

# Transoniq

# Hacker

The Independent News  
Magazine for Ensoniq Users

## WAVEBOY

Turbocharging the EPS with Quad Parallel Effects

Craig Anderton



For: EPS-16 PLUS.

Product: Parallel Effects Disk 1.0.

Price: \$39.95.

From: Waveboy Industries, PO Box 233,  
Paoli, PA 19301, phone: (215) 251-9562.

Very rarely does a product come along that is useful, elegant, fun, innovative, and (amazingly enough) inexpensive — but Waveboy's *Parallel Effects Disk* (PED) succeeds on just about any criteria used to evaluate a product.

PED takes advantage of the fact that the EPS-16 PLUS effects are software-definable. Bill Mauchly, PED's author, has come up with a '16 PLUS disk of 15 new algorithms that essentially re-define what the EPS signal processing chip can do.

### The Algorithm Method

Each algorithm consists of four parallel ef-

fects (A-D) with mono inputs and stereo outputs. You access the inputs through the BUS 1 and BUS 2 effects send lines; BUS 1 panned to -99 feeds effect A and to +99 feeds effect B, while BUS 2 panned to -99 feeds effect C and to +99 feeds effect D. (Of course, you can also choose "in-between" pan settings to feed more than one effect at a time).

In multitimbral sequencing setups or when playing live, each of four instruments can have its own effect. It's easy to do tricks like put distortion+echo on guitar, reverb on drums, slow chorus on piano, and fast vibrato on strings. Or, an instrument could feed two parallel effects equally (such as two reverbs) to get an overall smoother reverb sound, or all instruments could go through a little bit of reverb and three could have their own effect, or you could feed two chorus units for 4-voice chorus-ing...basically, with PED the EPS acquires the power of multi-timbral signal processing. It's like having your EPS retrofitted with a "DP/4 Junior."

### Algorithm Options

Here are the parallel effects available in the different algorithms (rev = reverb, cho = chorus/delay/flange/vibrato, dis = distortion, filter, delay):

rev	rev	rev	rev
cho	cho	cho	cho
dis	dis	dis	dis
cho	rev	rev	rev
cho	cho	rev	rev
cho	cho	cho	rev

### In this issue

#### Articles:

Invisible Timing Errors — VFX-sd  
*Roshan Kumar* ..... 6

The Dynamic (E)SQ-80  
*Tom Shear* ..... 7

(Yet More) "Hidden Waves" on the VFX  
*Walter Cooper* ..... 8

SQ-1 Percussion Secrets — Part II  
*Mark Clifton* ..... 13

SQ Waveform Mutilation — Part III  
*Jack Stephen Tolin* ..... 14

Optimizing EPS Data to '16 PLUS Format  
*Erech Swanston* ..... 17

Fixing Problems With Data Cartridges  
*Charles R. Fischer* ..... 19

#### Reviews:

Waveboy's Parallel Effects Disk  
*Craig Anderton* ..... cover

Ensoniq EPS Sound Library, Vols. 9 & 10  
*Sam Mims* ..... 10

Basement Tapes: Cornerstone,  
Hollowell, & Egger  
*Daniel Mandel* ..... 4

#### Regular Stuff:

Random Notes ..... 3  
Hypersoniq ..... 4  
Current O.S. .... 30  
Hard Drives List ..... 30  
Classifieds ..... 20

Hackerpatches  
*Sam Mims & Jeffrey Rhoads* ..... 21

The Interface ..... 24  
Hacker Booteeq ..... 31

dis	rev	rev	rev
dis	dis	rev	rev
dis	dis	dis	rev
cho	dis	dis	dis
cho	cho	dis	dis
cho	cho	cho	dis
dis	cho	rev	rev
dis	rev	cho	cho
cho	rev	dis	dis

As with standard EPS effects operation, there are four variations on an effect; but with the PED, due to the EPS design this becomes a master parameter that alters each effect. So, if you like variation 1 on one effect but variation 2 on another, there's nothing you can do.

## Parameters

The effects don't skimp on parameters. Distortion includes distortion input gain, volume, and pan; DDL with volume, pan, delay time (up to 546 ms), and feedback; pre and post-distortion filters (with individual cutoff frequency and bandwidth); and modulation source/amount for the pre-distortion filter. This is the only modulatable parameter, and for the most predictable results, only one track should have Effect Control = On. (The manual notes that if multiple tracks send controller messages to the effect, "the last one there wins.")

Reverb has separate volume and pan controls for the dry and reverberated sounds, along with predelay, room size, decay time, diffusion, and high frequency damping. The chorus is a two-tap design with separate volume and pan controls for the dry and tap outputs. Tap 1 also includes delay, feedback, LFO rate, and LFO depth parameters; tap 2 has delay and LFO depth.

All parameters for all effects are arranged in one long scrolling string of parameters under the Edit Effects menu. Thankfully, it's possible to "direct dial" the beginning of each effect's group of parameters with two keystrokes.

## Getting Loaded

Before starting to work with the PED, check out the documentation. In this age of excessive packaging and manuals that seem like advertisements for page layout programs ("and you can do this! and this! and add cute little icons in the margins!"), the PED's modest, somewhat-larger-than-CD-booklet-size 18-page manual is refreshing. *Come to think of it, one of the most appealing things about PED is the total lack of pretension. This is clearly one of those Genius at Work kind of products where someone had a hot idea and let it loose on the world.*

Anyway, you treat the PED effects like any other effects — you do the regular "load effect" routine, and edit and save effects in the usual way. To assign an instrument to an effect, with the Track Edit function you select either BUS 1 (feeds effects A and B) or BUS 2 (feeds effects C and D). Panning sets the blend between the two effects.

You can also route individual wavesamples to different effects

within the Edit Amp menu. However, it is important that the track bus and pan parameters be set to wavesample, or the track settings will overwrite the wavesample settings. Individual processing for each wavesample allows for some pretty amazing electric guitar patches when you apply different types of distortion to the different multisamples — for example, the top register can really scream, while the lower octaves can sound more muted for doing power chord effects.

## Limitations

The only real weaknesses (master instead of individual variation control, limited modulation options) are due to limitations of the instrument and ESP (Ensoniq Signal Processing) chip — there are some walls even clever software cannot climb over. Still, given what the PED does do, any shortcomings are easily forgiven.

## So What?

Okay, so this isn't the first time someone's hacked an operating system to come up with some cool variations; think of what a bunch of people did with the Mirage (as chronicled in the pages of this esteemed publication, no less). But what the PED offers is so cool, and is such a great addition to the instrument, that it should have universal appeal to anyone with an EPS-16 PLUS who uses the onboard effects. Even those who are blasé about effects may find that PED is just the thing to get the juices flowing. The level of multitimbrality exceeds what is possible in the standard EPS-16 PLUS, and the sound quality is consistent with the normal EPS-16 PLUS effects.

A more subtle advantage is that you may be able to save the cost of the output expander if your main reason for using it is to be able to put different instruments through different effects. As long as PED provides the effects you need, you can probably pan and mix everything in the EPS down to the two stereo outputs.

## The Bottom Line

I realize a lot of people jump immediately to the end of a review, which contains the summary. If the conclusion makes the product sound interesting, then it's time to go back and read the rest. So as a time-saving measure for all you folks, here's the scoop:

*The Parallel Effects Disk* is one of the most cost-effective investments you can make toward improving the sound of your EPS and augmenting its versatility, especially in multi-timbral operation. I can't imagine any EPS-16 PLUS owner who wouldn't want to have this disk as part of their permanent disk collection. And at \$40, it's a steal. ■

*Bio: Craig Anderton is a musician (ten recordings), author (eleven books), and lecturer. He coined the term "electronic musician" and edited the magazine bearing that name from its inception to 1990; he is currently Editor-at-Large for Guitar Player magazine, West Coast editor for EQ, and a regular contributor to Keyboard, Pro Sound News, and Sound-On-Sound magazines.*

## RND (🎵🎵)

### Ensoniq News

#### New Products

Ensoniq Corp. is pleased to introduce 32 note polyphonic versions of our SQ series Personal Music Studios. The new SQ-1 PLUS 32 Voice and SQ-2 32 Voice keyboards, as well as the SQ-R PLUS 32 Voice Synthesizer Sound Module all feature the addition of 11 more voices (for a total of 32) and a new extra Megabyte of 16-bit expansion waveforms. These 43 new waves cover a wide variety of sounds, including the following:

Viola Sect	Accordion
Solo Violin	Fretless Bass
Nylon Guitar	Slap Bass
Harp	Synth Bass-3
Shamisen	Choir
Elec Piano 1	Shakuhachi
Elec Piano 2	Timpani
Perc Organ	Vibes
Mute Trumpet	Full PipeOrg
Soprano Sax	Shekere
Taiko	Vocal Aah
Whistle	Vocal Unh
Shaker	Vocal Uhh
Conga Slap	Vocal Teh
Triangle	Dance Kick
Castanets	Enka Kick
Hyoshigi	Long Rap Kik
Synth Kiss	Dance Snare
Hiphop Kick1	Hiphop Snare
Syn Rimshot	Hiphop Kick2

Along with these new waves are an additional 80 programs loaded into RAM, which gives the user a total of 180 different sounds to play with. The SQ-1 PLUS 32 Voice and SQ-2 32 Voice keyboards feature Dynamic Component Synthesis, with a total of 3 Megabytes of waveform data, 24-bit dynamic effects processing, and a 16-track sequencer with 8,500 note memory, expandable to 58,000 notes. The SQ-1 PLUS 32 Voice has a 61-key velocity sensitive keyboard, and the SQ-2 32 Voice has a 76-key velocity and pressure sensitive keyboard. The SQ-R PLUS 32 Voice is a rackmount version of these instruments minus the sequencing capability.

Model	Pricing (US)
SQ-1 PLUS 32 Voice	\$1595.00
SQ-2 32 Voice	\$1795.00
SQ-R PLUS 32 Voice	\$ 995.00

Current SQ series owners can upgrade their instrument to full 32 Voice status. For more information contact: Ensoniq Corp, 155 Great Valley Parkway, Malvern, PA 19355, or call 1-800-553-5151.

**New Pedal** — We're pleased to announce that we have developed a higher quality, more rugged replacement for our SW-5

dual foot switch pedal. Effective immediately we have available the SW-10, with a suggested retail price of \$49.95 (US).

#### Third Party News

**L. B. Music**, sequence vendor for many Ensoniq instruments, has moved. Their new address is: L. B. Music, 51 Charter Oak Dr., Newton Square, PA 19073. They are presently in-between phone companies as far as their tech support line is concerned but their toll-free order line remains 1-800-3LB-MUSIC.

As far as we can tell, **Radio Ready**, who's been selling samples for the EPS, has completely disappeared.

## 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.

**SQ-80 QUESTIONS** — Robert Romano, 607-533-7878. Any ol' time.

**HARD DRIVES & DRIVE SYSTEM** — Rob Feiner, Cinetunes. 914-963-5818. 11 am — 3 pm EST.

**EPS/EPS-16+ QUESTIONS** — Erech Swanston, Maestro Sounds. 718-465-4058. Call anytime. (NY) If message, 24-hr callback.

**VFX QUESTIONS** — Sam Mims, Syntaur Productions. 818-769-4395. (CA). 10 am to 11 pm PST.

**SQ-80 QUESTIONS** — Michael Mortilla, 805-966-7252 weekends and after 5 pm Pacific Time.

**EPS & EPS-16 PLUS QUESTIONS** — Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 467-5668.

**ESQ-1 AND SQ-80 QUESTIONS** — Tom McCaffrey. ESQUA. 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, (201) 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 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.

## HYPERSONIQ NEW PRODUCTS

**Frontera Electronics** has added a series of desktop hard drives to their popular line of *i\*cove* rackmount storage systems. These new, lower priced units are ideal for the home studio musician who may not require the extra shockmount protection of the rugged rackmount systems. All drive configurations are available, starting from \$349 for a 50Mb unit and \$499 for the popular 44Mb removable cartridge model (includes cartridge). Other models include CD-ROM drives and fixed-capacity drives up to 1.2Gb. As always, all disk drives come with a 40Mb library of free samples designed specifically for the EPS and EPS-16 Plus. For more information, contact: Frontera Electronics, 1318 E. Mission Rd., Suite 202, San Marcos, CA 92069, phone: 619-727-3410.

**Talking Owner's Manuals** has released a new 120-minute audio cassette program with play-along TOMdisk® for learning the operation and programming of Ensoniq's SD-1 and SD-1 32

Voice synths. The audio program is available through authorized Ensoniq dealers for \$14.95. Contact Ensoniq Customer Service for further information: 215-647-3930.

**Nightwind Sound** announces *Partch Timbres* — an 8-disk set of samples for the EPS. Hits, Loops, and Strums featuring 14 of Harry Partch's instruments. Wood, Metal, Bamboo, and Glass timbres to expand the silicon heart. \$85 postpaid. For further information, contact: Nightwind Sound, 170 Mar Monte Ave., La Selva, CA 95076.

**Minotaur Studios** is addressing the renewed interest in rock organs with the release of *The Minotaur Ultimate Organ Sample Library*. Barry Carson has decided to sacrifice a promising career as a world-famous sample reviewer for the *Hacker* and jump feet-first into the cut-throat world of sample marketing with a 7-disk set of professional quality multi-samples of Hammond, Vox, Farfisa, Howard, and Baldwin rock organs. The complete set is \$60. For further information, contact: Barry Carson, Minotaur Studios, 52 State St., Canton, NY 13617.

## HACKER BASEMENT TAPES

### Three CDs — Whoa Baby!

Daniel Mandel

This issue brings us into the future-present with a review of three compact discs that were sent into the Basement here for review. Does this mean that I can write off my CD player on this year's taxes? Probably not. What it does mean is that now CD manufacturing is at least cheap enough for people who are independently producing their own material. The April 1992 issue of *Macworld* discusses the process of making your own CD. If trends in the movie industry are any indication, we can expect that independently produced music will have a profound impact on our society and culture. You can look at the most recent Cannes Film Festivals to see how independent movie producers and directors, for whatever reason, avoided going the traditional route and consequently won awards and produced great films. As technology becomes increasingly accessible to the great unwashed, we can expect more and more independent input.

---

CD: *Foundation*.

Artist: Cornerstone.

Contact info: LCB Productions, 19 Loring Ave., Portland, ME 04103.

---

**Equipment:** Linn 9000 controlling most of the sequencing, an EMU SP-12 throwing in some drum sounds, various Roland keyboards, and the EPS doing some drums, keys, bass and even vocals as needed! Three of the songs were recorded pre-EPS, but sounds were added from it during the final mixes at the summary of the project.

*"This CD was recorded from 1987-1989 at Studio-3 (16 Track) in Portland, ME. After being a successful club band for a number of years, we went into the studio to work with Tom Black-*

*well (a respected area producer) as producer and engineer. We spent anywhere from 5-10 days a month (whatever our budget could afford) recording tunes for a year and a half. The EPS came in about half way through the project, but both myself and our producer got one, so we incorporated it fairly quickly into the routine."*

Cornerstone vocals have an All-American white bread sound. They sound like a cross between a slick set of studio musicians and a cute boyish pre-groomed cult group. All of these cuts are squeaky clean, well mixed and well produced. You can hear every word. The only thing that seems lacking is a feeling. This band could have used a little more raw approach. This is however hardly a big flaw. At worst, they suffer from a case of the fluffs. This CD is a collection of pop ballads with an overall huge wide-open, spread out sound.

Some interesting notes: On the song *Your Touch* all background vocals were multi-tracked, mixed and sampled and then triggered by a sequence. Cornerstone hired a sax player to play on this song. *"(Crazy Ed) played a bunch of solos and we called it a rap. But when it came time to blend the solos together for a track, nothing seemed to flow. Rather than have him come back in, we sampled all his best licks one at a time. We then truncated them, switched the order and played a solo live to the multitrack! We did the same on the outro but came up one lick shy of having enough to finish the song. Solution?... Flip one over and play it backwards (you figure out which one)."*

The description of the technical gymnastics really gives you a good sense of how technically adept Tom Blackwell is. It

sounds as though they pulled out all the stops.

The CD costs \$11.00 the cassette is \$7.00. Shipping is included.

---

CD: *Hollowellisms*.

Artist: Tom Hollowell.

Contact info: 19721 Muncaster Road, Derwood, MD 20855.

---

**Equipment:** EPS 4X w/SCSI, 8XEXP, Alesis Quadraverb and a Moog 55 for signal processing. Mixed through a Tascam model 3 mixer and mastered on digital audio tape.

**Bio:** Tom Hollowell is an independent artist who has solely composed, performed, recorded and marketed his music. He's doing it for his own enjoyment and not trying to conform to anyone else's notions. He believes that this is the best way to express one's self. This music was created at home using Ensoniq's EPS performance sampler and mastered on digital audio tape.

Tom Hollowell's *Hollowellisms: Live Wire Act* is an instrumental CD. There are seven pieces that are wonderfully crafted and a joy to listen to. I would say that this collection took some getting used to. I can't really say why that's important, but it's how Tom's music hit me. (Will *TH* will print a psychological profile on me in the next issue, I wonder.) The genre is sorta light jazz/pop. *Hollowellisms* most attractive feature is its phrasing. I've described phrasing before as musical sentences. Tom tells stories with his phrasing.

The opening song, *Commercial Action*, not only has nicely executed phrases, but the hook here is recreated different ways with different instruments. This technique really carries the interest of the song beyond the point where it would become repetitious or boring.

Another aspect of Tom's music that tells me that he has taken some time in crafting these songs can be heard using a listening technique that I learned from ear training. As I followed each instrument through and listened to just what the bass was doing, or just what the flutey keyboard patch was doing, the songs took on a new flavor and became that much more complex. Try doing this on most pop songs and you may find that an awful lot of rhythm and bass tracks are fairly unimaginative. Not so on Tom's CD.

