

# Transoniq

# Hacker

The Independent News  
Magazine for Ensoniq Users

## The DP/4 — First Look

Dennie Edwards

Ladies and gentlemen, let me introduce to you to (what I feel) is the coolest black box on the planetface, Ensoniq's DP/4 Digital Effects Processor. If you have not yet played with this piece of musical gear at an Ensoniq clinic or dealer, do so. Following is a brief "get started" tutorial to help you listen to the unit right out of the box or while on display at a dealer. If there isn't one on display, offer to hook it up for the keyboard salesperson.

First get the stuff you need to hook up the DP/4 — an amp or a PA to listen through, two cables to connect a stereo output of the DP/4 into the stereo PA (totally necessary to get full coolness effect), a mono signal such as a guitar (with cable for input to the DP/4), and something to pick your jaw up off the floor with. Second, find an AC outlet with a three prong outlet and hook it up. Then, plug the two shielded cables into the output jacks 1 and 2. This will be our stereo feed to the PA. Next, plug the guitar into the input 1 jack on the front panel. Any signal like a microphone, that has a low-to-high impedance transformer, or a keyboard can be used. The input on the back labelled 1 is okay, too. The front panel input jack disables the rear number 1 input. Set all of the inputs and outputs controls to approximately 12 o'clock and that'll do it for now.

### Setting Input Levels

A technique that works most of the time to set the input levels is to set the input at the optimum level without causing distortion, press the config (configuration) button twice to bypass all the units, then play the inputted instrument at its loudest level. Rotate the pot for input one until the peak LED flashes above the input knob. Then, rotate the knob counter-clockwise until the LED doesn't flash anymore. Simply press the config button once more and the unit will be back on-line. Now we can select the different types of configurations.

A config preset is the most powerful of all the presets on the DP/4. It lets you save everything that is in the DP/4 at that time and recalls all algorithms, signal routing among the four units, and all the mixing parameters. It also allows you to select the number of inputs. In short, a config preset shows how the inputs, units, and outputs are routed.

### Let's Get Started

I'm gonna assume that you'll use an electric guitar to scope out the coolness of Mr. DP/4. First, select the proper configuration for a "1-Source Mono Input." Press config, then use the data knob to select config #53. Next, press the select button. Now that we have that done, we can listen to some effects.

### In this issue

#### Articles:

- The DP/4 — A First Look  
Dennie Edwards ..... cover
- A Brief List of Famous Ensoniq Users  
Tom Shear ..... 5
- Wave Mutilation for SQs & KSs — Part 6  
Jack Stephen Tolin ..... 8
- The Book of SQs & KSs — Part 13  
Clark Salisbury ..... 10
- Installing a MIDI Indicator — EPS Rack  
Sam Mims ..... 12
- But I Don't Want Chorus — EPSs  
Bryce Inman ..... 13
- Transoniq Trivia II  
Garth Hjelt ..... 14
- SQ-1 = B-3  
Mark Clifton ..... 17
- SQ-80 Sequencing Tips  
Tom Shear ..... 19

#### Reviews:

- Ensoniq's SL-9 for EPSs  
Tim O'Connor ..... 6
- Basement Tapes: Anderton & Hospers  
Daniel Mandel ..... 7
- The SD-1/32 Voice Upgrade  
Jeffrey P. Fisher ..... 15
- Talking Owner's Manual — SD-1  
Tony Thomas ..... 16

#### Regular Stuff:

- Random Notes ..... 3
- Hypersoniq ..... 3
- Current O.S. .... 3
- Hard Drives List ..... 30
- Classifieds ..... 20
- Hackerpatches  
Sam Mims & Jeffrey Rhoads ..... 21
- The Interface ..... 23
- Hacker Booteeq ..... 31

We are going to listen to the DP/4 as one super unit. This config allows all four units within the DP/4 to act as one. This is easily done since all of the signal routing is done in the digital domain (a digital patchbay!). We are now in the one source config. To select the 4 unit presets, press the config button. Turn the large data entry knob until the screen shows "Select 4 U Presets," (50). Press Select. Rotate the data entry knob to choose among the 100 4-unit presets. Remember that there are 50 RAM and 50 ROM that make up the 100 presets. Find a preset that you want to hear and press the select button. After you have given these presets a listen, get ready to do some knob turning and button pushing.

