oh, and yes, I do understand gain structure (board and DP/4).

I have more but this is getting too long. I'll save some for later. I appreciate any help that may be forthcoming.

Sincerely,
Nic Pallitta
Swanton, OH

[CS – There's a fair amount of written material out there about effects, but I'd suggest you first contact Ensoniq (215-647-3930) and ask them about applications notes regarding the DP/4. I know they have a number of these in the works, and I believe they are free. And even though you are doing reinforcement work, don't neglect books or other publications dealing with the recording aspects of signal processing; almost all recording techniques can be translated one way or another for sound reinforcement.]

[Ensoniq – We have also seen some books and audio tape course from Alexander Publishing and others on effects processing. We suggest you contact the MIX Bookshelf for their catalog, which is very comprehensive. Their number is (800) 233-9604.]

Dear TH,

When the April *Hacker* arrived my spirits rose in anticipation of another fine issue. When I turned to page 3 (Ensoniq news) the TS-10 announcement got my attention. Reading on, the attention turned to interest, then excitement. But when I reached paragraph six which states, “The 61-key TS-10 also...” everything went sour. Such a marvelous instrument deserves better than to be emasculated by choking it with a 61-key keyboard. I refuse to waste my money on any more 61-key instruments.

In a sincere effort to own and use a 76-key Ensoniq, I bought a KS-32. After sending it back to the factory three (3) times they sent me a new one. It seems as though they couldn't determine what was causing it to growl, hiss, hum, etc. I had been fighting this situation for six months or so and all the while having to do without an instrument I needed to meet my performance obligations. My fellow band members were very upset also and made remarks like, “Why don't you buy a Korg or something worth having?” So I got rid of the second KS-32 never having been able to use either in a public performance which is why I bought it. Even without the noise problem the KS-32 would not be my first choice of Ensoniq sound producer.

The KS-32 experience confirmed two things. I will not waste my money on any more 61-key instruments and I will have to buy Ensoniq's top of the line model to get the sound I want. With that basic position established you can understand how distressing it is to learn that the new flagship of the Ensoniq line is ruined by its toylike 61 keys. Therefore, I'm keeping my money in the bank while I shop for a great sounding, top

of the line, made in the USA instrument with 76 or 88 keys. Maybe I should find a Peavey dealer and check out that PCX-688.

Deaton V. Jones
Tazewell, VA

[CS - I recently checked the market to see what was available in pro synthesizers with 76-plus piano-action keys. What I found was that there's not much for less than about \$4000. I don't know how much the Peavey

product (which isn't available yet) will cost. It will basically use the same engine as Peavey's new DPM-4, so you might want to give that product a test run to get an idea of the sound capabilities.

Otherwise, you can just about purchase a KS-32 AND a TS-10 for the same price as the next-least-expensive piano-action synthesizer. My recommendation is to keep your fingers crossed and keep bugging Ensoniq to build a high-end synth with the same type of

keyboard as on the KS-32.]

[Ensoniq - We certainly don't think that our users, in general, feel that 61 keys is a negative thing. Not everyone wants extended keyboards or the extra bulk and weight of a weighted action. But we have had a phenomenal success with the KS-32 and are not against producing more 76-key products in the future.]

HACKER BOOTEQ

L. B. Music Sequences

We Support Ensoniq • Roland
Korg • Yamaha • SMF-GS/GM Formats

Why not give L. B. Music a try and see why so many people love our sequences — and keep coming back for more!!

Music And Lyrics Now Available!!

Toll Free Orderline: 1-800-3LB-MUSIC

Visa and Mastercard Accepted

L. B. Music

51 Charter Oak Drive
Newton Square, PA 19073-3044
215-356-7255 / Fax: 215-356-6737

Why settle for less memory and a higher price tag? Our quality, fully warranted SCSI hard drives will take a smaller byte out of your wallet. All drives are fully compatible with the EPS, EPS-16 Plus, and the new ASR-10.

120 MB Buzzy Drive \$649
213 MB Buzzy Drive \$849

Please add \$15 for shipping and handling.
Idaho residents add 5% sales tax.

Price includes case and cable.