The blend of instruments used on *Hollowellisms* was well chosen as well. There were quite a few sounds used, even some odd ones that I wouldn't have normally placed with this genre of music, yet in the mix they all fell in to place and complimented each other. Once again the example that comes to mind is the opening song which used several jungle/animal sounds.

Tom, natch, has these CDs ready for sale for \$10 a pop.

---

CD: *Human Condition*.

Artist: Gary Egger.

Contact info: Condition Red Music, P.O. Box 1374, Hanford, CA 93232.

---

**Equipment:** Guitars, keyboards and EPS-M

This CD was produced, engineered, performed and written by Gary Egger. Of course he had a cast of characters to help him all along the way. There are 10 tracks and 2 bonus tracks. I'm not sure if I get it. Was there a release of this without the bonus tracks? Or do they just not show up on the cassette version?

Of the three CDs I received, *Human Condition* was by far the easiest to just pop in and appreciate. Gary builds on a great pop tradition, imitating familiar sounds. I could easily frustrate my friends by asking them blind, "OK who does this sound like?" He evokes many ghosts from pop/rock history. He has a great talent for creating musical textures that carry his ballads home.

I would say that Gary is not awfully fond of the standard hook. While the songs are singable, one is not even tempted to walk away humming the tune. As Gary's main instrument seems to be the guitar, its presence on this CD is fairly inconspicuous. The riffs and licks are few and far between. The production values on this recording get very high marks.

Gary's vocals are passable. The selling point here is that here we have the guy who wrote recorded and performed these tunes singing them for us. The passion comes through in the phrasing and the feeling is indeed there. The feeling is not, however, particularly energetic or intense but rather pensive and moody. I would say that Gary probably does not have a very wide range vocally. He stays in a very comfortable range for his voice — which is always a good bet, and he doesn't take many chances. The problem that this causes is that some very fine songs tend to blur into a somewhat monochromatic portrait.

Harmonies tend to be problematic. The vocal usually works best without a harmony. Whether it's because the harmony wasn't mixed well, or because it just plain didn't fit is hard to say.

The basic palette of sounds created a definite "backing band" platform for Gary's guitar work and vocals. Whether this reflects his live performance set up or not, the consistency is an asset to the overall feel of the tape. ■

If you want your tape run through the ringer, err, Hacker, just mail it off to: Basement Tapes, *Tran-soniq 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.

# The VFX-sd Sequencer and The Mystery of Invisible Timing Errors

Roshan Kumar

I, like many of you, love the sequencer in my VFX-sd. It's easy to operate, has thorough editing capabilities, lots of tracks, and will do just about everything I would like (except have a tempo track — more on that later). My main problem is that it also does some things I would rather it didn't.

Have you ever played a song or a looped a sequence on it and heard a slight gap between the sequences? What was that? (Bob Henderson, letter to the *Interface*, January '92 — are you there? Read on.) I was working on sequences for a couple of albums I was doing and this kept happening so I pursued the problem as far as I could. This article deals with how to make it happen (just what you always wanted to know, right?), how to usually fix it, and a work-around which will eliminate the problem (hopefully).

So what causes the gaps? I should point out that I have not had access to an SD-1 so I'm not sure if there are any problems of this nature on them — but Ensoniq told me that the SD-1 connects sequences much more smoothly than the VFX-sd. (Could some of you with SD-1s try this and see if the problem has been fixed and let us know here at the Hacker?)

## Back to the Workstation

Let's assume you like to write off a groove like I do. Pick your favorite groove tool — drum patch, bass, keys, or whatever you choose and assign it to a new sequence. Set the metronome and play away for 16 bars and stop. Now pick the best four bars out of the middle of the sequence and delete measures before and after. We should now have a building block, right? Append this sequence to itself (it will double repeatedly) until you have 256 measures. We should theoretically be able to use any part of the 256 measures to make sequences and connect to any other part by cut and paste methods to eventually create a song — but problems arise.

The next procedure is somewhat extreme but illustrates the problem. Look in Event Edit for the location of notes in measure 253. Now delete measures 1 – 252. Look in the first bar for note locations (with Event Edit). It should be the same as before. Is it? Now loop the four bars and play it. Do you hear any gap? Now the fun begins. Append the sequence to itself again until you have 256 measures, check note locations in measure 253, delete 1 – 252, check note locations again, loop and play. Do this enough times and you'll find *measures* of dead space between repeats. Try quantizing during various steps and Event Edit shows notes back in place — but loop and play or delete and the timing errors reappear — like magic!

So what's happening? Are we doomed to never being able to append or use the middle parts of sequences? Here are some answers and some solutions.

My first clue that there was a problem was when I shifted a track once and, upon playing the song it was in, I heard a space between sequences even though Event Edit showed everything normal. It appears that the VFX-sd sequencer remembers events that are outside the sequence and although they often can't be visually located they

inhibit the next sequence from starting on time.

## Some Solutions and Work-Arounds

First, if you are experiencing a gap between two sequences (remember that the Effect Algorithm must be the same) look at the duration of the last few notes in *each* track of the first sequence. Quite often notes will sustain beyond the sequence and can be found in Event Edit. Push the up arrow while on the duration page and the ending time will jump to the last clock of the sequence. Cool, huh? Do this for each offending note and save all changes — this will often do the trick.

But what about the groove and appending? This requires a work-around to avoid creating sequences that down the road can give you a big headache. When you have found a portion of a groove that you like — instead of doing multiple appendings, COPY the portion of the track you want to a new sequence. Like so: Create a new sequence, then play one note (which will be erased later) to initiate the first track one measure long, then add bars in Sequence Edit until you get the desired length. Now copy the few measures from the groove sequence to the first part of Track 1 in the new sequence (erasing the one note). Then copy this portion of the track to the empty parts of the track.

Example: copy measures 1 – 4 to 5 – 8, copy 1 – 8 to 9 – 16, copy 1 – 16 to 17 – 32, etc. until you have what you need. This could give you the same results as the 256 measures we used in the problem example — but without the timing errors.

I do expect an OS upgrade by Ensoniq to fix these problems, but I'm not holding my breath. I first informed them about the timing errors in late '90 and sent detailed info and a disk with examples in early '91 when they said an upgrade would be out in the summer of '91. It's now '92 and I've learned to find solutions and work-arounds rather than wait for a new OS.

Getting back to that tempo track disappointment that I alluded to earlier — the VFX-sd sequencer does not give you the ability to change tempos within a sequence or song. Almost every sequencer on the market, even many far inferior to Ensoniq's, have tempo tracks. So... I use my Korg M1R to record tempo changes in its sequencer, though all the other tracks are in my VFX-sd. Then when I record the sync track to tape, (from the M1R through an Anatek Pocket Sync) the tempo changes on tape will make the VFX-sd change tempos perfectly. I suspect this can be done with any sequencer capable of recording tempo changes.

[By the way, in response to Michael Mooney's trouble with his VFX-sd and sync box (*Transoniq Hacker*, Dec. '91) — I have no trouble with my VFX-sd locating to the Anatek Pocket Sync, which is a very simple and inexpensive device, but the VFX-sd has a terrible time syncing to the Korg M1R — a much more complex and expensive device. What does this mean?]

Well, even with its idiosyncrasies I still love my VFX-sd and will continue to use it (or the SD-1 if and when I upgrade) for my

primary sequencer. That is until they come out with a model that will dispense a sandwich and a drink every two hours. ■

Bio: Roshan Kumar is a music performer, instructor, and composer

currently performing in Hawaii and working as an independent record producer and as a writer for MIDI Guitarist magazine. Roshan wants a brain-sequencer interface so he can dream his compositions direct to disk.

# The Dynamic (E)SQ-80

Tom Shear

Despite the fact that it has some of the most extensive modulation capabilities of any synth in its price range (and even out of it), it seems that an awful lot of ESQ-1/SQ-80 patches I've heard out there make little use of these capabilities with the exception of some vibrato on the mod wheel. This is a shame as the SQ-80 is an incredibly expressive instrument through the use of these set-ups. Because I mostly do techno-dance music, which tends to be very repetitive, I'm always looking for new ways to keep the listener from becoming bored with the tune. One of my favorite ways is through using what I like to call dynamic filter modulation, that is, altering the filter in real time as the sound is being played.

I've included two patches here to demonstrate this technique that take different approaches. The first, FAT DM, is an imitation of the analog synth sound Depeche Mode seems to use a lot, especially on their earlier records (listen to the bass line on "The Sun And The Rainfall" for a good example). I would recommend using the ESQ-1 factory patch SNAPS1 as a starting point. In this patch, velocity opens the filter by varying degrees. This allows you to accent certain notes simply by hitting the note harder. It is easy to see that if you play this patch rhythmically, you can get some very interesting, very funky basslines, very easily. Another way to use this patch is to play it with as soft a velocity as possible during your verses and using a

very hard velocity during your choruses. This way, you effectively have two sounds in one, a dark bass sound on the verses, and a brighter, fatter sound on the choruses.

The second patch, OBIE, is my attempt at imitating the typical Oberheim sound. In this case, the mod wheel closes the filter. With the mod wheel at rest, you have a gritty analog poly-synth sound, sort of like the one in "Jump," but if you move the wheel forward, it transforms in to a plucked synth bass sound. The way I primarily use this patch is by recording a bass line on track 1. I then go to track two and record a track of mod wheel movements, usually starting with it fully advanced and then slowly moving it to a resting position and back again. Then, when the two tracks are merged, my bass line suddenly has a really interesting effect from the opening and closing of the filter. Try emphasizing just single notes from opening the filter or whole bars of notes. A good example of this type of effect can be heard on Nitzer Ebb's "Lightning Man."

These are just two simple examples of this technique, but if you're willing to put in the extra work you can probably find a bunch of other ways to utilize it. Used carefully, you can give your bass lines, or any track, a truly cool, constantly changing sound that can add a lot of action to your tune. ■

SQ-80 PROG: FAT DM								BY: Tom Shear									
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH									
OSC 1	-2	00	00	SAW	*OFF*	-	*OFF*	-									
OSC 2	-1	00	04	SAW	*OFF*	-	*OFF*	-									
OSC 3	-1	00	08	SAW	*OFF*	-	*OFF*	-									
	LEVEL	OUTPUT		MOD#1	DEPTH	MOD#2	DEPTH										
DCA 1	63	63		*OFF*	-	*OFF*	-										
DCA 2	63	63		*OFF*	-	*OFF*	-										
DCA 3	63	63		*OFF*	-	*OFF*	-										
	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH										
FILTER	021	31	04	KBD2	+63	VEL	+63										
	FINAL VOL	PAN	PAN MOD	DEPTH													
DCA 4	63	8	*OFF*	-													
	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD									
LFO 1	-	-	-	-	-	-	-	-									
LFO 2	-	-	-	-	-	-	-	-									
LFO 3	-	-	-	-	-	-	-	-									
	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK							
ENV 1	-	-	-	-	-	-	-	-	-	-							
ENV 2	-	-	-	-	-	-	-	-	-	-							
ENV 3	-	-	-	-	-	-	-	-	-	-							
ENV 4	63	00	00	31L	00	00	28	00	32R	00							
	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC									
MODES	OFF	OFF	OFF	00	ON	ON	ON	ON									
	SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY										
	OFF	-	OFF	-	OFF	-	-										

SQ-80 PROG: OBIE								BY: Tom Shear									
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH									
OSC 1	-1	00	00	SAW	LFO1	+02	*OFF*	-									
OSC 2	-2	00	03	SAW	LFO1	-02	*OFF*	-									
OSC 3	-1	00	05	SAW	LFO2	-01	LFO1	+01									
	LEVEL	OUTPUT		MOD#1	DEPTH	MOD#2	DEPTH										
DCA 1	63	63		*OFF*	-	*OFF*	-										
DCA 2	60	63		*OFF*	-	*OFF*	-										
DCA 3	60	63		*OFF*	-	*OFF*	-										
	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH										
FILTER	078	00	00	ENV3	+63	WHEEL	-63										
	FINAL VOL	PAN	PAN MOD	DEPTH													
DCA 4	63	8	*OFF*	-													
	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD									
LFO 1	24	OFF	ON	TRI	00	00	32	PRESS									
LFO 2	21	OFF	ON	TRI	00	63	32	PRESS									
LFO 3	-	-	-	-	-	-	-	-									
	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK							
ENV 1	-	-	-	-	-	-	-	-	-	-							
ENV 2	-	-	-	-	-	-	-	-	-	-							
ENV 3	63	28	13	00L	00	00	18	34	46R	09							
ENV 4	63	63	55	13L	00	00	24	63	17R	00							
	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC									
MODES	OFF	OFF	OFF	00	ON	OFF	OFF	OFF									
	SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY										
	OFF	-	OFF	-	OFF	-	-										



## **Cases for Ensoniq Equipment**

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.*

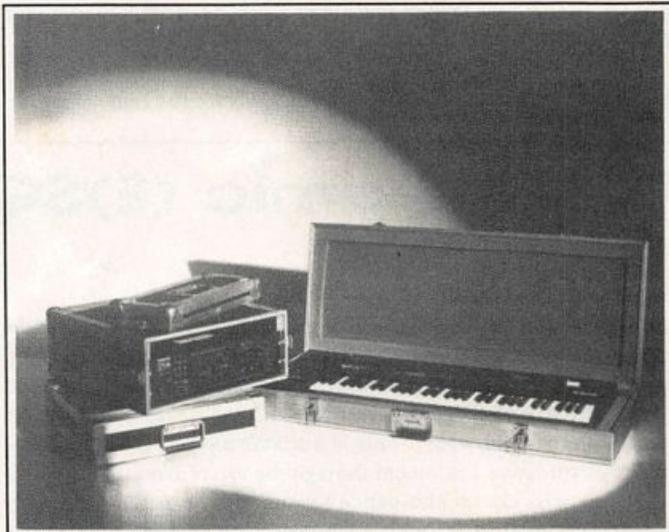
**CALL US AT 1-800-637-6635**

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**



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



## **Down Waves! Down Waves!**

**Taming Those "Hidden Waves" on the VFX-sd**

*Walter Cooper*

Those seven hidden waves I was talking about in the last issue are fully programmable and work just like the original 141 for Version I VFX-sds. However, there are some problems inherent with this crew. First, remember these are hidden and the voice select page will always read "unknown." To identify the wave you are using, you must call up the WAVE page. The loop is long on some of these waves — producing several percussive attacks. As far as Start Index goes, this is good. It gives you a variety of starting points to choose. Unlike the Multi-Wave, you cannot control the wave length because these waves reside in the Multi-Drum wave class. The loop on each key is different. Keys C2's loop time is the slowest. C7 plays much more rapidly. It's like recording your voice on a sampler and playing it back across the keyboard. Finally, you will have to develop certain playing techniques to help control the sound and achieve the desired result.

Two patches are included to show both ends of the spectrum. The first is entitled "FUZ SYNBAS." It was created using the PERCUS PE wave. FUZ SYNBAS is a buzzy synthesized bass

sound without inherent problems — it works just like any other sound. "TIMPANI" is the best timpani sound I've been able to produce — period. Unfortunately, this patch has problems. Producing a straightforward timpani strike can be achieved by depressing a key, but the sound does not simply decay. If the key is not released in time, other percussive elements can be heard. Playing higher pitches will cause the entrance of other percussive attacks to come quicker.