Okay, so you are impressed with using 4 24-bit processors at once, but wouldn't you like to hear how each processor sounds by itself? 'Course you would. Press the config button once again and select the "1 U Presets," (52). Also remember to press the select button. The yellow light above the A unit should light showing that you have selected the A processor for use. The bypass LED (the red ones) should now light over units B, C, D. With our current input config we can only listen to processor A. One can still edit and select one unit presets for the other processors, but we only have an input going to unit A. Next, turn the data entry knob to display the names of the 1-unit presets. Remember, an algorithm will not load into the processor until you press the select button. Again, have fun and listen to the clarity of 24-bit fidelity.

Speaking about this 24-bit stuff, why does Ensoniq choose to use 24-bit processor instead of 16- or 18-bit processors? The answer is both simple and complex. 16-bit processing gives us the full 20k bandwidth of frequency response that our ears have now come to expect from digital products. If a signal is to be processed to create a reverb, it then must be allowed to sustain and retain its integrity at 20k bandwidth. If more signal is pumped through the processor, it then becomes very difficult for that processor to sustain such long reverbs while maintaining true fidelity. With a 24-bit processor there is a ton of processing power within the unit. So how many bits does it take, then, to double the resolution of a 16-bit machine? 32-bits do you say? WRONG! Believe it or not, it only takes 17-bits to double the resolution of 16-bits. It only takes 18-bits to double the resolution of 17-bits. Which is why the Room/Hall Decay parameter for the Small Room, Large Room, and Hall reverbs can last from 100 seconds, 150 seconds, and 250 seconds respectively. This, friends, is why Ensoniq uses nothing less than 24-bit effects on all of their machines.

Okay, so we're impressed with the factory presets that the guys with the pocket protectors made, but is it easy for us normal people to use? Yup! As one would expect from a straight-forward machine, the first button push is the EDIT button. Next, select the processor A, B, C, or D you wish to edit. We now have selected the unit's algorithm for editing.

The active unit's LED should be lit and the two-digit display should read "00." If not, press the left arrow until it does. You can now scroll through the parameters and listen to each one. With each new algorithm, there will also be parameters specifically for that algorithm. To change a parameter all you have to do is use the left and right arrow to select the appropriate parameter and then use the data entry knob to change the value. As soon as you change a parameter, the edit LED flashes, indicating that you have now entered the edit buffer. To compare between the original and your edited version, press the Edit button.

Are you excited yet? This appears to be first processor on the market that will allow the average musician to get the same quality as the BIG STUDIOS get out of their outrageously expensive machines. It will help the everyday musician create better demos and have a better shot at getting in with the big A/R guys who are used to listening to product coming from these mega studios. The bottom line is this, if you want to sound good, I mean really good, a DP/4 can be a major factor in achieving this goal. It is a little complex, but don't worry. There are a series of instructional videos coming from Ensoniq and I am sure we're gonna hear from some third parties to help you master the machine. Also, Ensoniq is making a huge effort in training all of their dealers on the DP/4, so make sure you ask your local Ensoniq dealer for help. One last thing — I understand that a lot a major artists and producers are buying these toys, like The System, Nile Rodgers, Joey DeFrancesco, David Was, George Duke, and Randy Jackson to name a few.

So what it comes down to is that the gap of audio quality that lies between the pros and the rest of us working musicians has just been narrowed considerably by the DP/4. Good deal. ■

*Bio: Dennie Edwards is the Asst. Manager/Keyboard salesman for Vince's Backstage Music in Lafayette, La. Dennie also does MIDI consulting and sound programming for local jingles and other productions. His favorite colors are blue and florescent pink. It is rumored that Dennie is the son of the Shell Answer Man.*

## BACK ISSUES

Back issues are \$2.00 each. (Overseas: \$3 each.) Issues 1-30, 35-38, and 67-72 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 (which also applies to the SDs) got started in Number 48. The SQs got going in Number 63. (SQ articles also apply to the KS-32.) Permission has been given to photocopy issues that we no longer have available — check the classifieds for people offering them. A free back issue index is available which contains the tables of content for all issues since Number 43.