Make check or money order payable to:

Aaronstotle Music Products
679 N. Five Mile Rd.
Boise, ID 83709

VFX, VFX-sd, SD-1 owners —

Volume 4 - Effects

Highway sounds, city noise,
the countryside, space, ghostly, & more.
\$40

SQ-80 owners —

Volume I - The Collection

40 sounds, 3 demos, & documentation.
Disks: \$19

LATTER SOUND PRODUCTIONS

1341 Westheaven Ct.
Tallahassee, FL 32310-8625
(904) 575-5561
Florida residents add sales tax

BLOWOUT SALE

16 BIT SAMPLES FOR EPS/16+

Series 1: Analog Classics
Series 2: Legendary Digital
Series 3: Studio Drums
Series 4: Experimental Industrial
Series 5: Rave, House & Techno

Each 5 Disk Series DENNIS COOKE
\$20 with Free Shipping 128 Greendale Cres.
REGULAR \$30 Kitchener, Ontario
Canada, N2A 2R6

Play Along Sequences for the EPS 16+ and ASR 10

The Gospel Set includes 8 songs designed specifically for the EPS 16+ and ASR 10. Perfect for offertories, preludes, etc.

Each song includes 6-8 new sounds and printed music
\$10.00 per song/\$60.00 for the entire set

Demo audio cassette and complete song list \$3.00

The Rhythm Factory

1910 Campfire Court • Lewisville, TX • 75067
214/315-8141

Protective Dust Covers

-Ensoniq SD1,KS32,ASR10

Reg. \$24.95 Sale 19.95

Black Regency Only • Add \$4.00 S&H

For these & others call:

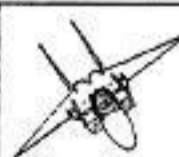
1-800-228-DUST(3878)

Mastercard / Visa Accepted

The Le Cover Company

1223 Kingston Lane
Schaumburg, Ill. 60193

CYBERSOUNDS



FLY IN SOME NEW SOUNDS!

With the WORLD'S LARGEST ASR-10 Library

We have been in the studio sampling everything on the ASR-10. Write or call for the new ASR-10 listing (sounds also work on EPS/16+). Or take the plunge and purchase our new demo package with 20 disks from the new library for only \$60 (free shipping). Our quality & prices can't be beat, so give the World's Largest library a try!

NEW! Atari ST Serial Port MIDI Expander... Works with all Export compatible MIDI software to give you an extra MIDI port for 32 independent MIDI channels. Works with Creator, Notator, Cubase (Ver. 3+), KCS, Realtime and Multi. \$40 + \$4 S/H

WE HAVE A HUGE LIBRARY OF SOUNDS FOR ASR-10, EPS, EPS16+, MIRAGE, TX-16W, EMAX, S-900, S-50/330/W-30, & DPM-SP PRICED AT ONLY \$4 + .50 S/H PER DISK. PATCH DISKS FOR SYNTHS \$15 + .50 S/H PER DISK.

FREE LISTINGS - SPECIFY FORMAT
MAKE CHEQUES AND MONEY
ORDERS PAYABLE TO D. WHITE
PO BOX 114, STATION C
KITCHENER, ONTARIO
CANADA, N2G 3W9
VISA/MC 519-745-0021

DANCE SAMPLES

DANCE CONSTRUCTION SET CD - Over 140 Drum Loops, Spoken FX, Hundreds of drums and percussion, TB-303, SH-101, Moog synths & bass, Analog Classics, Shredding Techno by E.K.O., Hip Hop & New Jack Loops. 1200 samples \$78 See Review in Transoniq Hacker.

#1 HOUSE ACID SAMPLING CD
TR-808, TR-909, AKAI XR-10, DX-7, MINIMOOG, KORG BASS, EMU PROTEUS, HOUSE DRUMS, HOUSE/ACID FX, LYRICAL HOUSE FX \$49

CLASSIC DRUM LOOPS CD ONLY!
75 DOPE AND DELICIOUS LOOPS, RAVE GROOVES, RARE BEATS, LIMITED EDITION, NO RIGHTS RESERVED \$52.95

EPS, S-900 & S-50 SAMPLE DISKS

Also For: ASR-10, EPS-16, S-550, S-330, W-30. (Specify)
Demo disk \$5 - refundable with purchase of disks.

SHIPPING INCLUDED
FREE CATALOG CALL
310-699-0095
MIDI MARK
PARADISE CITY
BOX 217 • WHITTIER, CA 90608

Use Ensoniq Disks on your IBM-PC with our Ensoniq Diskette Manager.

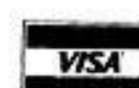
Convert Standard MIDI Files to/from Sequences for these keyboards:

ESQ-1 SQ-80 SQ-1 SQ-2 KS-32
ASR-10 VFX-sd SD-1 EPS EPS-16+

Call now to order or for more information on these and other software packages.