Well, why bother with such a complicated sound of hacked together waveforms? Well, because TIMPANI sounds like a timpanist striking Roger's Timpani four or five inches in from the rim at a height of ten inches using Saul Goodman #5 timpani mallets — in green, of course. ■

*Bio: Walter Cooper is minister of music at his local church, district minister of music for twelve churches, a music teacher and owns Latter Sound Productions, which markets sounds for Ensoniq products.*

# SD & VFX Prog: FUZ SYNBAS

By: Walter Cooper

<b>WAVES</b>	<b>1</b>
Wave	Percus Pe
Wave Class	Multi-Drum
Delay	000
Start	99
ModSRC/Vel St	40
ModAmt/Dir	Forward

<b>MOD MIXER</b>	<b>1</b>
SRC-1	-
SRC-2	-
SRC-2 Scale	-
SRC-2 Shape	-

<b>PITCH</b>	<b>1</b>
Octave	-1
Semitone	00
Fine	00
Pitch Table	System

<b>PITCH MODS</b>	<b>1</b>
MODSRC	Off
MODAMT	-
Glide	None
ENV1	-
LFO1	-

<b>FILTER 1</b>	<b>1</b>
Mode	LP2
Cutoff	000
KBD	00
MODSRC	Press
MODAMT	51
ENV2	99

<b>FILTER 2</b>	<b>1</b>
Mode	LP2
Cutoff	127
KBD	000
MODSRC	Timbr
MODAMT	54
ENV2	00

<b>OUTPUT</b>	<b>1</b>
VOL	99
MODSRC	LFO
MODAMT	00
KBD Scale	00
LO/Hi Key	C2-C7
Dest Bus	FX1
Pan	61
MODSRC	LFO
MODAMT	00
Pre-Gain	Off
Voice Prior	Med
Vel Thresh	000

<b>LFO</b>	<b>1</b>
Rate	18
MODSRC	Press
MODAMT	99
Level	99
MODSRC	Wheel
Delay	48
Waveshape	Tri
Restart	00
Noise SRC RT	00

<b>EFFECTS (1)</b>	
Effect	Chr + Rev 1
FX1	26
FX2	00
Decay	63

<b>PERFORMANCE</b>	
Timbre	00
Release	00

<b>SELECT VOICE</b>	<b>1</b>
00	X
0*	X
*0	X
**	X

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

<b>ENV2</b>	<b>1</b>
Initial	99
Peak	99
Break 1	85
Break 2	64
Sustain	27
Attack	00
Decay 1	24
Decay 2	29
Decay 3	57
Release	48
KBD Track	00
Vel Curve	ConvX2
Mode	Nor
Vel-Level	46
Vel-Attack	00

<b>ENV3</b>	<b>1</b>
Initial	99
Peak	99
Break 1	99
Break 2	99
Sustain	99
Attack	00
Decay 1	00
Decay 2	00
Decay 3	00
Release	32
KBD Track	00
Vel Curve	ConvX2
Mode	Nor
Vel-Level	00
Vel-Attack	00

<b>PGM CONTROL</b>	
Pitch Table	Off
Bend Range	-
Delay	X1
Restrike	57
Glide Time	69

<b>EFFECTS (2)</b>	
Rate	16
Depth	20
Delay	011
Mod1	02
Mod2	04
Mix	50

<b>EFFECTS (3)</b>	
Effect	Chorus
Waveshape	Sine
MODSRC	Velocity
Reverb HF Cut	Off

# SD & VFX Prog: TIMPANI

By: Walter Cooper

<b>WAVES</b>	<b>1</b>
Wave	Percus Pe
Wave Class	Multi-Drum
Delay	000
Start	39
ModSRC/Vel St	00
ModAmt/Dir	Forward

<b>MOD MIXER</b>	<b>1</b>
SRC-1	Off
SRC-2	Off
SRC-2 Scale	-
SRC-2 Shape	-

<b>PITCH</b>	<b>1</b>
Octave	-2
Semitone	00
Fine	-42
Pitch Table	Sys

<b>PITCH MODS</b>	<b>1</b>
MODSRC	Off
MODAMT	-
Glide	None
ENV1	-
LFO1	-

<b>FILTER 1</b>	<b>1</b>
Mode	LP2
Cutoff	124
KBD	00
MODSRC	Mixer
MODAMT	00
ENV2	85

<b>FILTER 2</b>	<b>1</b>
Mode	HP2
Cutoff	000
KBD	00
MODSRC	Timbr
MODAMT	00
ENV2	99

<b>OUTPUT</b>	<b>1</b>
VOL	99
MODSRC	LFO
MODAMT	00
KBD Scale	00
LO/Hi Key	C2-C7
Dest Bus	FX2
Pan	50
MODSRC	Off
MODAMT	-
Pre-Gain	Off
Voice Prior	Med
Vel Thresh	000

<b>LFO</b>	<b>1</b>
Rate	-
MODSRC	-
MODAMT	-
Level	-
MODSRC	-
Delay	-
Waveshape	-
Restart	-
Noise SRC RT	-

<b>EFFECTS (1)</b>	
Effect	Dly+Fl+Rev3
FX1	00
FX2	20
Decay Time	00

<b>SELECT VOICE</b>	<b>1</b>
00	X
0*	X
*0	X
**	X

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

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

<b>ENV3</b>	<b>1</b>
Initial	99
Peak	99
Break 1	00
Break 2	00
Sustain	00
Attack	65
Decay 1	00
Decay 2	00
Decay 3	00
Release	44*
KBD Track	00
Vel Curve	ConvX1
Mode	Nor
Vel-Level	67
Vel-Attack	07

<b>PGM CONTROL</b>	
Pitch Table	-
Bend Range	-
Delay	-
Restrike	-
Glide Time	-

<b>EFFECTS (2)</b>	
Rate	29
Min Depth	074
Max Delay	000
Feedbk	00

<b>EFFECTS (3)</b>	
Delay	200
Regen	50
Mix	25
Reverb HF Cut	On

# Holophonics Sound Effects

Sam S. Mims

---

For: EPSs.

Product: Ensoniq EPS Sound Library, Volumes 9 and 10.

Price: \$69.96 per volume, 10 disks each.

From: Ensoniq Corp., 155 Great Valley Parkway, Malvern, PA 19355,  
(215) 647-3930 or contact your local Ensoniq dealer.

---

With Volumes 9 and 10 of their EPS Sound Library, Ensoniq entered the world of sound effects with samples done with holophonics, a very realistic three-dimensional recording process that plays back over a normal audio system. These stereo samples seem like a must-have for anyone doing audio-video post-production work, and are just plain lots of fun for the rest of us.

I've heard a CD library of holophonics effects where some of the sounds move left to right, then up and down, then behind you — all with striking clarity from a normal stereo system. No kidding! The Ensoniq effects were taken from this same source material — the 27th Dimension Holophonics Sound Library — and transferred into the EPS very faithfully. But most of the sounds are short events like gunshots and you just won't hear a gunshot anywhere that goes left-to-right, then up and down, then behind you. What you will hear, though, is a striking ambience, and it's easy to tell that this is more than just stereo.

So, how about the sounds themselves? Well, follow me....

## Volume 9, Disk ESD 81

**Rifle Cocked/Shot:** Pressing a key cocks a rifle, letting it up fires it. The manual says it's a "sound of the highest calibre" and I agree. Very clean, and very dynamic. With the mod wheel and the patch select buttons, you can change pitch, fire with a key-down, create a distant-sounding gunshot, and more. Bitchin'.

**Machine Gun:** Well, this one is so-so. I've heard better machine guns around, but you never can have enough of 'em, right?

**.45 Cal. Automatic:** A nice handgun pop with natural ambience. Patch selects and mod wheel change pitch (calibre) and remove the ambience of the sound. Another nice one here.

**.25 Cal. Automatic:** Another great handgun, smaller and crisper than the .45. Patch selects are similar, except that one gives a nice reversed gunshot.

## Disk ESD 82

**Rocket Fire:** This is a small rocket blasting off. There's a little crackle at the end, but maybe that's what happens when rockets blast off. Patch select buttons pan the rocket hard left, hard right, and right-to-left (the manual erroneously says left-to-right) rather dramatically.

**Med. Bang:** This is the biggest "medium" bang I've ever heard. It's the type of gunshot that moviegoers are more used to — where a .22 pistol sounds like a Howitzer fired in the Grand Canyon. This could be great layered with a snare drum. Patch selects give more muted explosions at varying distances. Fabulous sounds that cut off just a hair too early.

**Window Smash:** A rock blasting through a window, and really sounding good. Patch selects add an interesting pitch shift, or cut out the rock sound, leaving just the tinkling shards of the broken glass. The mod wheel has no effect as far as I can tell, though the manual says it "can be used to vary the stereo spread."

**Firebell:** The sound of a fire alarm, going off various ways. The patch selects play with the tuning and panning; again, some of what the manual says is erroneous.

## Disk ESD 83

**Flying Balloon:** That nasty squishy sound of a balloon rocketing about while deflating. An excellent sample with great ambience and motion. The patch selects do pitch changes, with one dropping the sound several octaves to create "the bowels of the earth." Very neat.

**Blo Up Balloon:** A guy puffing away at the balloon — as long as you hold down a key, he keeps puffing, too! Patch selects add pitch effects and flanging for great alien breathing.

**Pop Balloon:** You wouldn't know this was a balloon popping if the label didn't say so. Could be some nice percussion stuff here, though.

**Plate Smash:** This is neat sound, though it has a metallic tinge that detracts from the "plateyness" of it. Nice reverse and pitch-mod effects with those two nifty buttons.

## Disk ESD 84

**Hose/Shower:** Water coming down, with key pressure closing the filter down. The mod wheel makes the spray "finer" by filter out the bottom end. By combining patch selects, pressure, and mod wheel, you can get a nice "gurgling down the drain" effect.

**Snaps 1 and 2:** Finger snaps, available pitched and reversed. Good, but not ground shaking, and they're cheap on memory.

**Knock on Door:** Available in the same flavors as the Snaps, although this is another one that doesn't sound quite like the real thing.

**Opening Door:** Pitched in a couple of ways and reversed with the patch selects. You hear bumps and squeaks, but it just don't sound like no door to me....

## Disk ESD 85

**Night Train:** It does sound like it's at night, somehow. And you're sitting with your ear about a foot from the rail. Not bad, but where are the bells and whistles?

**Cross Bell:** This seems a little noisy and too small and tinny. Surely there were better bells around to sample.

## Disk ESD 86

**Phone Ring:** The sound we all know and love — the loud obnoxious kind of ring like when you're fast asleep. Very well done, with good variations.

**Pick Up:** The phone, not a truck. My phone doesn't do this when I pick it up. A clacky sort of thing that I suppose someone will

find useful.

**Dial Tone:** Yep, this is it. No doubt about it.

**Ring Them:** What you hear when it's ringing on the other end. Right on the money.

**Busy:** Once again, the sound is right on it. Only there's too much noise in-between beeps.

**Off Hook:** That irritating sound that makes you notice your phone is off the hook. A perfect reproduction.

## Disk ESD 87

**Touch Tones:** A bit of "pushing" noise, followed by a short touch tone, followed by a bit more noise. There are five different tones, multisampled across the keyboard. I'd prefer to have the tones looped, without the bonus noise, but that's something that a little button pushing (on the EPS, not on the phone) will take care of.

**Elevator:** A great cacophony of industrial noise that really sounds good — until the sample ends. This is one that needs to be about seven seconds long. The patch-select pitch shifts work very well.

## Disk ESD 88

**Donkey:** A beautifully clear sample of a haw-hee (the correct direction). Good patch selects, including a reversed wave for hee-haw.

**Horse Snort:** Another good one, though not as crisp as the donkey. The bottom ranges sound like a cross between a Harley and a machine gun.

**Horse Whinney:** Another crystal-clear, ambient effect. Lowered and reversed (with the patch selects) you get nice alien effects.

**Elephant:** A new kind of "trumpet" for you... Nice and clean, perfect for tossing in the middle of a love ballad.

## Disk ESD 89

**Bee:** This one makes you want to start slapping, as it buzzes from one ear to the other. Upper ranges give a swarm of gnats, lower gives an ultralight with a rather unreliable engine. One patch select filters out the low end, leaving a mosquito, perhaps.

**Lion Roars:** Pretty good, but I still like the one on TV better. Pitch shifting gives some interesting variations.

**Cluck:** A chicken, considering crossing the road. A reversed version of the clucking makes this into fowl laughter...

**Cow Moo:** Pretty nice moo-ing, but it seems to cut just a bit short. Works well with the clucking chickens — perfect for those really country songs.

## Disk ESD 90

**Register:** An old cash register dinging. One patch select gives just the "ding" without the rest of the noises, for a nice anvil-type sound.

**Buzzer:** A loud, obnoxious buzzer, like you would find on a game show, or as a doorbell in some apartments.

**Cannon:** This one must be a Howitzer in the Grand Canyon, with the upper register sounding like a pistol. It's big, it's real, it even comes with a distant echo. And if it's not big enough, one patch select doubles it up, for even more dynamic punch. Yeah!

## Volume 10, Disk ESD 91

**Stream:** Very nice sound of a mountain stream. With patch selects, you can create great underwater effects and a light rain sound.

**Lead Bird:** A rather noisy goose sample, with some interesting variations.

**Quack:** A good clean duck quack.

**Squak:** Not even my dictionary knows what a squak is, but my ears say that it's something small and feathery. Interesting sound, though.

**Birdsong:** An excellent clean sample of a bird whistling. The upper-middle ranges make perfect short chirps. Patch selects vary the stereo position.

**Chirp:** Another bird whistling, and just as well done.

**Wooly Baaah:** A sheep bleating. This one is pretty good, except there is another animal (or something) adding a sound in the middle of the sample. Seems like a cleaner "baaah" could have been found.

## Disk ESD 92

**Cough 1, 2, and 3:** A man coughing. Very good on all counts, except the last one seems to end just a teeny-weeny bit too soon.

**Long Burp:** Disgustingly realistic. Pitch shifting down gives a bigger, longer belch from a very rotund man. Excellent!

**Lil Burp:** A nice quickie. Once again, an excellent sample.

**Sneeze:** Wow — listen to this one through headphones, and you'll swear it's really you sneezing. Superb!

**Pig Snort:** Excellent, once again. A deep, slimy snort from a pig. I don't wanna sound like a weirdo, but this is a great disk. And the demo sequence is a riot.

## Disk ESD 93

**Top Fuel Car:** Yeah! A raucous burn-out, then a quick stop, and idling. The sample loops on the idle, but it's not quite perfect; the rest of the sample is. The mod wheel throws in a vibrato, which translates to excellent wheel-hopping, if you know your drag racing. Nice stereo motion, and an all-around great sound.

**M-14 Rifle:** Another nice gunshot. Sure is a lot of firepower on these disks! And a good starting gun/drag race demo sequence.

## Disk ESD 94

**160 MPH:** See ya! You can get everything from fast sports cars, to a Harley zipping past you on the freeway. Excellent stereo and clean sampling.

**Fast Stop:** This is the sound of a race car coming to a stop, but it's not particularly recognizable.

## Disk ESD 95

**Rock Crowd:** A great sample, particularly useful when you're performing before a dead crowd and silence follows the end of each song. With just one key, you can hear the repetitions of the loop after a while, but holding down two or more keys masks this and gives an excellent big crowd. Very interesting patch selects, too.

## Disk ESD 96

**Tee Off:** That infamous golf sound. But it doesn't seem as big and

exciting as the ones on TV. (Not to say that any golf on TV is the least bit exciting.) This could work well as a flyswatter — handled rather forcefully.

**Strike:** A bowling strike, that seems a little short on high end. Again, not as exciting as the ones on TV. (Not to say that any bowling on TV is the least bit exciting.)

**Ping Pong:** An excellent stereo sample of a ping pong ball being hit back and forth. There's a little noise at the loop point, but not too objectionable. In the bottom octave, the sounds are more like racquetball, though the action is mighty slow!

**Home Run:** Well, this one's a bit underwhelming. It sounds like a bat hitting a fence post or something. It didn't score with me.

**Response:** A small crowd, doing pretty corny sounding "Yeah," gasp, and "Oooh" sounds (the last one sounds like "Awww" to me).

### Disk ESD 97

**Wipers:** The sound of electric windshield wipers, recorded very closely. There's some noise in there as well, which may be rain, but it sure is regular (due to the loop). An interesting "machinery" sound in the high register.

**Whip:** Very nice whip crack, and very clean. It makes a good slapstick on the top octave.

**Chip Crunch:** Betcha can't play just one! This is an incredible sample, that sounds like it was miked inside this guy's mouth as he crunches and chews on his Doritos. With headphones, it sounds like you're eating!

**Cork Pop:** Yep, it's a champagne bottle, plain and simple. Playing out of range gives some nice percussion sounds.

**Ticking:** Very clean sample of a small clock ticking away, or a bigger clock if you drop it a few notes, or a time bomb.

### Disk ESD 98

**U.S. Jet:** Man, this is a fast jet! It would seem more realistic if it weren't so fast; as it is, it sounds like it's crossing about 2 feet overhead. And the sample ends a bit too soon. Neat sound, though.

**Dog:** A vicious growl on the bottom half, a friendly bark of a big fluffy dog on top. With pitch shifting, you get everything from a toy poodle yapping to a large slimy alien drooling.

### Disk ESD 99

**News Room:** Teletypes, printers, and what-not, going full-speed ahead. There's a lot more going on here than the tappy-tap-tap that you hear behind Dan Rather. In the lower range, you get an alien zoo, with large pig-like creatures; upstairs, a beeping satellite sending telemetry.

**Turn Page:** A newspaper page being turned. Nice holophonic effect.

### Disk ESD 100

**Gavel:** Judge Wopner, deciding for the defendant. Pretty nice; it sounds like a small underwater explosion in the lower range or a dreamy slow-motion gunshot.

**Snippers:** Two haircut snips — a quick one on the bottom half of the keyboard, a slower one, followed by the scissors opening

again, on the top half. Excellent.

**Surf:** Yeah, dudes! This is great, with every nuance of the crashing waves and bubbling foam captured clearly. Makes you want to say "dude" a lot. One patch select filters out the highs, simulating the surf heard from inside your rad beach condo.

### Conclusions

A couple of these samples cut off just a tad too soon, some have a bit of extra noise, and a very few I just don't like. But these criticisms are picky — the vast majority of these sounds are very good, and some are absolutely top notch. The holophonic sound is definitely realistic. If you have an EPS and you do any kind of post-production work, you need these disks. If you just play in bands, these can be lots of fun, and can really break the ice at gigs. And if you're a goof-off like me, they're a must. At \$7 a disk, you can't go wrong. ■

## 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!)

**Now You  
Can Affordably  
Present Your  
Music With  
Confidence !**

**Demo  
Package  
Includes:**

**25  
Jackets  
and Labels  
with Your Name,  
Address, Phone,  
Song Titles and  
Your Copyright  
Information in  
Black Type.**

**PLUS...**

**Your Photo or  
Graphic also  
in Black on  
the Cover !**

**only  
\$59<sup>95</sup>**

**For A Limited Time**

**CASSETTE PACKAGING  
22 N. Main St, Ste 323  
New City, N.Y. 10956  
PHONE: 914 638 6310  
FAX: 914 639 1542**

# Orchestral Percussion Secrets on the SQ-1

## Part II - Tuned Percussion

Mark Clifton

Hey there, I'm back with some more percussion tips. Last time (Issue #79) we did a little with untuned percussion. This time around, I'll be covering tuned percussion.

The first thing covered in Part I was how to make a decent symphonic bass drum. So here's a spinoff of that program — the timpani. (A quick review of bass drum: It's basically a Timbale waveform detuned two octaves layered with a Noise Loop wave detuned four octaves with the pitch tracking turned off. Then both are fed through a 3Lo/1Lo-pass filter with a cutoff around 50.) For a timpani, the only difference is that the Keyboard Pitch Tracking on the Timbale wave should be set on, while the pitch on the Noise Loop wave should be kept off. Then program the AMP envelope on both oscillators to decay for a little bit more than a second. Then tweak the rest as you see fit. Remember to give yourself lots of control over the volume and the filters through velocity.

Also, set MOD=VELOC +30 under pitch. This simulates a slight bending of the pitch as the surface is struck harder than is natural on all percussion instruments. +30 is good for untuned percussion, cymbals, and the timpani, while +20 is better for mallet sounds since they tend to be more sensitive to changes in pitch.