## RND (♪♪♪)

### Hacker News

We'd like to remind KS-32 owners that all previous articles and patches (including Clark Salisbury's excellent umpteen-part series) relating to the SQs also apply to the KS-32. We can't spare the space to re-plow old ground so you should check your back issue indexes — these things don't get dated! (Just call us if you need a back issue index.)

Mark Clifton has a new & improved percussion layout (accompanies his article in Issue #85) that is also available for the price of a phone call. Call him at 703-494-5432.

**Correction** to Jack Tolin's *Waveform Mutilating* in Issue #86:

**Said:**

Voice 2: ENV2: Initial = 00, Peak = 15, Break = 00, Sustain = 15

**Should have said:**

Voice 2: ENV2: Attack = 00, Decay 1 = 15, Decay 2 = 00, Release = 15

### Third-Party News

Latter Sound Productions has moved to 1341 Westhaven Court, Tallahassee, FL 32310-8625. Phone: 904-575-5561.

Monster Tracks has moved to 655 Goodpasture Island Road, #28, Eugene, OR 97401. Phone: 503-683-7115.

## HYPERSOBIQ NEW PRODUCTS

Latter Sound Productions has released *Volume 4 - Effects* for the VFX, VFX-sd, and SD-1. These sounds are divided into ten banks and cover a wide variety of sound effects. Air war, highway, city, space, ghostly, countryside, oceanside, ethnic and more. Volume 4 (disks) is \$40. And new for SQ-80 owners: *Volume 1 - The Collection*. 40 sounds created for various musical applications. Bass, guitar, woodwind, voice, effects, organ, brass vector and synth. \$19 (disks). For more information, write or call: Latter Sound Productions, 1341 Westhaven Court, Tallahassee, FL 32310-8625. Phone: 904-575-5561.

Questar Technology has introduced Questar Sequencer; a powerful MS-DOS MIDI sequencer for IBM-compatible PCs. The program features pulldown menus, mouse support, context-sensitive online help, 48 tracks with independent track looping, Standard MIDI File support, SMPTE time displays, SMPTE/MTC synchronization, selectable timebase resolution up to 240 PPQ, MIDI metronome, multiple port support, and a built-in system librarian. Editing capabilities include percentage quantization, cut and paste, pitch transpose, search/replace, length, slide, fill, and undo. \$49.95. For more information: Questar Technology, P.O. Box 295, Allendale, NJ 07401-0295. Phone: (201) 825-2182.

## TRANSONIQ-NET HELP WITH QUESTIONS

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

**ALL ENSONIQ GEAR** - Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 215-647-3930.

**ALL ENSONIQ GEAR** - Electric Factory (Ensoniq's Australia distributor). Business hours - Victoria. (03) 4805988.

**SD-1 QUESTIONS** - John Cox, 609-888-5519, 6 - 8 pm EST.

**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.

**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) 821-5054.

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

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

**EPS/MIRAGE/ESQ/SQ-80 M.U.G. 24-HOUR HOTLINE** - 212-465-3430. Leave name, number, address. 24-hr Callback.

**SAMPLING & MOVING SAMPLES** - Jack Loesch, (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.

**SD-1, sound programming, sequencing, & MIDI** - Eric Olsen, Pegasus Sounds, (616) 676-0863. Mon, Tues, Thurs, Fri: 4 pm to 9:30 pm Eastern Time. Sat: 12 to 10 pm. (No calls on Wednesday please!)

**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.

### CURRENT ENSONIQ O.S. (Disk/EPROM)

EPS	1.10/2.40	VFX-SD	2.1/2.00
EPS-M	1.10/2.40	SQ-1	1.11
EPS-16 PLUS	1.1	SQ-R	1.02
MASOS	2.0	SQ-1 PLUS	1.1
MIRAGE	3.2	SQ-2	1.2
ESQ	3.5	SD-1/SD-1 32	4.10/4.10
ESQ-M	1.2	DP/4	1.06
SQ-80	1.8	KS-32	3.0
VFX	2.1		



# (800) 800-4654

## THOROUGHBRED MUSIC

FAX (813) 238-5443

Your Music Department Store.