Giebler Enterprises

8038 Morgan Road
Liverpool, NY 13090
(315) 652-5741



TRANSONIQ HACKER

1402 SW UPLAND DR., PORTLAND, OR 97221, (503) 227-6848

BULK RATE
U.S. POSTAGE
PAID
PORTLAND, OR
PERMIT NO. 11

ADDRESS CORRECTION REQUESTED

SUBSCRIPTION MATERIAL
DATED MATERIAL - TIME VALUE

Postmaster: Please return Form 3547 as soon as possible so we can change our records. This is a monthly publication.

Publisher: Eric Geislinger
Editor: Jane Talisman

Our (somewhat regular) illustrious bevy of writers includes: Craig Anderton, Robby Berman, Barry Carson, Mark Clifton, Gary Dinsmore, Dennie Edwards, Rob Feiner, Anthony Ferrara, Pat Finnigan, Charles R. Fischer, Gary Giebler, Jim Grote, Garth Hjelte, Bryce Inman, John Loffink, Alan MacIntosh, Daniel Mandel, Sam Mims, Gary Morrison, Michael Mortilla, William Pont, Jeffrey Rhoads, Brian Rost, Clark Sallsbury, Tom Shear, Joe Slater, Kirk Slinkard, Bob Spencer, and Jack Tolin.

Copyright 1993, TransonIQ Hacker, 1402 SW Upland Drive, Portland, OR 97221. Phone: (503) 227-6848 (8 a.m. to 9 p.m. Pacific Time).

Advertising rates: Please send for rate card.
Rates for authors: Please send for writer-info card.

Subscriptions: 12 monthly issues. US: \$23/year, All others: \$32/year. Payable in US funds.

TransonIQ Hacker is the independent user's news magazine for Ensoniq products. *TransonIQ Hacker* is not affiliated in any way with Ensoniq Corp. Ensoniq and the names of their various products are registered trademarks of the Ensoniq Corp. Opinions expressed are those of the authors and do not necessarily reflect those of the publisher or Ensoniq Corp. Printed in the United States.

Q UP NOW!

Producers, Film Composers, Sound Editors:

USE THESE HEAVY HITTERS ON YOUR NEXT PROJECT:

Alan White (Yes, John Lennon), **Jim Keltner** (Eric Clapton, Bob Dylan, Ry Cooder), **Tommy Lee** (Mötley Crüe)
Heavy Hitters Greatest Hits Drum Library includes over 30 minutes of drum hits from these artists and their own drum kits. CD-Audio: \$129.00

CD-ROMs in SampleCell/II, EIII/X, Akai S1000, Roland S-770: \$399.00 Contains Samples of Cymbals from the Sabian Library and Reverb Trails from Trails and Reflections!

"...What's on this disc is first rate..." —GREG RULE *Keyboard Mag.*

"This is the most happening, usable drum library. They're the best." —DAVID BRYAN *Bon Jovi*

...OR Q UP WITH THESE HEAVY HITTERS:

Chester Thompson (Genesis), **Richie Hayward** (Little Feat), **Mitchell Peters** (LA Philharmonic), **Carmine Appice** (all time rock great), **Mike Baird** (LA Studios, Journey) and innovative programmer **Reek Havok**

SABIAN **The Sabian Cymbal Sample Library** The best cymbals in the world now on 2 CD-Audio discs. Gongs, Rides, Chinese, Orchestral-Symphonic, Splash & Crash! The first comprehensive library of cymbal sounds for professional performance and recording applications directly from Sabian. Both CD-Audio discs: \$99.00 or Heavy Hitters Audio and Sabian Library: \$199.00

AND THERE'S MORE...

All Drums 1 For Producers, Film Score, Radio-DJ's, Sound Editors/Designers. 70 minutes of DDD acoustic and electronic drum tracks w/brushes, comedy fills, loops & grooves CD-Audio-\$79.

All Drums 2 Dance, Techno Pop loops & grooves \$59. or both All Drums 1 & 2 for \$99!

Trails & Reflections 30 minutes of wet-only samples from the Lexicon 300, cleanest reverb in the world. \$99.00

Master Studio Collection "The Master Studio Collection contains thousands of recorded useful sound effects & musical instruments that provide a wonderful varied resource for the sound technician."
—Bill Koepnick Emmy award winning sound editor.

Denny Jaeger Master Violin Library "We've never heard anything like the Jaeger Library. Sampled strings just aren't going to get any better than this." —KEYBOARD-MAGAZINE

Sound Images Library 300 Mb each of synthesized orchestral sounds, musical effects and musical instruments created by Film Composer Christopher Franke (ex Tangerine Dream) **Call Q Up Arts today!**

AKAI
professional
digidesign

ensoniq

E-MU

Roland
Kurzweil



PH: 408.688.9524
FAX: 408.662.8172
Q UP ARTS: PO BOX 1078 APTOS,
CA 95001-1078