Now let's get into mallets. For a glockenspiel, which is also referred to as bells, we'll use the synth bell waveform. This patch only uses one oscillator, so it's ideal for splitting and layering. As a matter of fact, none of these percussion patches use more than two oscillators, so they can be zoned and layered with other percussion instruments and stored as a single patch.

First, raise the pitch two octaves and tune it a little sharp. Remember that very few percussion instruments are exactly on pitch. Even the timpani, which is player tuned, is impossible to get perfectly tuned to within a hundredth of a semitone the way a digital synth can. Then put it through a 2Lo/2Hi-pass filter with a cutoff of 127 and set ENVELOPE2=+99 and program ENV 2 to give the sound of a sharp attack. Finally, set the AMP envelope to give a hard initial attack that decays after a second and is followed by a quiet ringing that slowly fades after an additional second or two. (This is easier than it sounds if you've some programming experience.)

Another popular orchestral percussion instrument is the chimes, or tubular bells. For this we'll use two Tubular Loop waves, one in regular pitch, and the other tuned up one octave and heavily sharp. The latter should have the volume turned down to 60 so that it forms a barely perceptible overtone. The other oscillator should be turned up all the way. The first oscillator (the one at regular pitch) should be fed through a

2Lo/2Lo-pass filter with a cutoff of 127, and the second should be fed through a 3Lo/1Lo-pass filter with a cutoff of 127 as well. Both oscillators should be programmed to decay after about two seconds, but oscillator #1 should take just a little bit longer than #2. This patch tends to be buried in thick arrangements, so I find it helpful to turn volume BOOST on in oscillator #1.

There are a lot of other good possibilities that I didn't cover here, mainly because I chose to deal with some less obvious choices. Still, I encourage you to unlock more secrets and share them with the world — that's what the *Hacker* is here for. Next time I'll tell you how I get the most out these sounds. Have fun and Hack on! ■

*Bio: Mark Clifton is 16 years old and a composer of synthesized and orchestral works. He is the owner of a lone SQ-1 with dreams for more Ensoniq pets, so he writes articles for this magazine while his parents beg him to get a job.*

### Something is going down at L.B. Music

Get the same quality and services now at a  
*new lower price!!!*

- Now with full documentation
- MasterCard and Visa accepted
- Toll-free order line (orders only please)

1-800-3LB-MUSIC

1-800-352-6874



### L. B. Music Sequences

51 Charter Oak Drive

Newton Square, PA 19018-0261



VFX-sd • SD-1/SD-1 (w/32 voices) • EPS/EPS-16+

Korg T-1-2-3 • Korg 01/W • Yamaha SY77

Alesis Data Disk • Proteus

Dedicated Sequencers

# Waveform Mutilation 101

## Part 3: Frying Pans

Jack Stephen Tolin

Ever since the beginning of sound synthesis, people have wanted to make their sounds as distinctive as possible. This ideal usually involves much creativity and, as a result, time. Often the problem here is that many musicians lack that very thing. My purpose here is to provide another tool to the sound designer's arsenal — and, hopefully, save some time.

The technique I'm concentrating on this month has to do with differential wave activity in the stereo spectrum. Again, I have provided an extreme example to tickle your ears as well as to offer a template for more *practical* sounds. Eventually, one could put together a real moving analog (or any other) type sound with some real interesting chorusing possibilities.

And now, to begin.

First, enter the "Space Battle" program shown here. Although I used Sax Variation-1, use whatever looped wave or waveform you prefer since the kind of space battle we're emulating is actually a battle in the stereo/pan spectrum/space. When

editing WAVE bank data, however, select All voices; in this example, both waves used must be identical to show the potential differences one can achieve using the same wave.

In each channel, there are three important dynamics occurring. Both PITCHes are modulated by both NOISE2 with a value of +99 and ENV1 with a value of + or -49. This means that, with NOISE2, not only does the pitch rise and fall randomly, but the program acts differently every key-down (even though they're equally modulated). Because of the differences in polarity of ENV1 MODAMT, each channel is modulated the inverse of the other. To hear this effect, simply switch to All voices in the WAVE bank and switch MODAMT in the pitch bank to +00. With ENV1 in Repeat mode, this acts as a kind of second LFO. The third dynamic involves the FILTER. Being modulated by an LFO, the frequency drops every now and then to the point where you can't hear the wave at all. Being modulated by NOISE2, LFO activity is also random. To hear just one channel at a time, roll the mod wheel back for left channel listening and the CV pedal for right.

### SQ-1 & 2 Prog: Space Battle

By: Jack Stephen Tolin

WAVE	1	2	3
Select Voice	On	On	
Wave Class	Brasswave	Brasswave	
Wave	SaxVar-1	SaxVar-1	
Delay Time	0	0	
Wave Direction	Forward	Forward	
Start Index	0	0	
MODSCR	Off	Off	
MODAMT	-	-	
Restrk Decay	0	0	

PITCH	1	2	3
Octave	+0	+0	
Semitone	+00	+00	
Fine	+00	+00	
ENV1	+49	-49	
LFO	+00	+00	
MODSCR	Noise2	Noise2	
MODAMT	+99	+99	
KBD Ptch Track	On	On	
Glide	Off	Off	
Glide Time	-	-	

ENV1	1	2	3
Initial	00	00	
Peak	24	24	
Break	49	49	
Sustain	99	99	
Attack	00	00	
Decay 1	20	20	
Decay 2	40	40	
Release	60	60	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	-	-	
Mode	Repeat	Repeat	
KBD Track	+00	+00	

LFO	1	2	3
LFO Speed	18	18	
Noise Rate	53	53	
Level	50	50	
Delay	66	66	
MODSRC	Noise2	Noise2	
Wave	Sine	Sine	
Restart	On	On	

FILTER	1	2	3
Filter 1	2Lo	2Lo	
Filter 2	2Lo	2Lo	
FC1 Cutoff	127	127	
ENV 2	+00	+00	
FC1 KBD	+00	+00	
MODSCR	LFO	LFO	
MODAMT	-99	-99	
FC2 Cutoff	127	127	
ENV2	+00	+00	
FC2 KBD	+00	+00	
FC1MOD-FC2	Off	Off	

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

AMP	1	2	3
Initial	50	50	
Peak	99	99	
Break	99	99	
Sustain	99	99	
Attack	25	25	
Decay 1	30	30	
Decay 2	00	00	
Release	00	00	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	-	-	
Mode	Normal	Normal	
KBD Track	+00	+00	

OUTPUT	1	2	3
VOL	85	85	
Boost	Off	Off	
MODSRC	Pedal	Wheel	
MODAMT	-85	-85	
KBD Scale	+00	+00	
Key Range	A0 C8	A0 C8	
Output Bus	FX1	FX1	
Priority	Med	Med	
Pan	-98	+98	
Vel window	000	000	

CHORUS AND REVERB	
FX-1	40
FX-2	99
Decay time	25
HF Damping	99
Chorus Rate	50
Chorus Depth	50
Chorus Center	50
Feedback	+00
Chorus Level	00
MOD (Dest)	Level
BY (MODSRC)	Keybrd
MODAMT	-99

After listening to "Space Battle" at full force, you'll notice many interesting things happening every so often to enhance the stereo effect — channels seem to meet when both arrive near similar pitches, as well as when both drop to 0 frequency. Each channel acts (seemingly) of its own free will even though the alter ego may be doing the opposite (e.g., one going up in pitch, the other going down), sometimes both do the same thing (e.g., both rise in pitch, near the same pitch), etc. As a result of all of this, one may easily modify such a patch to obtain a more practical sound. For example, modify the following ("Analog Square"):

```

Edit All- WAVE: Waveform - Square
          PITCH: Glide=Mini-Mode, Time=05
1&2- PITCH: Env1= +/- 05, Modamt=+5
          FILTER: Modamt=-10
1- ENV1: 0 50 0 50 0 15 30 15
2- ENV1: 0 50 0 50 0 20 30 20
3- AMP: Default setting - Full on
   OUTPUT: Vol=90, Pan=+00
   PITCH: Env1=+00, Modscr=Off
   FILTER: Modamt=-10
  
```

You may also want to narrow the Pan settings for Voices 1 and 2 so that the sound doesn't take over your entire mix.

And presto — a lively, moving analog-type sound. But this is

really just the beginning. The possibilities of how you could modify this for your own work of soundart are enormous. Go wild and send your best to the Hackerpatch. ■



*Bio: Jack is currently a psychology major at Eastern Nazarene College in Quincy, MA and thoroughly enjoys mutilating his waveforms. It is said that, many a time, you can hear very loud and strange noises coming out of his dorm room.*

### SUBSCRIPTION INFORMATION 12 MONTHLY ISSUES

US: \$23/year. All others: \$30/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

## FOUR SIMULTANEOUS EFFECTS!

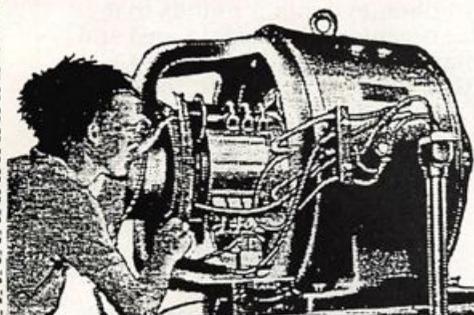
*The quickest way to make your  
EPS 16 plus  
an entirely new device.  
Effects, effects, effects!*

The WAVEBOY Parallel Effects Disk contains astounding new effects combinations. These algorithms load right in — just like a sound. But they go way beyond the 13 effects that come with the EPS 16 plus. You get four different effects **at once**. Imagine flanging the bass, adding a warm chorus to the flute, putting the guitar through a preamp, a speaker simulator *and* a digital delay, and still having a dense reverb to use for drums! Or think what you could do with four different reverbs at once. Or four stereo bounce delays... you get the idea. This one disk will improve all your sounds, your sequences, and your life. Lots of parameters and innovative features like lfo modulation of delay times and separate pan control of wet and dry. You can't *live* without it.

The Parallel Effects Disk 1.0 is just \$39.95 including shipping. Foreign Orders add \$6. PA Residents Add 6% sales tax.

**WAVEBOY  
INDUSTRIES**

Mastercard or Visa accepted.  
To order call (215) 251-9562  
Or send cashier check or money order to:  
P.O. Box 233 Paoli PA 19301



**THE MACHINE  
THAT AMAZED  
THE EXPERTS!**

# Five reasons to call OMI right now.

"The Denny Jaeger Master Violins sound better than the real thing!"

- *Bon Jovi*

"We've never heard anything like the Jaeger Library.  
Sampled strings just aren't going to get any better than this."

- *Keyboard Review, Nov '91*

"The Denny Jaeger Violins are the most emotional samples  
I've ever played. Bar none."

- *Jack Nitzsche, Academy Award-winning composer*

"The Master Studio Collection contains thousands of well-recorded,  
useful sound effects and musical instruments that provide a  
wonderful varied resource for the sound editor/designer."

- *Bill Koepnick, Emmy Award-winning sound editor*

"I believe in the Sonic Images sounds. They're clean and powerful.  
I use them every day."

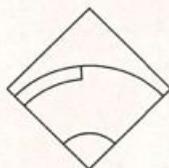
- *Herbie Hancock*

**1. The Denny Jaeger Master Violin Library.** A powerful new approach to sampling lets you control tuning, size of string sections, attack articulations, vibrato and even the lengths of individual bow strokes. Our CD demo will change the way you think about sampled strings forever. We guarantee it.



**2. The Master Studio Library.** Two unique volumes feature rare and ethnic acoustic instruments from around the world, including Taiko drums, Celtic harp, bowed psaltery, Persian santur and hundreds more.

**3. The Sonic Images Library.** Two volumes, over 200 Mb each, contain uniquely artistic brass, brass choirs, orchestras, pianos, drums, percussion and special effects. Created by Christopher Franke, formerly of Tangerine Dream, these samples have the touch of a true master composer.



**OPTICAL MEDIA**  
INTERNATIONAL

180 Knowles Drive  
Los Gatos, CA 95030

1-800-347-2664

**4. Ready-to-Play Libraries.** All libraries contain sounds that are organized, banked, looped and mapped for the EIII, Sample Cell Akai, EPS and 16+. And soon Kurzweil K2000. The Sonic Images library is also available for the Emax II and Roland S-770.



**5. Full CD ROM Support.** OMI libraries offer the advantage of CD ROM, the format that provides the most reliable reproduction as well as the swiftest access and greatest compactness. We can even sell you the CD ROM hardware that maximizes access efficiency and reliability. All libraries also available on MO's and RM 45's. Ask us.

# Optimizing EPS Data to 16+ Format

Erech Swanston

For all the focus on the "Plus" in Ensoniq's new EPS-16 PLUS keyboard, one thing must be remembered, it's still an EPS. I love the 16-bit fidelity, the on-board 24-bit effects, and the increased RAM and sequencing memory. But what really makes the 16+ a winner in my book is that they kept the same basic voice architecture, albeit with some major enhancements. Hence, sounds from the original EPS are compatible in the new machine. This means that the 16+ is already supported by the largest sample library available.

This article is for the many of you who, like myself, have upgraded (or intend to upgrade) from an EPS to a 16+ and already have a large library of sounds, and for you new 16+ owners who are wondering how samples from the old machine will behave in the new. The focus will be on how to take advantage of the additional features in the 16+ and apply them to existing EPS sounds.

## The Good News

The good news is *really* good, all the factory sounds developed by Ensoniq will instantly sound fantastic in your 16+. The reason? All those sounds are, in fact, true 16-bit. Ensoniq had the foresight to design a system that created and stored 16-bit sounds for the EPS, even though it only played them back in 13-bit. Loading factory samples into your 16+ will give you 3 bits of fidelity never before heard on the EPS. Feel free to use them without hesitation.

## Voice Parameters

The envelope parameters hardwired to pitch, filter, and amplitude are all basically the same and should need no adjustments, save one: velocity curves. These determine how individual key velocity will respond to envelope parameters. While the old EPS only let you choose between on or off, the 16+ provides you with four choices: OFF, VEL, VEL 1, and VEL 2. These curves interact with hard/soft envelopes to give you greater and more responsive control. It also lets you personalize sounds to your individual playing tastes.

Except for minor reorganization, there were no changes made on the edit/pitch page. The edit/filter page also remained basically the same, with one exception. The ceiling of the filter cutoff has been raised from 127 to 150. Even though the 16+ will still default this parameter to 127, if you want to "brighten" a given sound, you now have enough headroom to do so.

Some of the most exciting improvements on the 16+ can be found on the edit/amp page. Let's start with dynamic panning and pan modulation. The old EPS allowed us to pan a sample to any one of eight places in its stereo field, any one of the eight

solo outputs, with the OEX-8, or randomly. However, the panning was static, not dynamic. To illustrate, on the EPS, if you set a wavesample for random panning and held a note, it would throw that note into a random space in the stereo field. There it would stay for as long as you held the note down. On the 16+ if you set a wavesample for random panning and hold a note down, you will hear it reassigning the note to random spaces in the stereo field for as long as you hold the note down. Creative programmers using the full capabilities of the EPS found ways around static panning. Dynamic panning enhances sounds with the beauty of subtlety and control. With zero as dead center, the 16+ will let you hard or soft pan any layer or wavesample to any percentage of -99-0 (left) or 0-+99 (right). Adding to this is pan modulation, the ability to control the location of any layer or wavesample in the stereo field in real time. The 16+ lets you use any of fifteen possible modulation sources to do this, making pan modulation an ideal topic for future articles.

Boost is another tasty feature found on the edit/amp page. Boost is the ability to increase the output of any wavesample an extra 12db. This is great when you want particular sound to really cut through the mix. It works best when used with sounds that are to be played monophonically, like bass or percussion tracks. It can also help you to keep your keyboard from stealing voices (more on that later). But be warned: boost is not a panacea. Over boosting a signal may cause it to clip or highlight flaws in the sound. I suggest using this parameter only when you adjust the relative wavesample volume afterward.

Also on the edit/amp page is wavesample bus destination. This will be talked about later when we discuss effects.

On the edit/LFO page one addition has been made. Now, along with being able to modulate the LFO with any of the fifteen available controllers, you can also modulate the LFO rate. This could be very useful when trying to articulate acoustic instruments realistically.

Moving on to the edit/wave page, we see some interesting changes. Loopstart, loopend, loopstart-x, and transwave are all brand new wave modulators. Unless you are interested in doing some deep-end programming, it's best to leave these as they are. Yet another area to be explored in Hackers to come.

The edit/layer is the last page related to voice parameters. There are two new layer glide modes, namely trigger and mini-mode. Both are great for imitating old analog slide and glide features. Also new are layer delays, programmable in milliseconds, and modulateable through key velocity. These are not the sort of things that will need to be readjusted on every sound, but if you do your own programming, they open many new creative options.

## Programming Effects

Even if you detest programming you should READ THIS SECTION. The 16+ has one of the most powerful and flexible effects processors available, so take a little time to find out what it can do. Effects programming may be the single most important factor in spicing up EPS samples. Just because your 16+ is kind enough to add a complimentary hall reverb to any EPS sound you load in doesn't mean you can't program and re-save your own effects.

Whenever you load an EPS sound in, I recommend taking some time to play with your effects unit. Scroll through the 13 ROM effects, and try all four variations of each effect. Learn how to mix the effect into the destination bus, how to control the reverb decay time; find out how the different possible modulation sources will affect the sound. Once you achieve the effect you want, press command/wave, and copy the effect to the sound. If you create an effect that you really like, save it to a disk so you can copy it onto other sounds.