### NOW IN STOCK



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

**CUSTOM DESIGN YOUR OWN CASE!!!**



### Internal And External Hard Drives

Customize your sampler  
**20 Meg Internal  
 from \$199<sup>00</sup>**

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

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



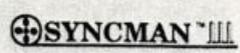
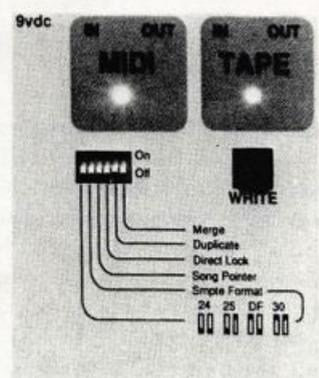
## Only \$129<sup>00</sup>

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

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

#### SYNCMAN features include:

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



#### Additional SYNCMAN Features:

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

## Lowest prices on anything musical in the USA!

# A Brief List of Famous Ensoniq Users

Tom Shear

Back when I was just getting into electronic music I owned a Korg Poly-800. While it's certainly not the cutting edge of technology today, it was a pretty decent machine (and I still haven't heard any synth that can touch it when it comes to flutes). One thing that Korg did that I thought was pretty cool was to print a list of famous users of Korg equipment in their catalogs. Sure, we all know it doesn't matter if anyone famous is using the same stuff as us, but it is kind of fun to read a list like that. So what I've done here is to give you an extremely basic list of some established artists out there who have, at one time or another, made use of Ensoniq beasts just like you and I have. Wherever possible I tried to include the equipment I knew for certain they used, but keep in mind that there may be a lot of EPS users out there who I didn't pick up on simply because it's very difficult to distinguish what kind of sampler is used in a song unless really obvious presets are used. I avoided listing anything too obvious such as the authors of the Signature Series, etc. So without further ado, here it is. And keep us up to date! If there's someone well known that you don't see mentioned on the list write and tell us about it!

Progressive Rockers Marillion (Mirage).

Michael Josephs, Composer for TV's "America's Most Wanted" (EPS).

Solo artist and producer Todd Rundgren (Mirage).

Big time production team Jam & Lewis (Mirage, EPS).

German techno-punks Schnitt Acht (ESQ-1)

Top 40 dance duo Times Two (Mirage).

Texan rappers MC 900 Ft. Jesus (EPS).

New age artist William Aura (ESQ-1, Mirage).

Australian underground dance artists Severed Heads (ESQ-1)

Netherlands' first psychedelic band, The Legendary Pink Dots (ESQ-1).

Television personality and composer John Tesh (Mirage).

Light jazz-rocker Tom Grant (EPS).

Zimbabwean ambassador Johnathan Wutawunashe (Mirage).

Thomas Dolby keyboardist, Mike Kapitan (Mirage).

Doomsday rockers, The Cure (Mirage).

Funk/punk practioners, Fishbone (EPS).

"Soft Robot" composer, John Greenland (EPS).

New York downtown avante-garde artist, Elliost Sharpe (Mirage).

Patrick Leonard, producer for Pink Floyd, Madonna (ESQ-1).

New York industrial trio, Ajax (ESQ-1).

Belgium's Vomito Negro (SQ-80).

R & B star, Johnny Gill (VFX).

Swedish industrial rockers, Cat Rapes Dog (ESQ-1).

Session/solo artist extraordinaire, "Blue" Gene Tyranny (Mirage, ESQ-1).

Boston legends, The Cars (ESQ-1).

New York's underground favorite, Suicide (ESQ-1).

Legends of industrial dance, Skinny Puppy/Cyberactif (Mirage, ESQ-1).

Jazz-rocker, T Lavitz (SQ-80, EPS).

Genesis (VFX)

Yes (VFX)

*Bio: Tom Shear one day hopes to make the list of famous Ensoniq users if only those record company weasels would listen to his demo...*

## UNAUTHORIZED BREAK-IN

New WAVEBOY disk exposes direct audio input to EPS-16 PLUS Effects

Send any signal through the EPS effects processor, with the new **WAVEBOY Audio-In Effects Disk**. Guitar, mic, or line level audio. Works with all 13 factory algorithms. Disk also includes Plate Reverb, Non-linear Reverb, and 3-voice Pitch-shifter that can process external audio and internal sounds. Just \$39.95

Also available, the amazing **WAVEBOY Parallel Effects Disk**. Four different effects at once. Also only \$39.95.