In an effort to keep the unit cost effective, Ensoniq opted to use a single effects processor, controlled by a DSP (Dynamic Sound Processor) chip. They then designed a triple effects bussing scheme to maximize its effectiveness. Finally, they created single, dual, and multi effects, permanently stored in ROM, to utilize the effects routing. It may take some forethought to get the most out of a system this creative. Dual and multi-effects routing is clear. For example, with ROM EFFECT 10 (Chorus + reverb + digital delay) Chorus is sent to buss 1, Reverb is sent to buss 2, and Delay is sent to buss 3. But even with single effects you still have three different destination busses. You can control the effects destination on the individual wavesample or layer level, (found on the edit/amp page under destination bus) or on the instrument level, (found on the edit/track page). Herein lies the true power of your 16+. You can create drum kits with dry bass drums and super wet snare drums. You can set it up so that each patch select button activates a different effects destination bus. You can create banks where a guitar is distorted in one track, chorused in another, and processed with only reverb a third. The possibilities are DEEP, and you do yourself and your music a disservice if you don't explore them.

## Saving Voices

One of the most frustrating limitations of the EPS was the 20 voice restriction. Fortunately, voice stealing will never be a problem on your 16+ if you apply some of the things discussed earlier.

Each layer requires a single voice, and most EPS sounds are multi-layered and detuned for fullness. On the 16+, fat sounds can be achieved without compromising voices. Instead of using two detuned layers, use the four-voice chorus effect. If a sound isn't strong enough, boost the signal. Avoid multiple layers by fattening the sound in other ways, and your 16+ will never be a voice thief.

## Song, Sequence, and Bank Data

The 16+ sequencer boasts 96 ppq resolution, twice that of its predecessor. Anytime you load an EPS song or sequence into your 16+, you will see a brief message that says "TRANSLATING DATA." This is your 16+ invisibly converting the 48 ppq resolution of your EPS sequences into 96 ppq. Once done, re-save it and you will never need to translate that particular song or sequence again.

Resave your banks in the same fashion. On the 16+, banks are tied invisibly to the "smart disk label" function. Once these have been converted and re-saved, you will have no trouble retrieving bank info.

## A Note to Hard Drive Users

As you know by now, anytime your 16+ converts an EPS sound, it will increase the block size by 3 blocks, compliments of the effect. If you attempt to resave these slightly larger sounds to your hard drive, it is likely that they will not resave in a contiguous manner. This will create fragmentation of your hard drive in MONUMENTAL PROPORTIONS. The only way to avoid this (brace yourselves) is to save all of your sounds onto floppies, make all of your changes there, and then reformat your hard drive. Copy your 16+ OS to your hard drive, and then start rebuilding your directory structure and resaving your sounds. It's a drag, I know, and a real timesink. But it beats losing all of your data permanently. And DON'T erase the floppies you've re-saved your sounds onto (you DO keep a back-up archive, don't you?!).

Finally, I'd like to echo the thought from Robert Feiner's article on hard drive use — avoid saving banks, songs, or sequences on your hard drive. These files are the most likely to change in size and cause fragmentation. You can only have 38 files within a single directory in your hard drive. A 16+ disk can hold 60 of any type of file, and over 150 files altogether, provided they are divided into sub-directories (an important point omitted in the manual). My suggestion is to save your banks and songs onto a floppy disk and reserve your hard drive for sounds only. Treat it as though it were a LIBRARY. Your 16+ will read the bank and song info from the floppies, and then instantly load sounds into their right locations from the hard disk. Make a back-up or two of your master songs/banks disk and every time you add or make a change to a song, resave it onto the back-ups. NEVER leave all of your eggs in one fragile digital basket. ■

*Bio: Erech Swanston is the creative director of Maestro Sounds, a professional sound developer, and a songwriter/producer in the NYC area.*

# Problems with Those Data Cartridges (and How to Fix Them)

Charles R. Fischer

I recently received a call from a musician friend — it seems that his beloved ESQ-1 had gone on the blink, and could I maybe please come by and fix it?? Being a nice guy, I agreed to do so that evening and see what I could do. But first, maybe he could give me a clue to what the problem was?

Fortunately, the ESQ-1 hadn't caught fire or had some random beverage poured into its guts. Instead, my friend's crisis was that his axe would not recognize the data cartridge when it was inserted. To me, that's hardly earthshaking, but then again, I've already seen this problem on the ESQ-1 and SQ-80 maybe three or four times over the last couple of years.

Since I don't operate an authorized Ensoniq repair center, the fact that I've seen this situation several times would indicate that it's probably a fairly commonplace occurrence.

Fortunately, it's a real easy thing to fix. If you're handy with basic hand tools, you can deal with this event yourself. After all, both the ESQ and SQ are long out of warranty, and by following a few simple instructions, you can save yourself some time and money...

## The Problem

Let's put it this way — 98% of the time your synth refuses to recognize the presence of a data cartridge, the problem is caused by dirt or oxidation on either the cartridge or the cartridge slot connectors. I've seen this happen on four different instruments (one was mine), and they were all fixed in the same fashion.

Fixing this problem requires that you clean off the dirt/oxidation/grime/etc — without damaging either of the mating connectors on the synth or its cartridge. All we want to do is remove a very thin layer of grunge, not grind off enough of the original material so that it doesn't fit properly. In other words — we must be very careful with what we are using to clean the contacts. We don't want anything abrasive or corrosive, or anything that will leave metallic (or electrically conductive) residue behind, where they might cause an unwanted short somewhere.

In three of the four repairs that I've performed, I only had to clean the cartridges. Cleaning the synth's connector was only done as a precaution. However, on one occasion, cleaning the cartridges wasn't enough, and it was necessary to give the cartridge slot a good cleaning before things were working properly. I've found that instruments that are used in the vicinity of smokers are especially susceptible to being affected — it seems that the stuff screws up a lot more than people's

lungs! So if you rehearse, play, or gig in a heavy smoking environment, you might want to go ahead and do this procedure as a preventive measure (maybe that bar gig isn't as great as you thought it was).

## The Procedure

First, you'll need:

- Tuner/Control cleaner spray (Radio Shack #64-2315)
- Q-Tips or cleaning swabs
- 99% pure isopropyl alcohol (do not substitute 70% or 90% "rubbing alcohol")
- Any ballpoint pen that includes an eraser

The spray is used to clean and lubricate the cartridge slot on the synth itself. If your axe is working fine now and you're just doing this as a safeguard, then you don't absolutely have to do this right away (just keep it in mind if you get trouble in the future).

The other stuff is used on the cartridges themselves. You can often buy 99% isopropyl at a decent pharmacy — just avoid the 90% and 70% versions, as they're mixed with water. By the way, the stuff is also excellent for cleaning off the crud on your instruments and your audio and electrical cables, too.

I've found that the best cleaning tool for this job is the eraser found on the free pens given away by certain businesses (white erasers seem to be the best). You can use a pencil eraser too — just find an eraser that's fairly new and hasn't been soiled from previous use (I keep a pen around just for this job, hidden in my toolbox so someone else doesn't apply it to the Sunday crossword puzzle).

1. We'll clean the cartridge slot first. Turn the instrument off and clean the contacts using a Q-Tip and isopropyl alcohol. Clean each contact gently. You'll probably be surprised by the amount of grime that ends up on your swab. Give the alcohol a moment to dry.
2. Spray the contacts with a cleaner/lubricant (such as the spray sold by Radio Shack). You'll only need to use a little bit — it will lubricate the contacts, which will make it easier to insert and remove cartridges.
3. Clean the contacts on each of your cartridges by *gently* rubbing them with the eraser. The idea is to remove the thin layer of oxidation that develops on the surface of the contacts, and not to take off any of the metal itself. The contacts should look noticeably brighter and shinier after cleaning.

4. After the contacts have been cleaned, wipe them off with a Q-Tip and alcohol to remove any residue from your eraser and let them dry. Turn on your axe and try it out; you should verify that all of your cartridges are functioning... Alright!

## Conclusion

That wasn't so bad now, was it? You've taken care of the most likely cause of cartridge problems — and it didn't cost more than a few bucks and a few minutes of time. With a little bit of care, you can greatly reduce the chances of ever having a problem between your axe and its cartridges, for as long as you own it.

If readers have any suggestions about Ensoniq hardware (problems, suggested modifications, or whatever), you're invited to drop me a note about it. If something looks like it might benefit our readers, I'll see what I might be able to come up with (no promises). And please, enclose a SASE if you'd like a reply. Write me at: Charles R. Fischer, P.O. Box 5372, Hercules, CA 94547. ■

*Bio: In spite of being known as a San-Francisco Bay-based author, musician, sound developer, MIDI consultant and electronics technician, Charles R. Fischer is unable to find a full-time job. He hopes that this will change soon or that his wife-to-be doesn't mind honeymooning at the local Motel Six.*

## Classifieds

### SAMPLES

**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.

If you are interested in industrial music and want to trade samples, ideas, etc., then write to me, Bob Green, 860 Briar Hill Ln., Traverse City, MI 49684.

**NEW 16-BIT ROCK ORGAN SAMPLES!** Professional quality Multi-Samples of HAMMOND, VOX, FARFISA and more! For EPS-16+ and EPS. 7-Disk set for \$60.00. Minotaur Studios, 52 State St. Canton, NY 13617.

Creative Analog for EPS, Avant Garde/New Music sounds using ARP 2600 and other. See review April '91 TH. 10 disk set: \$89.95. Demo disk: \$10. Also available for Macintosh: \$79.95/set. 1-800-622-2328 (ordering) or 1-505-986-0578 (info).

**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.

**EPS Samples:** Discs of Bolivian and Indian instruments, invented instruments, prosaic sounds, and the Recycle Orchestra. 9 Discs, 77 sounds, 308 patch selects: only \$36. Bill Sethares, 622 N. Henry St., Madison, WI 53703. You haven't heard these before!

**Dennis Cooke Samples.** Professional 16-Bit samples for the EPS-16 PLUS and EPS. Series 1: Analog Classics. Series 2: Legendary Digital. Series 3: Studio Drums. Series 4: Experimental Industrial. Each 5-disk series: \$35 + \$5 shipping. 128 Greendale Cres., Kitchener, Ontario, Canada N2A 2R6.

**Mirage samples:** Plus moving wavesamples all over. 7 sounds in one bank, much more. Listings: \$1.00. Demo tape: \$6.00 (includes listings). Mr. Wave-sample, 162 Maple Place, Keyport, NJ 07735.

908-264-3512. Make checks payable to Jack C. Loesch.

**HOT NEW SAX SAMPLES FOR EPS/16+!!!** Solo soprano, alto, tenor, bari and sax sections in true stereo! Buy individually or as a complete 7 disk set (\$69 + \$4 s/h). Sax demo tape: \$4. Complete library demo tape: \$12. Contact K. Thomas, PO Box 174, Stratford, ON, Canada N5A 6T1 or phone (519) 271-7964.

**Bob Clearmountain Pro Samples Vol. 1 & 2** sampling CDs. Over 500 studio quality drum, percussion & bass samples. New: \$175, will sell for \$100 or trade for Alesis Micro-EQ, Ensoniq SW-5 footswitch, or VFX & ESQ RAM carts. (708) 427-1615.

**SP USERS!** My new disk - "Keyboard" - contains over 100 sounds on it including such classics as Fender Rhodes Bass with Vox Organ (Doors), Red Rubber Ball Organ, Nasty B-3 sounds, bunches of different El. Pianos, some futuristic sounds, nice M1 and SY77 emulations, etc. Also, like all my disks, includes my runtime version of SP operating system. Just boot up with my disk and GO!! Only \$19 plus \$1 postage/handling. Also, my library of "Lush," "X," "DeMiTy," "Addy," "Turbo" - \$15 each plus \$1 postage/handling or all 5 for \$69 INCLUDING POSTAGE!! Bob Spencer, 703 Weatherby Ln., Greensboro, NC 27406.

**SOUND EFFECTS for EPS-16 Plus and EPS,** very high fidelity, ideal for studio and post-production work. All effects are original digital recordings sampled at 16 bit, 44.6 kHz, with mono and stereo patch selects. Disks are \$5.95 each, or \$5.45 each for six or more. Send SASE for free listing to: Synthaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602, or call (818) 769-4395.

### EQUIPMENT

Tascam M-3500 recording console, 24 x 8, excellent condition, studio use only, \$3800. Rocktron 320 dual channel compressor/leveler, \$60. Lots of studio and instrument cables, various lengths, 1/2 price (1/4" to 1/4", 1/4" to RCA, Send/Return, Snakes, etc.) 1-215- 926-1620.

**SQ-80,** CV pedal, sound disks and cartridges, how-to books and Hackers for the last three years. Excellent condition. Stand also available. \$850. (602) 952-9481. Judy.

EPS with 4x Expander & over 200 sound disks for \$1200. Mint condition. Will pay call, (509) 786-2323, after 6 PM PST. Ask for Cesar.

### WANTED

Wanted: SQ-80 users interested in trading patches. Also VFX-sd patches available. (708) 427-1615.

Wanted: Samples for EPS-16 Plus, sound processing software for Atari. Kervin Jeseph, c/o Bendtsen, Hejrevej 35 2th, 2400 KBH NV, Denmark. Phone: (45) 31101165.

Wanted: Mirage Input Sampling Filter. (510) 652-2016.

### SOFTWARE

**Midicaster** is still available. The way-cool operating system that turns your Mirage into a very capable System Exclusive data librarian, a 20,000-note sequence player, a disk copier/formatter, and wave-draw synthesizer is still available for a limited time. For more information, or to order, contact Tim Martin, 1510 S 5th W, Missoula, MT 59801. Phone: 406-542-0280 And thank you for your support.

### PATCHES/SOUNDS

120 High-Quality SD-1 Sounds! Vol. 1 has: classic analog synths, keyboards, guitars, brass, strings, and others. Vol. 2 has: basses, Kurzweil, drums, atmospheric, and more. Send check for \$25 to: Eric Olsen, 6050 Adaway Ct., Grand Rapids, MI 49546.

80 new SQ-1 sounds from Mark Clifton. Past Hackerpatches plus a multitude of solid usable sounds. CV pedal required. Send \$95 for RAM card or send own card and \$15 to: Mark Clifton II, 11972

Homeguard Dr., Woodbridge, VA 22192.

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.

NEW SQ-80 SOUNDS from the Hacker's Sam Mims! Soundset 4 takes full advantage of the SQ-80's unique waveforms, and brings "hidden waveforms" to the SQ-80 for the first time. Forty patches on disk, with 22-page booklet of programming notes and performance tips, \$17.95. Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602, (818) 769-4395.

### INSTRUCTION

MAKE MONEY scoring soundtracks. Turn your

SQ/VFX/SD/EPS music into cash! Send \$12 ppd to JP Fisher Music, 924 South Lake Ct. #209, Westmont, IL 60559.

"The EPS Users Guide" for the original EPS is still available. Price is \$20.00 plus \$2.00 for shipping in USA. Shipping \$6.00 for Canada, \$15.00 Europe and \$18.00 Australia. Send check or MO to Gary Dinsmore, 33306 Bonneville Dr., Scappoose, OR 97056, or call 503-543-2584 for COD costs.

### 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, 201-264-3512 after 6 pm EST.

Folks in the New York City area can get copies of unavailable back issues of the Hacker - call Jordan Scott, 212-995-0989.

### 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.

## ESQ & SQ-80 Hackerpatch

By Sam Mims

### Patch: FLUTBL

by Joe Slater, Lilburn, GA

The name FLUTBL is derived from the "flute-bell" like sound (it's really getting difficult to describe sounds!). I have used it to play chords in the middle of the keyboard, but I also like its melodic qualities.

### The Hack

I smoothed out FLUTBL a bit by changing some parameters on the ENV 4 page; try setting T1=17, T1V=21, and T4=35 (or 19R on an SQ-80). This led to a bit of clicking at times, but turning VC to OFF on the MODES page helped quiet this. I also found it quite interesting to reverse the envelope modulation on the filter, by changing the DEPTH of ENV 3 from +60 to -60.

You can get a nice digital-sounding variation by turning on the AM on the MODES page. And if you're working with an SQ-80, try changing the WAVE of OSC 1 to BELL 2, PLINK, or PLUCK.

ESQ-1/SQ-80 PROG: FLUTBL										BY: Joe Slater	
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH			
OSC 1	0	0	0	SINE	LFO1	+4	*OFF*	-			
OSC 2	+1	0	2	SQR2	LFO1	+5	LFO2	-1			
OSC 3	+1	0	0	SQR2	LFO1	+4	LFO2	+1			
	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH					
DCA 1	63	ON	*OFF*	-	*OFF*	-					
DCA 2	50	ON	ENV3	+35	*OFF*	-					
DCA 3	50	ON	ENV3	+35	*OFF*	-					
	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH				
FILTER	20	2	63	ENV3	+60	LFO1	+18				
	FINAL VOL	PAN	PAN MOD	DEPTH							
DCA 4	63	8	LFO3	+20							
	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD			
LFO 1	20	ON	OFF	TRI	0	1	0	WHEEL			
LFO 2	12	ON	ON	TRI	63	20	0	*OFF*			
LFO 3	20	ON	OFF	TRI	29	20	37	WHEEL			
	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK	
ENV 1	-	-	-	-	-	-	-	-	-	-	
ENV 2	-	-	-	-	-	-	-	-	-	-	
ENV 3	+63	+15	+1	43	0	0	28	47	19	15	
ENV 4	+63	+47	0	29	0	0	48	56	19	15	
	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC			
MODES	OFF	OFF	OFF	2	ON	ON	ON	OFF			
	SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY				
	OFF	-	OFF	-	OFF	-	-				



Bio: Sam Mims is a studio session player and programmer in Los Angeles, and is keyboardist for Richard Elliot. He owns Syntaur Productions, a company that produces music for film and TV and markets sounds for Ensoniq keyboards.

Hackerpatch is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Patches designated "ESQ-1" will also work on the SQ-80. The reverse is not always true. Once something's published here, it's free for all. Please don't submit patches that you know to be minor tweaks on 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—our resident patch analyst. If you send in a patch, please include your phone number. Requests for particular patches are also very welcome.