"A Genius-at-work kind of product... I can't imagine any EPS-16 PLUS owner who wouldn't want to have this disk..."  
—Craig Anderton, TH review, April, '92

Order now! Overseas add \$6. PA Residents Add 6% sales tax. Mastercard or Visa accepted. To order call (215) 251-9562. Or send cashier check or money order to: WAVEBOY, P.O.Box 233, Paoli, PA 19301



WAVEBOY  
INDUSTRIES

# SL-9 Sound Library Disks From Ensoniq

Tim O'Connor

---

For: EPSs.

Product: SL-9 Sound Library — FLUTES.

Price: \$39.95.

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

---

flute, n. [Ofr. fleÛte, flaute ] 1. a long, rounded groove in the shaft of a column or pillar; 2. a shuttle used in weaving; 3. a breakfast roll; 4. a high pitched wind instrument consisting of a slender tube played by blowing across a hole near the upper end.

The flute, once an extremely popular musical instrument, continues to play a role in popular music today, although except for jazz, is usually relegated to a minor supportive role. We all remember the gentle flute duet in the beginning of *Stairway to Heaven*; and who can forget the somewhat odd sounding flute intro in the Beatles' *Strawberry Fields Forever* (which was actually a Mellotron). The sideblown, or transverse flute (as opposed to an endblown whistle) was invented in the East and arrived in Europe some time in the twelfth century. It was used primarily for military music during the Middle Ages, but by the middle of the 17th century it had become very popular as an instrument of the opera and the court orchestra. In the early 1830s, Theobald Boehm of Munich provided radical design changes which continue to this day. In 1992, Ensoniq Corporation created several digitized versions of this instrument packaged as Sound Library #9.

There are nine instruments contained in SL-9: FOLK FLUTE, PICCOLO, JAZZ FLUTE, ALTO FLUTE, PAN FLUTE, BASS FLUTE, PERC FLUTE, CLASSIC FLUTE AND HARMODIA. As you would expect, there are sequences to demonstrate each one of the sounds. I previewed each one of the instruments on both the the 16 Plus and the original EPS, and found that they can be used on the "classic" with no tweaking whatsoever.

First up is FOLK FLUTE. This is a very mellow, earthy wooden flute sound. Like all the other instruments, via patch selects it can perform as a solo legato instrument (great for trilling), or as a polyphonic instrument. This is an excellent flute sound for folk or ethnic music and is one of my favorites. They have provided a very lively and cheery sequence to showcase this instrument.

The first thing you notice about PICCOLO is that it does not span the entire keyboard range. Ensoniq says that it has been designed to play within the instruments natural key range, although why they decided to be such purists on this instrument and none of the others I don't know. This sound also has a brisk sequence with lots of realistic trills for all you two-fingered keyboardists out there. I did notice a minor click in the

loop of the lowest wavesample.

Next in line is JAZZ FLUTE, another of my favorites. Herbie Mann will go on Social Security with this one. The left patch select gives a sforzando type of attack and swell, common in the jazz idiom. This flute would also work well in some rock arrangements. The accompanying jazzy sequence also includes the next two instruments.

ALTO FLUTE is a very good general purpose flute sound, and at 500 blocks should be able to be squeezed into any arrangement. It has a very dark and rich lower register. The mod wheel controls the LFO depth and (on the 16+) key pressure controls the rate, allowing for some realistic variations on the vibrato.

For you Zamfir fans there is PANFLUTE. You know, the instrument that the Greek mythology creature Pan used to play in the woods to persuade all those Athenian tarts to doff their togas in bacchanalian abandon. This instrument uses velocity switching to bring in an extra heavy "chiff" attack at the higher velocities. Keeping true to the instrument's character, there is no legato layering for the panflute. Chording creates a passable calliope. I found it best to stick to the middle registers with this one since there is only one wavesample to cover the entire keyboard range.

I have never heard a BASS FLUTE live before, so I am trusting that the one provided here is authentic sounding. I can say that it has a very pleasant, very dark and mournful tone. I can hear it being used in a film soundtrack, the scene where the female lead is alone in her bedroom, trying to decide whether to run off to Pago Pago with her lover or to plot his murder. Good sound. One of the patch selects creates a very surrealistic, highly chorused stereo pad which sounds totally unflutelike but is interesting nonetheless.