# SD & VFX Hackerpatch

## SD & VFX Prog: WHEELSTEREO

By: Walter Cooper, Latter Sound Productions

**NOTES:** WHEELSTEREO is reminiscent of the reverberators you would connect to your stereo in the '70s. The left hand is an acoustic bass, while keyboard variations are played – via the patch selects – by the right hand. Just make sure your VFX/SD is hooked up in stereo (or use headphones), and turn the mod wheel all the way forward.

**THE HACK:** I found the aftertouch on the string bass to be kind of weird – it unpredictably detunes the note you play, due to the slow rate of the LFO (which is used

here to modulate pitch). Instead, I set it to a slow vibrato (LFO RATE = 29 for Voice 1) and toned down the depth of the effect by setting MODAMT = +25 on the Voice 1 Pitch Mod page. Secondly, I wanted to fatten up the upper keyboard sounds, which are completely dry, so I changed the DESTINATION BUS to FX1 (OUTPUT page, Voices 2 through 6). Then, change the effect to CHORUS+REVERB.2, and you're in business. If you want a bit more chorusing, bump up the CHORUS DEPTH (on the second Effects page) to 06.

– Sam Mims

WAVES	1	2	3	4	5	6
Wave	DoublBass	ClavVar	OmegaX	SynPluck	DigiPiano	FormantX
Wave Class	BassSnd	Waveform	Transwave	TunedPerc	StrngSnd	Transwave
Delay	0	0	0	0	0	0
Start	0	-	0	0	0	0
Direction	Forward	-	-	Forward	Forward	-
Vel Start Mod	0	-	-	0	0	-
Mod Src	-	-	*Off*	-	-	*Off*
Moad Amt	-	-	0	-	-	0

MOD MIXER	1	2	3	4	5	6
SRC-1						
SRC-2						
SRC-2 Scale						
SRC-2 Shape						

PITCH	1	2	3	4	5	6
Octave	0	0	0	0	0	0
Semitone	0	0	0	0	0	0
Fine	0	+9	+9	+9	0	+9
Pitch Table	System	System	System	System	System	System

PITCH MODS	1	2	3	4	5	6
MODSRC	LFO	*Off*	*Off*	*Off*	*Off*	*Off*
MODAMT	+36	0	0	0	0	0
Glide	None	None	None	None	None	None
ENV1	0	0	0	0	0	0
LFO1	0	0	0	0	0	0

FILTER 1	1	2	3	4	5	6
Mode	3LP	2LP	2LP	2LP	2LP	2LP
Cutoff	28	0	0	0	0	0
KBD	+16	+16	+16	+16	+16	+16
MODSRC	Veloc	Timbr	Timbr	Timbr	Timbr	Timbr
MODAMT	+41	-14	-14	-14	-14	-14
ENV2	+40	+91	+91	+91	+91	+91

FILTER 2	1	2	3	4	5	6
Mode	1LP	2LP	2LP	2LP	2LP	2LP
Cutoff	97	0	0	0	0	0
KBD	+22	+16	+16	+16	+16	+16
MODSRC	Veloc	Timbr	Timbr	Timbr	Timbr	Timbr
MODAMT	+33	-14	-14	-14	-14	-14
ENV2	+9	+91	+91	+91	+91	+91

OUTPUT	1	2	3	4	5	6
VOL	99	87	87	87	87	87
MODSRC	LFO	*Off*	*Off*	*Off*	*Off*	*Off*
MODAMT	0	0	0	0	0	0
KBD Scale	Zone	Zone	Zone	Zone	Zone	Zone
LO/Hi Key	A0/C4	C#4/C8	C#4/C8	C#4/C8	C#4/C8	C#4/C8
Dest Bus	FX2	FX2	FX2	FX2	FX2	FX2
Pan	50	50	50	50	50	50
MODSRC	*Off*	LFO	LFO	LFO	LFO	LFO
MODAMT	0	+99	+99	+99	+99	+99
Pre-Gain	Off	Off	Off	Off	Off	Off
Voice Prior	Medium	Medium	Medium	Medium	Medium	Medium
Vel Thrash	0	0	0	0	0	0

LFO	1	2	3	4	5	6
Rate	3	28	28	28	28	28
MODSRC	*Off*	*Off*	*Off*	*Off*	*Off*	*Off*
MODAMT	+69	0	0	0	0	0
Level	0	0	0	0	0	0
MODSRC	Press	Wheel	Wheel	Wheel	Wheel	Wheel
Delay	0	0	0	0	0	0
Waveshape	Triangle	Triangle	Triangle	Triangle	Triangle	Triangle
Restart	Off	Off	Off	Off	Off	Off
Noise SRC RT	-	-	-	-	-	-

### SELECT VOICE

00	1	2	3	4	5	6
0*	1	2	3	4	5	6
*0	1	2	3	4	5	6
**	1	2	3	4	5	6

### ENV1

	1	2	3	4	5	6
Initial						
Peak						
Break 1						
Break 2						
Sustain						
Attack						
Decay 1						
Decay 2						
Decay 3						
Release						
KBD Track						
Vel Curve						
Mode						
Vel-Level						
Vel-Attack						

### ENV2

	1	2	3	4	5	6
Initial	99	99	99	99	99	99
Peak	40	85	85	85	85	85
Break 1	40	50	50	50	50	50
Break 2	25	0	0	0	0	0
Sustain	0	0	0	0	0	0
Attack	17	2	2	2	2	2
Decay 1	50	50	50	50	50	50
Decay 2	50	53	53	53	53	53
Decay 3	50	0	0	0	0	0
Release	50*	87	87	87	87	87
KBD Track	0	2	2	2	2	2
Vel Curve	Cnvx2	Linear	Linear	Linear	Linear	Linear
Mode	Normal	Normal	Normal	Normal	Normal	Normal
Vel-Level	0	16	16	16	16	16
Vel-Attack	0	0	0	0	0	0

### ENV3

	1	2	3	4	5	6
Initial	99	99	99	99	99	99
Peak	91	0	0	0	0	0
Break 1	69	0	0	0	0	0
Break 2	50	0	0	0	0	0
Sustain	50	0	0	0	0	0
Attack	36	79	79	79	79	79
Decay 1	45	0	0	0	0	0
Decay 2	50	0	0	0	0	0
Decay 3	73	0	0	0	0	0
Release	30*	45	45	45	45	45
KBD Track	0	10	10	10	10	10
Vel Curve	Cnvx2	Linear	Linear	Linear	Linear	Linear
Mode	Normal	Normal	Normal	Normal	Normal	Normal
Vel-Level	18	17	17	17	17	17
Vel-Attack	0	0	0	0	0	0

### PGM CONTROL

Pitch Table	Off
Bend Range	1
Delay	X1
Restrike	36
Glide Time	0

### EFFECTS (1)

Effect	Chorus & Reverb 1
Decay	34
FX1 Mix	9
FX2 Mix	0

### EFFECTS (2)

Rate	10
Depth	25
Delay	100
Rate Mod	0
Depth Mod	+39
Mix	25

### EFFECTS (3)

Waveshape	Sine
Mod SRC	Key Gate
HF Cut	On

### PERFORMANCE

Timbre	0
Release	0
Pressure	Chan

# SQ-1 & 2 Hackerpatch

Jeffrey Rhoads

## Prog: VIBES IIA

By: Bradley Kaufman, Dr. Brad Sounds

**Notes:** This is a pretty decent simulation of a vibraphone. LFO modulates the output to simulate rotating, motorized baffles over the vibraphone tubes. Timbre of the vibes can be adjusted by increasing Filter FC 1 Keyboard Amount to about +20 to +30. Depth of the tremolo effect can be adjusted through the LFO Level, Out-

put Modamt or the mod wheel. Enabling Voice 2 (identical to Voice 1 except for Delay = 016 and Pan = -56) adds body and stereo separation. Voice 3 adds shimmering strings in the ON position.

WAVE	1	2	3
Select Voice	On	Off	Off
Wave Class	TunedPerc	TunedPerc	Stringwave
Wave	Marimba	Marimba	StringsEns
Delay Time	0	016	024
Wave Direction	Forward	Forward	Forward
Start Index	0	0	0
MODSCR	-	-	Vel
MODAMT	-	-	-40
Restrk Decay	50	50	50

PITCH	1	2	3
Octave	-1	-1	-1
Semitone	00	00	00
Fine	00	00	00
ENV1	0	0	0
LFO	0	0	+01
MODSCR	0	0	-
MODAMT	0	0	0
KBD Pch Track	On	On	On
Glide	No	No	No
Glide Time	-	-	-

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

LFO	1	2	3
LFO Speed	29	29	17
Noise Rate	0	0	20
Level	22	22	0
Delay	0	0	32
MODSRC	Wheel	Wheel	Wheel
Wave	Sine/Tri	Sine/Tri	Sine
Restart	On	On	On

FILTER	1	2	3
Filter 1	LP2	LP2	LP2
Filter 2	LP2	LP2	LP2
FC1 Cutoff	054	054	050
ENV 2	+45	+45	36
FC1 KBD	-16	-16	0
MODSCR	Pedal	Pedal	-
MODAMT	+08	+08	0
FC2 Cutoff	067	067	050
ENV2	+56	+56	+18
FC2 KBD	+13	+13	+12
FC1MOD-FC2	-	-	-

ENV2	1	2	3
Initial	76	76	00
Peak	66	66	35
Break	46	46	45
Sustain	36	36	35
Attack	00	00	30
Decay 1	22	22	30
Decay 2	40	40	30
Release	30*	30*	50*
Vel-Level	99	99	26
Vel-Attack	00	00	40
Vel Curve	Concave	Concave	Convex
Mode	Norm	Norm	Fin
KBD Track	+14	+14	+14

AMP	1	2	3
Initial	99	99	79
Peak	91	91	74
Break	73	73	85
Sustain	00	00	95
Attack	22	22	03
Decay 1	49	49	16
Decay 2	82	82	31
Release	43*	43*	61*
Vel-Level	26	26	26
Vel-Attack	0	0	58
Vel Curve	Convex	Convex	Linear
Mode	Norm	Norm	Fin
KBD Track	28	28	+11

OUTPUT	1	2	3
VOL	99	99	99
Boost	On	On	Off
MODSRC	LFO	LFO	-
MODAMT	+17	+17	0
KBD Scale	0	0	0
Key Range	A0 - C8	A0 - C8	-
Output Bus	FX1	FX1	FX2
Priority	Med	Med	Med
Pan	42	-56	50
Vel window	0	0	0

Standard  
Sound  
Programming

## Effects Programming

(To save space, only those effects utilized are listed. A complete blank form was published in Issue #68.)

### HALL REVERB

FX-1	20
FX-2	40
Decay Time	77
Diffusion	40
Detune Rate	24
Detune Depth	16
HF Damping	40
HF Bandwidth	19
LF Decay	-07
MOD (Dest)	Decay
BY (MODSRC)	Wheel
MODAMT	+23

**The Hack:** Dr. Brad offers up a great vibes patch for the SQ. Trouble is, Dr. Brad doesn't have an SQ; he has a VFX. So why these SQ parameters? "Vibes II" is the first in a series of VFX "Dr. Brad Sounds" reconstituted for the SQ courtesy of Dr. Brad, Sam Mims, and (possibly) myself. With a few minor changes, particularly with regard to the VFX's Mod Mixer, "Vibes II" translates nicely into SQ Speak. In fact, this is one of the nicest Vibes I've heard. The patch really doesn't need its third voice — Strings — but, bear in mind that the VFX has patch select buttons... The notes on this patch are quite complete and no "hard" changes are needed. As per instructions, you can go to Filter FC1 Amount to vary the timbre some. Also, for Voices 1 and 2, in the Amp Section, fine-tune Attack to 53 and Decay2 to 74. (Thanks to D.B. & S. M.)

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.*

SQ-1 & 2 Hackerpatches are published with the same constraints and understandings as the ESQ, SQ-80, and VFX patches. The hacking and mutilating part is being handled by Jeffrey Rhoads.

# 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, PAN: TRANSONIQ, 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.

Fellow Hackoids,

I thought I'd drop a line and put in my \$0.02 worth toward the EPS hard drive survey. I've been using a Quantum 105Mb "Powerdrive" from Hard Drives International (advertised in Computer Shopper) for \$399 and have been extremely pleased with the system. HDI provides a 30-day "no questions asked" return policy, as well as a 2-year mechanism warranty. They also shipped a 2' cable with the drive, so all's I had to do was plug in the drive and format and it was running, even booting the OS from the drive.

The only "problem" I've had with the drive was how loud the cooling fan was - a constant drone that grated on my nerves. I was able to reduce the fan noise to a faint whisper by removing the fan and re-installing it with (don't laugh) rubber band pieces stuck to the fan to acoustically insulate the fan from the case.

On a different subject, I wanted to let the Hackers-at-large know that, after much whining and pestering and otherwise obnoxious behavior on my part, I was able to coerce Digidesign into giving me their new driver for the EPS for the Turbosynth program for the Atari ST. The previous driver would not work on OS's higher than 1.5, which meant that any EPS with a hard drive (or even just a SCSI interface installed) would not work with the program. I have uploaded the driver to GENie (MIDI-WORLD library, filename TURBO-EPS.ARC, #2005), but I would be willing to provide the driver to those without access to a modem as long as they sent me a 3.5" floppy in a self-addressed stamped floppy mailer to me at: Kurt Peterschmidt, 4635 E. 49 N., Idaho Falls, ID 83401.

From what I've heard so far, the driver will also work with the EPS 16+ models as well as the "classic" EPS.

Thanks TH for a great mag, and keep up the good work.

Kurt Peterschmidt  
Idaho Falls, Idaho

[CS - Thanks for the hard drive input. You just made it into the contest - good luck!

*And thanks for the kind offer regarding the Turbosynth EPS driver - I checked with Digidesign, and they think it's fine that you're making it available in this way. They also assure me that the driver works with the EPS-16 PLUS as well as the EPS "classic."*

Dear Hacker,

In the March '92 Interface, Russell James asked a question about partitioning a hard drive for use with different applications, and your response was that this is possible with a removable cartridge drive. My question is, will this work with an IBM and an EPS? Can an EPS-compatible SCSI drive also interface with an IBM computer? I was under the impression that the SCSI drive must be Apple-compatible to work with the EPS, or is this a function of the controller card. In that case I would assume that the EPS's SCSI card and the IBM's SCSI card would each do their own work. Obviously, each machine would have to boot separately and you couldn't use them both at the same time. If you or any readers know of any real-life applications with IBM and EPS that work, I'd love to know.

Also, in the February '92 Interface, one reader suggested a BBS for Hackers. I have not yet found a good MIDI BBS that I can access locally, and would be willing to pay to defray the costs of an 800 number and to remunerate the sysop of a national Hacker/MIDI BBS. This would be an excellent way for us to swap public domain MIDI shareware, sounds, samples, sequences, tips, etc. We modeming fools could even get our letters and articles to the Hacker more quickly! I hope someone might take these suggestions seriously and take the plunge - it would be a great way to achieve immediate national fame!

Steve Vincent  
Tacoma, Washington

[TH - If the IBM is set up to use an Apple-compatible SCSI drive (which they can do), there's no reason why you couldn't use the same drive for both the EPS and the IBM. But - all you're really sharing is the mechanism - not the data. When you format two different removable hard drive cartridges to work with the two different

*machines, they aren't acting like two different partitions. As far as the data, the File Allocation Tables (FATs), formats, boot sectors and whatever, they're really two different drives (just sharing the same drive mechanisms).*

*As far as BBSs are concerned, you really should check into GENie and Compuserve. Even as we speak, all this swapping stuff is already going on - including people sending in letters and articles to the Hacker. Also, the major national BBSs have local connect numbers just about everywhere within the US and many places outside it. They're hard to top.]*

*[CS - Not to put too fine a point on it, but I didn't mean that you could partition a removable media disk drive cartridge - only that you could format different cartridges to work with different SCSI peripherals.]*

*[Ensoniq - Another BBS that we have found very informative is the PAN Network (Performing Arts Network), which is dedicated to the musical arts. They can be reached at (215) 584-0300.]*

Dear Transoniq Hacker:

This will be my second year of subscription to TH. Thank you for publishing this useful magazine for the Ensoniq users. In a past issue, someone asked for experiences with the EPS 16 Plus using the SCSI interface and a hard disk. Two hard disk drives which I have been using during the last year with no problems, both inexpensive, are the Mirror 45 from Mirror Technologies and the Etc 40 HD.

One thing that I've noticed when you want to reformat the hard disk is that you need to turn on the EPS 16+ and the hard disk at the same time with the OS diskette in the sampler. If not you may get the following message: "Unconnected SCSI device" - even when it is properly connected. And when you press ENTER after entering the proper directory do not press LOAD+INSTRUMENT to call the instrument file as the manual says. You only need to press INSTRUMENT to call the instrument you have saved.

In the SCSI Interface manual from Ensoniq

they feature a Macintosh in the chain. I found this confusing. The format of the EPS is different than the Mac. So, as I understand it, you must have the hard disk formatted for either one. If your format is EPS you can't see anything in the computer. It would be fine if there were a program to read the directories in the Mac. Then it would be much easier to manage the directories through the folders. Do you know something about this?

Yours faithfully,  
Eduardo Illanes P.  
Santiago, Chile

[CS - Actually, the hard disk should be up and running before powering on the EPS-16 PLUS or the EPS may not realize that a hard drive is connected. If you don't want to boot from the hard drive, just make sure that there is an operating system disk in the EPS floppy drive when powering on the EPS - priority is always given to the floppy drive in cases where an OS may also be contained in a connected hard drive or Flashbank.

You are correct that a hard drive connected in a SCSI chain with an EPS and a Macintosh must be formatted for one or the other.

*I know of no way to get the Mac to directly read the data from an EPS-formatted hard disk. You might find this configuration useful, though, when using the EPS with a Mac and a sample-editing program such as Alchemy or Sound Designer. Since neither the Mac nor the EPS sport more than one SCSI port, you need to be able to chain peripherals (such as a Mac- or EPS-formatted hard disk) into the SCSI buss. Since most hard drives include two SCSI ports, it's easy to add them into the chain between the EPS and Mac.]*

[Ensoniq - The Mac is pictured in the SCSI chain with the EPS and a hard drive to show a system for editing sounds with a package like Alchemy (Passport Designs) or Sound Tools (Digidesign). In this type of setup you would transfer sounds from the hard drive into the EPS via SCSI, then transfer individual waveforms between the EPS to the MAC for editing (also via SCSI). Each device would be set up with a different SCSI ID, and the termination issues are complex enough to need detailing in the manual.]

Dear TH!

I have the following question. I bought the C-Lab Universal Editor/Librarian Software called Polyframe. As far as Ensoniq keyboards are concerned, it doesn't seem to be so universal after all. C-Lab (that's the company's name) told me that they didn't want to release the VFX Adaptation because it wouldn't run well enough for professional standards on account of bugs in the VFX's OS. They were very friendly and offered to give me my money back as I had bought the program on the strength of C-Lab's announcement that there would be a VFX adaptation. Polyframe is a phenomenally useful piece of software and I would rather keep it and wait for Ensoniq to iron out the bugs than give it back. Ensoniq, are you listening? It would be so nice to be able to edit envelopes graphically (also on the EPS, by the way). Help those guys help us, the forgotten enclave of teutoniq hackers on the other side of the ocean. Is there any chance of this actually happening?

Thanks again,  
Robert Shulze Lutum  
Berlin, Germany

[CS - Robert, you may be in luck. As you've probably learned by now, Ensoniq is now the official distributor for all C-Lab



## RUBBER CHICKEN SOFTWARE CO.

*The Leader in 16 bit  
EPS Sampling & Programming*

### SPRING CHICKEN SPECIALS

- Microwave Chicken (15 disks) ~~\$59.95~~ \$49.95
- Plus Pak 1 (5 disks) ~~\$39.95~~ \$34.95
- The Chicken Drive w/cart full of sounds ~~\$699~~ \$599



TOLL-FREE ORDER LINE  
1-800-8-PRO-EPS  
TECHNICAL SUPPORT  
1-206-467-5668

The NEW...  
RUBBER CHICKEN  
SOFTWARE CO.

P.O. Box 428 • Renton,  
WA 98057-0428

©1991 Rubber Chicken Software Co.



PROFESSIONAL QUALITY  
LOW COST  
SEQUENCES

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

products, which puts them in an excellent position to help you with your difficulties. You may want to call their customer service department in the US at (215) 647-3930, and ask for C-Lab technical support – they have a C-Lab specialist on duty to help with just these kinds of problems.]

[Ensoniq – We have been working closely with C-Lab to be sure that they support our products in their PolyFrame environment. We don't know why you received that answer, as it is certainly possible to create a complete editing package for the VFX products (check out Interval Music's VFX editor available through Thinkware). Rest assured that we will continue to work to get all Ensoniq products supported in PolyFrame in the future.]

Dear TH,

Your magazine is one of the most informative magazines on the market for keyboard users and THE most informative for Ensoniq users. I have an SQ-1 and a Mirage that runs MIDICASTER. I use the Mirage mostly as a Sys-Ex librarian. And I expect to expand my Ensoniq set-up in the near future. I am considering the EPS-16 as a first

addition. I am also interested in SOUND-PROCESS for the Mirage, as I would like to expand the use of this fine instrument.

Too, I would like to see more sounds available for the SQ-1. I am not much of a programmer, and I mostly adjust factory or ROM sounds to my liking. Also, I am a little distressed that just shortly after its release, Ensoniq released the SQ-1 Plus. I understand that technology moves along at a steady pace causing once seemingly complicated instruments to look like Tinkertoys. But then they tell me I can get the upgrade for a mere \$499. I won't labor over this too much, but it seems as though Ensoniq could make it a little easier for us SQ-1 owners to upgrade to the nicer 16 bit piano waves.

Again, your magazine is the greatest. Keep up the good work.

Best regards,  
Jonathan Thurmond  
Augusta, GA

[CS – A number of third party vendors (including Eye and I, Sound Source Unlimited, for example) offer sounds for the SQ series of synthesizers, in addition to the sound cards (4 or 5 of them, at last count) offered by Ensoniq, with more on the way. And be sure to check the Patches/ Sounds section in the Hacker classifieds.

And I know it can rankle a bit when a company announces a new version of an instrument that you own. To Ensoniq's credit, though, they have an unequalled record in terms of making upgrades to existing products available to their customers – something most of the other instrument manufacturers don't seem to even have considered.]

[Ensoniq – We currently have 6 cards available for the SQ series instruments – SC-1 through 5 and ISC-1. That equals 960 sounds from Ensoniq alone, in addition to the third-party companies that Clark mentions. With the new versions of the SQ's that we announced in this issue you are again able to upgrade, getting 11 additional voices and 43 more 16-bit waves in the process. Contact our Customer Service department for more information.]

Dear Hackers,

One year after I got out of high school I purchased a Mirage. I thought this machine was great and I was right. All those things the salesman was able to do was just incredible.

Well to make a long story short, I bought the Mirage and started working with the manual that came with it to try to make my Mirage do what the salesman made it do. I couldn't.

I recently purchased an EPS-16+ Turbo and the sounds are incredible to the second power. But why can't the manual be written for novices so people like me can work it before we take 20 years of Synth Programming College courses.

Could someone please let me know of a book that can lead me by the hand so I can someday make my EPS-16+ Turbo sound like an EPS-16+ Turbo. Also is there any kind of descriptive I can get for the sounds on my 16 p/w? Like different drums on different notes ex: C1 Deep Wood Bass – C#1 Rap Bass etc.

Thank you,  
Frank A. Ventessa  
Bridgeport, CT

[CS – Bearing in mind that fully exploiting the capabilities of the EPS-16 PLUS combines elements of audio recording, digital sample processing, synthesizer programming and effects design and programming, it can seem like a formidable machine indeed. However, approaching each of these aspects of the machine separately can whittle the task of understanding the EPS-16 PLUS into manageable chunks.

For example, if you're particularly interested in sampling, check out any of a number of books relating to digital sampling, as well as books and publications the deal with analog or digital recording techniques. After all, taking a good sample has a lot in common with making a good recording.

If you are more interested in tweaking samples and instruments that have already been created, check out books on synthesis techniques – particularly analog synthesis techniques. Because even though the EPS-16 PLUS is a digital instrument, its processing layout is based on an analog synthesis model.

There is also a lot of material on the use and programming of digital and analog effects, much of which will apply to the EPS-16 PLUS. The last few columns of mine that deal with signal processing in the SQ series of instruments, for example, contain explanations of many basic effects, and can be relevant to the study of the EPS.

In other words, there are many sources of relevant information. The hardest part is to

**LEARN JAZZ IMPROVISATION WITH YOUR MIDI SEQUENCER**

# JAZZ

INTRODUCING JAZZ THROUGH MIDI™

This truly original approach to learning Jazz improvisation can be used by players at all levels of ability. This course features authentic Bebop, Blues, Modal, Latin and Fusion riffs all professionally recorded into your sequencer with excellent rhythm section accompaniment. By using your MIDI sequencer you'll be playing jazz in less time, working at your own pace and tempo.

**JAZZ THROUGH MIDI™ INCLUDES:**

- 60 professionally arranged solos with rhythm accompaniment: bass, piano and drums.
- Wide variety of popular jazz standards and styles.
- Lead sheets for chords and solos are provided, as well as tips on substitutions, chord voicings, scales, turnarounds, walking bass lines, and more!
- Beginning, Intermediate and Advanced levels.
- Program works with any MIDI set up and drum machine. Ex: Proteus, M1, U220, K4, etc.
- Type 1 standard MIDI file format for all computer sequencers.
- Ability to edit the sequences into your own arrangement and also create original jazz songs.
- Easy set up. Sequences are arranged in 8, 12, 16, and 32 bar phrases, and are transmitted on 4 MIDI channels.

**AVAILABLE DATA FORMATS:**  
Roland MC500/300/MC-50/W30 Kawai Q-80  
Korg T-Series Alesis MMTR/Data Disk SQ/  
Yamaha QX3/SY77/SY99 Ensoniq VFX-SD,  
EPS, SQ-80 Macintosh, IBM, Atari, Amiga.

**\$49.95**  
VISA AND MASTERCARD ACCEPTED

**NEW SOUND MUSIC**  
P.O. Box 37363 Dept. J1  
Oak Park, MI 48237 Phone: (313) 355-3643

get your thinking organized about what it is you're trying to find out. And don't forget your dealer - after all, he made a few bucks when he sold you the machine, and that ought to be worth a reasonable amount of after-the-sale support. And of course there's the infamous TransonIQ-Net - real people with real phone numbers who would be glad to give you a hand with questions, as long as the call's during more-or-less reasonable hours and isn't collect.

As far as the drum mapping question goes, let's look at an example. Suppose you have a snare drum on keys C3-D3 of the EPS-16 PLUS keyboard and you want to move it to the first "D" of the keyboard (D2), and on only that one note. We can select the snare drum for editing by pressing EDIT, making sure that "WS=" is underlined in the display, and playing the snare drum on the keyboard. The display now shows the snare drum's wavesample number - perhaps it is sample number 2, in which case the display will show "WS=2."

The range and tuning of the sample can be edited from the PITCH menu. Now that the snare has been selected, simply press PITCH. Scrolling two ticks to the left brings you to the wavesample range page - here you can set the range of keys that an individual sample plays across, in much the same way that we set the range for an entire instrument. Simply underline LO and play the lowest key that you want the wave-sample to play on. The HI key parameter is then automatically selected, so you can simply play the highest key that you want the sample to cover - in this case, also a low D.

Now the snare drum is set to play from only the D key on the keyboard. You might find, however, that it's tuned incorrectly. If the EPS-16 PLUS layer that contains the snare sample uses a standard (or custom, for that matter) pitch table, the snare will probably be sounding at a much lower pitch than you'd like. This is because the snare's root key is still set to correspond to a sample placed at C3-D3. You can correct the tuning discrepancy simply by scrolling to the ROOT-KEY page of the EDIT PITCH menu. Underline the root key parameter, and set it to D2 - this is the same key that the snare has been assigned to play on. The snare should now sound at the correct pitch.]

[Ensoniq - You might try the EPS-16 PLUS Sampling Book offered by Alexander Publishing (805-499-6200). It is a step-by-step tutorial that you might appreciate. We also offer a Talking Owner's Manual cassette

and disk package (\$14.95) that may help you. It's available through our dealers or directly from us. Call 800-553-5151 to order.

As for your second question we're not sure if you are asking if the display can show a descriptive name for each waveform, or if our sound documentation could. In the EPS the main EDIT screen will show you a waveform number only, you have to press COMMAND/WAVE/3 to get the Waveform Information screen. This screen will give you a waveform name if the programmer has created one.]

Dear TH,

I am the proud new owner of an EPS-16 PLUS TURBO. This is my first electronic instrument and the EPS seemed to give me everything I needed in one box: good acoustic sounds/effects and a good sequencer/editor, for an amazingly low price. I am interested in electronically assisted music for reasons that are different than most of your readers. I am neither a commercial musician nor home hobbyist. I am trained in classical piano and French horn and direct the choir at my church. Ensoniq positions its products mainly for the pop/commercial music market but they may do well to look at the changes in the musical needs of mainstream churches. My church is a member of the ELCA (formed from the merger of the ALC, LCA, and AELC - we have our acronyms too!), a moderately liberal Lutheran denomination. We are, like most congregations in this country, small, struggling, and very interested in using more of the very good pop/rock religious music being written today. We don't have the musicians needed and so the EPS is perfect for filling in. Well, almost perfect.

I am also new to sequencing and am very disappointed to discover that I cannot do what I consider to be essential for using the EPS sequencer for my application. I need to be able to have the sequencer stop automatically and wait for the control pedal to be pushed to continue the song. Most of what I need to do involves having the EPS play for a while and then stop during unaccompanied choir sections or piano solos, etc. Then by pushing the control pedal while I'm directing or playing, the EPS would come in at the precise beat I need. I was hoping to find some type of event or sequence I could put in a song to stop the sequencer. Instead, I have to insert some blank time and worry about stopping the sequencer with the pedal sometime during the pause. After pushing the pedal to continue

playing, I have to wait for the pause to be completed and don't know exactly how long it will be. Does anybody else have this problem? Is there a way to do this that I am missing? Otherwise, I strongly urge Ensoniq to support this simple feature and make the EPS much more versatile as an accompanying instrument for live performances.

I am running with the latest OS, V1.10, and have encountered three bugs in the bank/song handling.

1. When loading a bank containing a 2 disk sound, the EPS requests loading the disk with the ID of the second disk. This fails with ILLEGAL INSTRUMENT. Putting in the first disk fails with WRONG DISK LABEL.
2. When I saved a new song and new bank on a disk containing a different song and bank, loading the new bank pulled up the wrong song.
3. The LOOP parameter for the song is not changed when loading a song even if the song was saved with LOOP=OFF. The EPS default is LOOP=ON. If I forget to manually change it to OFF each time I power up -

## TURN YOUR MIDI SEQUENCER INTO A HIT SONGWRITING MACHINE WITH...

**BACKGROUND RHYTHM PATTERNS™**  
THE MOST COMPLETE SONGWRITING AID ON THE MARKET TODAY!

Now you can play and compose great sounding music with your midi sequencer using Background Rhythm Patterns. Our large library of over 150 rhythm accompaniments will help turn your songs into exciting and creative pieces of work. With Background Rhythm Patterns you can now have the perfect rhythm track to use to get your ideas flowing to the top of the charts. A wide variety of musical styles are featured:

- Patterns arranged for bass, keyboards, drums and percussion.
- Program works with any MIDI set up and drum machine.
- Chord charts are included.
- Excellent for increasing your repertoire of original songs to show to publishers and producers, and also for learning all styles of music.
- Program also includes a compilation of breaks, intros, endings, and 130 drum patterns.
- Type 1 standard MIDI format for all computer sequencers.

AVAILABLE DATA FORMATS:  
Roland MC500/300/MC-50/W30 Kawai Q-80  
Korg T-Series Alesis MMT8/Data Disk SQ/  
Yamaha QX3/SY77/SY99 Ensoniq VFX-SD,  
EPS, SQ-80 Macintosh, IBM, Atari, Amiga.

**\$42.95**

VISA AND MASTERCARD ACCEPTED

**NEW SOUND MUSIC**

P.O. Box 37363 Dept. J1  
Oak Park, MI 48237 Phone: (313) 355-3643

disaster! Either the loop value should be saved and loaded with the song or I should be able to set the power on default to LOOP=OFF.

Thanks for your help,  
Mike Engh  
Minneapolis, MN

[CS - A number of Ensoniq synthesizers (the VFX-SD and the SQ series, and the SD-1) have a feature that lets you specify a point in a song where the sequence will begin looping on a user-defined step of the song, and will continue looping until the footswitch is activated. At this point the song will finish playing the current loop and then continue on to the next step. This is a great feature for allowing musicians to "stretch out" on a solo in a song for however long they want. And by setting up extremely short looping sections (a single eighth note long at a very fast tempo, for example) one could do exactly what you want to do - have the programmed song "idling" at a pre-specified point in the song until the footswitch is hit.

I'd love to see this kind of feature on the EPS-16 PLUS, particularly if it could be implemented within a single sequence. I use

the EPS-16 PLUS with a removable-media cartridge drive for live performance sequencing, and it has performed wonderfully in that capacity, easily out-classing my previous Macintosh/hard disk-based system. I'm getting along just fine right now, but having the ability to extend a solo section or repeat a chorus of a song on the spur of the moment would be more fun than a Chevy full of armadillos, if you ask me.

As for your bug report, I'm sure Ensoniq will want to say something here, but I'll throw in my own observations.

As to question #1, apparently this is a known problem which is being looked at.

Question #2 - I've tried saving multiple banks with multiple songs and sounds to a single disk and have experienced no problems. Remember that the order in which things are saved is of utmost importance - if the bank is not saved last, the directory information that it contains may not be current. Always save the finished bank last.

And question #3 - this isn't actually a bug, it's just the way the EPS-16 PLUS works. My understanding is that Ensoniq is looking into the possibility of making the song loop

function save-able in one way or another. Stay tuned.]

[Ensoniq - To avoid this problem you should save your Song, then save the Bank as usual. When you want to reload the Bank, first load the multiple disk Instrument into the same location as it was in the Bank, then load the Bank as usual. The EPS-16 PLUS is smart enough to recognize when an Instrument that is needed for a Bank is already in memory, and doesn't erase it only to try to load it again.

Of course if you use a hard drive you'll never encounter this problem, as you can have many more Instrument files available.]

Luc Von Hacker,

I love your publication. I love Ensoniq. There, now I don't have to start out with a gripe. Actually, it's not that I have one. It just seems that I appear to be the only person out of all your subscribers who doesn't have an EPS-16 PLUS.

One fact that I am sure anyone who reads the Hacker is aware of is that the Interface is probably the juiciest part of the entire

## REFINE THE MOST DEMANDED SKILLS OF MUSICAL PERFORMANCE AND RECORDING

with . . . **PLAYING STRING LINES ON KEYBOARDS**  
and . . . **KEYBOARD BASS PLAYING TECHNIQUES**

FROM TALKING OWNER'S MANUALS™

- Complete instructions for intermediate to highly skilled players to improve execution of techniques. Listen to and woodshed with easily learned exercises and techniques included with two stereo cassettes and printed materials.
- After practicing with these audio programs, your rewards will be performing convincing string lines with harmonies, and playing realistic musically rich bass lines with varied sounds, controllers and techniques for different styles.
- Talking Owner's Manuals™ also creates the manuals "You don't need to read" for ENSONIQ for the EPS-16 Plus, the SD-1/SD-1 32 VOICE, the SQ1/SQ2 and VFX<sup>SD</sup>.