Next up is PERC FLUTE. Like the name suggests, this is a very short, percussive sound with a somewhat metallic attack. It only vaguely resembles a flute in sonic character. I found this sound to be most interesting when used with effects, such as delays and reverse reverbs. BASS and PERC flutes are performed in a sort of "Pop New Age" sequence which was my favorite of the lot.

CLASSIC FLUTE is the Rolls of the set. At a whopping 1829 blocks, what do we get for all our hard-earned RAM? Well, 21 wavesamples spread across two velocity switching layers. The flute was actually sampled blown softly and blown hard to give very natural sounding dynamics. This is an excellent flute sound, and except for a couple of samples with quavery loops, I couldn't find anything wrong with it. A very good classical sequence comes with this instrument.

And last on our list is **HARMODIA**. I'm not quite sure how to describe this instrument. It begins with a very dark fundamental tone which then swells to include some very odd resonating frequencies. Eventually the overtones completely overshadow the fundamental. This is a strange and spooky sounding instrument. If played loudly out your window on Halloween night it is guaranteed no kiddies will come to your door.

So there you have it. Nine instruments on five disks. All very cleanly recorded and no real clinkers in the set. I only have two complaints to make about SL-9. First of all, the accompanying manual is rife with errors as far as what patch selects go with what types of layers. The patch selects typically brought up mono layers, poly layers, detuned layers, key-up layers, etc.,

and in almost every case, the booklet erroneously described each patch select. Oh well, at least the folks in Malvern can write in proper English. My other complaint about this set is what they left out, and it is the flute sound I have yet to acquire. And that is the real gutsy, shrieking, almost screaming type of Ian Anderson (Jethro Tull) rock flute. The one where the microphone ends up drenched in spittle after a concert. That would truly make this set complete — ethnic, mysterious, sublime, cool, and head-banging. And then all we would need is that weird Mellotron flute from *Strawberry Fields Forever*... ■

*Bio: Tim O'Connor sings Celtic punk reggae in a barbershop quartet, rarely combs his hair and has a cat that knows what the highest prime number is but isn't telling.*

## HACKER BASEMENT TAPES

### Discordian Sampling

Daniel Mandel

Tape: *4 More Years*

Artist: Rude Al & the ToyMaster (a.k.a. Craig Anderton and Al Hospers)

Contact info: P.O. Box 966, Ukiah, CA 95482

**Equipment:** EPS-16 PLUS and original EPS rackmount (both expanded to 4X and stuffed to the gills with samples), Peavey DPM 3 SE for all the synth parts (and another meg of George Bush samples) with SDR 20/20 for the vocals, and Alesis SR-16/Midiverb II/1622 mixer; Digidesign's Sound Tools did the original sample mutilation (uh, manipulation).

I should probably state my bias before I begin — I don't like politicians. I, ahem, think power corrupts. I just can't wait until Bill Clinton's ad campaign manager gets hold of this one!

What we're leading up to here is a review of this hilarious tidbit sent in by Mr. Anderton, entitled *4 More Years by Rude Al and the Toymaster*. This is a funny, quirky little piece that features a young man asking George Bush a few questions, to which George, of course, responds with some amazing answers.

This reminds me of learning how to splice tape in my recording classes. We had an assignment to interview somebody and then make their answers seem absurd or humorous. It required a lot of trial and error. Many hours were spent with the machine, marking, listening, cutting and splicing. Our instructor told us stories of an earlier time when people like Frank Zappa and George Martin would splice their tapes together without using a splicing block!

I can just imagine a sampling class today. But that's just what Craig Anderton and Rude Al did with the equipment. All the sentences really do sound like George Bush said them. The

only thing I found truly difficult to cast my vote for was the bad white rap in the middle of the piece.

Craig wrote in, "The enclosed tape is a collaboration between Al Hospers (formerly with Blood, Sweat and Tears; now with Dr. T's software) and me, with an assist from Vanessa Else of Silk Media. The tune is your basic election year political satire. And no, George Bush did not say many of the things we made him say (thanks to the wonders of hard disk recording). But he really did say 'I saw Elvis.'" No kidding. I hope you enjoy it! Copies are available for \$6.95 postpaid from Four More Years, c/o Dr. T's Music Software, 124 Crescent Rd., Needham, MA 02194.