**ORDER BOTH CASSETTE/BOOKLET PROGRAMS FOR ONLY \$20.00** plus \$4.00 Shipping/Taxes/Handling. \$24.00 Total. Receive our 30' long stereo Custom Personal Keyboard Cable with 1/4" phono and RCA jacks on opposite ends. **This \$19.50 custom cable is FREE with this introductory offer.** TO ORDER: Make a copy of this ad, clearly print your name, address, daytime phone on the reverse and send your check or money order for prompt shipping to:

U.S. Sales Only

**TALKING OWNER'S MANUALS™**  
21405 Brookhurst Ave., #151  
Huntington Beach, CA 92646

(714) 631-5695 Fax

# Help Your EPS Lose That Excess Wait . . . . And Keep It Off For Good!!



## Great Features!!

- Expandability!
- All necessary cords, cables, terminator & mounting hardware!
- 2 to 5 year warranties
- Double Shock Mounting
- Free Technical Help!
- Free 40 MB sound library!

## Great Prices!!

(We Sell Direct!)

- 44 MB Rmv..\$729
- 88 MB Rmv..\$999
- 45 MB .....\$499
- 90 MB .....\$629
- 135 MB .....\$739
- 185 MB .....\$889
- 425 MB .....\$1889
- 680 MB .....\$1939

Desktop Models Available

Are you tired of sorting through hundreds of loose floppy disks for that particular sound, only to watch your EPS/EPS16+ take thirty or more seconds to load it into memory?

There is a solution to this frustration. With a Frontera rackmount hard drive, your EPS will load sound, sequence, bank and sys-ex files up to *ten times faster!*

All of this power and speed contained within a single disk drive! Finally, you can leave your mountain of floppies behind and get on with the music! If you think your EPS needs to lose some excess wait, find out about the cure that's guaranteed to work: *Frontera Rackmount Hard Drives.*



1318 E. Mission Rd., Ste 202  
 San Marcos, CA 92069  
 (619) 727-3410 voice/fax

# (800) 845-0756

## Treat Yourself!!

# EPS/16 PLUS

Samples from K. Thomas

Electronic Musician says —

"Sound Quality: 5 out of 5"

Value: 5 out of 5"

[EM, Jan. '92]

Keyboard Magazine says —

"Beautifully recorded... incredibly smooth... rich... soulful... crisp and seamlessly multi-sampled."

[Jim Aikin, Keyboard, Oct. '91]

# K. Thomas

Box 174  
 Stratford, ONT.  
 N5A 6T1 Canada  
 Phone: 519-271-7964

*"The best thing I've heard out of any sequencer. Anywhere. Ever."*

— Jim Johnson, Transoniq Hacker, Oct. 1991

# TRIVIATOONS™

A collection of act-enhancing sequences, authentically recreated from America's best-loved TV shows.

- |                          |                        |                     |
|--------------------------|------------------------|---------------------|
| LEAVE IT TO BEAVER       | PETER GUNN THEME       | JAMES BOND THEME    |
| PERRY MASON THEME        | THREE STOOGES THEME    | THEME FROM ROUTE 66 |
| LOONEY TUNES I (BUGS)    | FRACTURED FAIRYTALES   | OUR GANG THEME      |
| LOONEY TUNES II (PORKY)  | ALFRED HITCHCOCK THEME | THE HONEYMOONERS    |
| TWILIGHT ZONE THEME      | THEME FROM 2001        | I LOVE LUCY THEME   |
| BULLWINKLE I             | STAR TREK THEME        | MY FAVORITE MARTIAN |
| 20TH CENTURY FOX FANFARE | SUPERMAN (TV SHOW)     | THE JETSONS THEME   |
| TONIGHT SHOW THEME       | MISSION IMPOSSIBLE     | AMERICAN BANDSTAND  |

**Choose any 5 sequences for only \$49.95**  
 (Or, choose 10 and get 2 FREE.)

To LISTEN to an automated DEMO Call: **215-889-9746** (24 hrs)

**CUSTOMIZE YOUR OWN DISK!** To place an order, call: **215-889-9744**

Available immediately for VEX-SD\* (versions 1 & 2), and the SD-1\*

\*Ensoniq, VEX-SD, and SD-1 are registered trademarks of the Ensoniq Corporation.

magazine. And it's probably one of the first things read by the majority of readers. Well, I do anyway. And since there has hardly been anything in the Interface about VFX-sd/SD-1's for what seems like forever, I guess I'll have to write something about them.

First, let me say that part of the reason you don't see much about them is that we owners are having way too much fun to take time out to write about it. As you know, most resort to writing in only if they have questions or problems with their gear. Samplers seem to have a whole added learning curve - which explains all the extra press.

I've got a burning question, however: Now that the SD-1 can map drums, do swing Q, and most importantly, comes with 11 extra poly/voices to play with, it is so tantalizingly close to being perfect, I can't help but throw my two cents in for what I've been dying for. And since I've never seen anything written about my particular question, as to whether it costs too much, if it's sensible, or even possible. I'm just going to have to come out and say it, at the risk of sounding like a moron. Is it possible to update this thing (VFX-sd/SD-1) so that it can accept new waveforms via disk or cart-ridge?!?!?

If so, will Ensoniq do it, and when? In my case, it's the only thing missing. Korg's T-Series can do it. And before everyone asks, "Well, then why didn't you buy a Korg?" let me state that outside of accept-

ing new waveforms, anything the M1 or the T1-2-3's can do, the VFX-sd can do better, and has more of it to do it with. (Besides, along with a synth goes support and the *Korg Connection* is pretty second rate compared to the *Hacker*.)

So how 'bout it? I've already waited long enough to send in my borg for upgrades. I got one of the last VFX-sd's with the M-M-MEGA PIANO wave. I haven't gotten the new drum map feature, or the new SD-1 waves, or the new polyphony. I've been patiently waiting for Ensoniq to say, "Send in your borg, and we'll swap the main motherboard..." (just like they had to do for the MEGA PIANO), "... or simply upgrade it for the one that accepts new waves via disk or cart."

I believe it was in a *Keyboard* review, where they stated that all the new waves that came with the SD-1 were great. Yet by next year, we will all be dancing to a new set of sounds. This severely hampers this synth. I sort of feel like it has an expiration date on it. Oh, I'll never stop using it, or cease to get new and exciting things out of it. Hell, look at what's been happening with the SQ-80. Yet I know this added feature would just make it that much better. Screw all the hot new "gotta have" sounds that are sure to come out. I want to make this thing do what hasn't been done. It would also probably be the last time any owners of the synth would have to send it back for some update. Additionally, I just bet this would put to bed the plea in the first few pages of the *Hacker* each month begging for some

new VFX-sd/SD-1 patches. Patches would be pouring in. Or at least we'd get more alternatives to the already overdone strings and other imitative sounds. Samplers are better for that. The VFX is a synthesizer first and foremost - to me anyway.

If anyone desires this as much as I do, please voice your opinion in as many ways and to as many people as possible. The *Hacker*, Ensoniq, and dealers alike. If Ensoniq's reply is that it would cost too much, I would have to disagree by pointing out that it would be cheaper and less of an inconvenience than sending the whole borg back in every time you had some new waves to stick in. Look at how many updates you've had so far. Not that I have a problem with them - I love progress. Yet since the time I bought my borg I could have sent it in once for the MEGA PIANO wave (if I didn't already have it - like a lot of other people), again for the new SD-1 features and waves, and a third time for the added polyphony. Blah! No thanks. Too much time away at the shop. That's why I have waited.

Please let me know what the verdict is. If you won't do it, please explain. If it's not at all possible - AAAARGH! but, oh well. I still think it's an amazing synthesizer. And you can sign me up for the SD-1 upgrade anyway.

One final note to Ensoniq. I honestly love you guys, well, at least your instruments. However, the reason I don't own an EPS-16 PLUS is because a maximum of 2 Mbs of

#### Current Ensoniq O.S.

EPS	2.49	VFX	2.1
EPS-M	2.49	VFX-SD	2.1
EPS-16 PLUS	1.1	SQ-1	1.01
MASOS	2.0	SQ-R	1.02
MIRAGE	3.2	SQ-1 PLUS	1.1
ESQ	3.5	SQ-2	1.2
ESQ-M	1.2	SD-1	3.00
SQ-80	1.8		

### BACK ISSUES

Back issues are \$2.50 each. (Overseas: \$3 each.) Issues 1-9, 11, 13 - 23, 27, 29, 30, 35 - 38, and 67 - 70 are no longer available. Subscriptions will be extended an equal number of issues for any issues ordered that are not available at the time we receive your order. ESQ-1 coverage started with Issue Number 13. SQ-80 coverage started with Number 29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage started with Number 30. (But didn't really get going till Number 35.) VFX coverage got started in Number 48. Permission has been given to photocopy issues that we no longer have available - check the classifieds for people offering them. Reprints in our "Quick and Dirty Reprint Series" are available: *Mirage Operations*, for \$5, and *Mirage Sample Reviews* for \$4. Each contains material from the first 17 issues.

### Tested and Approved Hard Drives for the EPSs

The drives listed below are known to be compatible with the EPS and EPS-16 PLUS at the time of testing. Changes in firmware or hardware by drive manufacturers may make later versions incompatible (with the exception of PS Systems, Eltekon, and Frontera whose drives are configured to work specifically with Ensoniq products). Drives not included on this list may also work just fine. For up-to-date information about specific drives call Ensoniq Customer Service: 215-647-3930.

MANUFACTURER	MODEL
Dynatek	All Models
Frontera	All Models
PS Systems	All Models
Eltekon	All Models
Rodime	45plus, 60plus, 100plus, 140plus
Microtech	R45, N20, N40, N80, N100, N150
PL1	45 Meg Removable
Mass Micro	Datapack 45

### Drives Reported to Work by Readers

The following drives have been reported to work satisfactorily with reader's EPS systems. No guarantees - but they'll probably work with yours. Try to try before you buy.

Jasmine Direct Drive 100	Quantum 100M, 210M
PowerDrive44	Seagate 80M
Syquest 555 (removable)	Tech Data Model 60e

memory simply just isn't enough. By all accounts, it should be expandable beyond that. It's fine to come stock with only 1 or 2 Mbs, so poor people could get it in the first place and then expand as funds became available. Yet I've decided in lieu of all the other truly amazing things the '16+ can do, I'm going to get an E-MU EMAX II, which can be upgraded to 8 Mb. Traitor! Traitor! I know it. And there goes all the great help you can get with the *Hacker*, there go the patch select buttons and the poly-key pressure. But I NEED that memory. I will promise you this: some day, a little further down the road, I may get an EPS-16 PLUS as well. It's still a force to be reckoned with as it is.

P.S. ZRELL! to Kirk Slinkard for the STAR TREK 1 patch. It's JIFFY! Live long and perspire (preferably on stage)!

Thank you,  
Michael Ritch  
Crescent City, CA

[CS - The question "Can the VFX(VFX-SD, SQ-1, SD-1 etc.) be upgraded to allow the user to access new waves via card or disk" has become the question of the year in Hackerland. Ensoniq has always maintained that the VFX, SQ, and SD series instruments will never be candidates for this type of upgrade, as it simply isn't possible within the limits of their hardware.]

[TH - Note: If you did convert the VFX-sd into such a "sample play-back machine," it would only put additional constraints on the Hackerpatches (and patch vendors!) - everyone would have to be starting with the same source material for them to be of any use at all.]

[Ensoniq - Dear Michael,

Thanks for the kind words. It's nice to hear that you are enjoying our instruments so much. (There, now we didn't have to start our reply with any negatives.)

Unfortunately we cannot create open waveform architecture for our existing synthesizers. We certainly recognize the benefits of this feature and can consider it for new designs.

Regarding EPS memory, that is the limitation of the existing hardware. We keep recommending that users opt for a hard disk setup and take more advantage of our Load While Play feature, which can give you a lot of sound without a lot of memory. What the future holds? Stay tuned, and thanks for the comments.]

**VFX, VFX-sd, SD-1 owners —**  
60 sounds, 20 presets, 3 demos, documentation. Three volumes.  
\$40 each. Any two: \$75. All three: \$110.

**SQ-1, 2, R, Plus owners —**  
Volume 1: 80 sounds & documentation.  
Disks: \$50.

**LATTER SOUND PRODUCTIONS**  
2617 Ridgeway St.  
Tallahassee, FL 32310-5169  
(904) 575-5561  
Florida residents add sales tax

## ALL DIGITAL SAMPLES

We offer the only 16 bit **computer synthesized** samples available for your EPS or EPS16+. "A great idea, and some great sounds...very clean...wildly exotic." -Jim Aikin, Keyboard July/91. Get a demo disk with seven complete instruments for \$6.00, or write for our catalog.

**FIRST GENERATION**  
P.O. Box 748  
Cocoa, FL 32923

**DUST**

### CUSTOM DUST COVERS!

Ensoniq, Korg, Roland, Yamaha...and much, much more. All covers are a perfect fit. 4 colors to choose from. Prices begin at \$19.95...no job too big!

**ALL NEW:**

-Portable Studio Air Purifiers-

Call Now for Complete Information at:

**1-800-228-DUST**

Mastercard Brochures Available Visa

**Le Cover™**

The Dust Control Company  
1 North 353 Bloomingdale Road  
Carol Stream, IL 60188

## We Will Sell Your Electronic Music

If you have composed original Electronic Music, there now is an avenue for you to get your music to market. • No up-front fees • You retain all rights • No exclusive contracts • For an application or to receive our catalog write:

**AFTERTOUCH™**

Computer Musician Coalition

1024 W. Willcox Ave., Peoria, IL 61604

**Read/Write/Format Ensoniq Disks on IBM-PC's with our Ensoniq Diskette Manager (EDM) software (\$22).**

**Transfer Sequences to and from Standard Midi Files.** Each package (VFXSMF for VFX-SD and SD-1 or EPSSMF for EPS and EPS-16+) includes EDM and only costs \$44.

**Convert SQ-80 sequences and songs to VFX-SD or SMF with our SQ80VFX software (\$44).**

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

## SHOULD BUYING SAMPLES BE EXPENSIVE?

We're *N.O.T.* like that. You shouldn't have to worry about the price at all. A vast library of *affordable* samples is what we've always been about. Just send us a postcard or letter asking for the IntroPack and we'll take care of the rest. We spend the time organizing a library for the EPS so you can spend your time making music.

**ABSOLUTELY N.O.T.**

NEANDERTHAL ORGANIZATION TECHNIQUES

PO Box 1238  
Hillsboro, OR 97123

## DANCE SAMPLES

"RAVE" TOO!

**#1 HOUSE ACID SAMPLING CD**  
TR-908, TR-909, AKAI XR-10, DX-7, MINIMOOG, KORG BASS, EMU PROTEUS, HOUSE DRUMS, HOUSE/ACID FX, LYRICAL HOUSE FX **\$49**

**#2 TECHNO SAMPLING CD**  
TR-686, DRUMULATOR, KORG KPR-77, RX-7, TEK STRING, DR-550, MT-32, KORG SR-120, SIREN FX, RAP DRUMS, SIMMONS, TECH DRUMS, TECHNO FX, INDUSTRIAL FX, SCI FI FX, ACID SYNTH **\$59**

### EPS SAMPLES

Also For: S-550, S-330, W-30, and Mac. (Specify)

House Samples 4 Disks \$38

CHECK or M/O only ALL PRICES SHIPPING INCLUDED  
FREE CATALOG CALL 310-699-0095 C.O.D. ADD \$4

MANY NEW DISKS  
HAVE BEEN MADE

RECENTLY. GET OUR  
CATALOG OF DISKS!

**MIDI MARK**

BOX 217 • WHITTIER, CA 90608

## SEVERE SOUNDS

**16+**

From the company that pushes memory efficiency to the extreme. Write or call for our **all new catalog** of sounds developed for the EPS-16 PLUS.

**SEVERE SOUNDS**  
P.O.Box 14250, Austin, TX 78761  
(512) 388-3808

# 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

Publisher: Eric Gelslinger  
Editor: Jane Tallman

Our (somewhat regular) illustrious bevy of writers includes: Craig Anderton, Barry Carson, Mark Clifton, Gary Dinsmore, Rob Feiner, Pat Finnigan, Charles R. Fischer, Gary Giebler, Jim Grote, Garth Hjelte, Bryce Inman, Jim Johnson, John Loffink, Kenn Lowy, Daniel Mandel, Sam Mims, Gary Morrison, Michael Mortilla, Earle Peach, William Pont, Jeffrey Rhoads, Clark Salisbury, Mick Seeley, Tom Shear, Joe Slater, Kirk Slinkard, Bob Spencer and Erech Swanston.

Copyright 1992, 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: \$30/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.

## The Professional's Choice

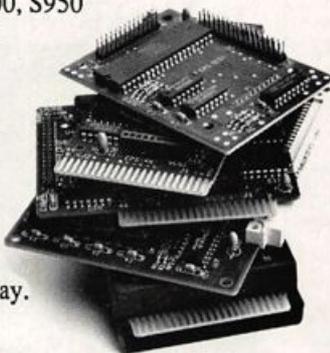
- Sampler Memory
- Rackmount SCSI Drives

We make memory products for the Akai S1000, S1100, S950 & MPC60, Emu EmaxII, Ensoniq EPS, EPS-16 PLUS & VFXsd, Dynacord ADS, Roland S770, Yamaha TX16W and others.

Our SCSI drive systems hold two CD-ROM, Removable and Fixed hard drives in any combination.

Our commitment to being the best assures you of the highest quality, reliability and value. Each memory expander is designed, manufactured and tested to earn our lifetime warranty. Contact your local music store today.

For your expansion needs, rely on the experts. Rely on PS Systems . . . the Professional's Choice.



**PS**  
**SYSTEMS**  
music technology products

9265 Activity Road, Suite 102  
San Diego, California 92126  
(800) 446-8404 (619) 578-1118  
FAX (619) 578-8851