I also wanted to thank Anthony Ferrara and Carmen Caranica for dropping me a line in response to their reviews. Anthony says he is working furiously on volume two and Carmen is going to submit some new stuff next time around! Keep up the good work, boys and girls!! ■

[Ed. — Favorable reviews of jibes at politicians should certainly not be taken to imply support for any of the other clowns running for office.]



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

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

# DVZZZSSH!

Tommy Lee ✦ Alan White ✦ Jim Keltner

Dvzzzssh! Boowjhsh! Krzxssh!  
That's about as close as we'll get to describing these sounds in print.

Q Up Arts now offers you the most explosive drum libraries ever presented—and you've gotta' hear them to believe them.

Not the same old same old, these libraries deliver the cleanest, most precision-engineered sounds, direct from the artists and engineers who make them happen.

Blxghwzhhw!

However you spell it, Q Up Arts has it. To learn more, call us today.

Q UP ARTS PROUDLY PRESENTS  
**HEAVY HITTERS GREATEST HITS™  
SAMPLE LIBRARY**

Featuring three of the most respected drummers in the industry: The distinctively solid crisp sounds of renowned studio drummer **Jim Keltner**. The explosive sounds of Motley Crüe's **Tommy Lee**. The uniquely powerful sounds of **Alan White** of Yes. Digitally produced by **Reek Havoc** for Sounds Amazing. All sounds recorded in the best studios in the world: A&M Studios, Power Station, Ocean Way Studios, & Music Grinders. Available in CD-Audio format now only **\$149.00**. CD-ROMs coming soon!

**NOW AVAILABLE!!**

Ensoniq EPS-16 PLUS Sounds on Floppy Disks  
Volume A: Contains over 10 MB of 6 instruments from the  
*Sonic Images Library* and the *Master Studio Collection* CD-ROMs

**JUST \$79.00!!!**

Q Up Arts also exclusively carries **OPTICAL MEDIA INTERNATIONAL'S** entire catalog of CD-ROMS including the *Sonic Images Library* and the *Master Studio Collection* in the following formats: Akai S1000/S1100, E-Mu Systems EIII, EIII XP, Emax II, Digidesign Sample Cell, Ensoniq 16 Plus.



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

## Wave Mutilation 101 for SQs & KSs

### Part 6: Features Distorted

*Jack Stephen Tolin*

Ever since the beginning of sound synthesis, many people have wanted to emulate anything from a guitar to a wave rolling onto the shore. Since samplers can — too easily — imitate sounds from the natural world, my focus isn't really on such machines. The synthesizer is the artistic palette of creative sound structure that I am most concerned about at this point.

For an analogy, consider the sampler a one-shot holistic approach to sound, and consider the synthesizer a Gestalt-type mechanism for structuring a sound. The difference is simply this: synthesizers are predisposed to produce their sounds with all of the possible sonic building blocks available internally to choose from — samplers, for the most part, are not. With a sampler, "all you have to do" is sample the exact sound you want — not much ex post facto creativity required. It is important, then, to know your synthesizer inside and out so that you will be better able to produce any "on the fly" changes to yield your intended finalism.

On a more practical note, the Ensoniq ESQ-1 and SQ-80 are machines quite handy for making sounds similar to a helicopter, birds chirping, crickets singing, wind blowing, telephone sounds,

Star Trek sound effects and the like. But when it comes to producing sonic sound-alikes of acoustic and electrical musical equivalents, the new SQ, VFX and SD lines are four to eight bits better. Let us also remember the 24-bit effects processors, since that is a major factor in what we will be looking at this month.

One day as I was browsing through the many different waveforms on the SQ-1+, I discovered that many of these would actually sound like a heavily distorted guitar when simply run through a heavy distortion, i.e. CMPRSS & DIST & VERB. Usually, the only exceptions were those waves that sounded "square," "round," or those that were too short, i.e. percussive attacks. I figured that with so many waves sounding at home in a "crunch guitar" context, how interesting it would be to utilize other waves in such a context. So, with a couple of simple tricks, I've developed a practical do-it-yourself fuzz guitar patch.

First, type in "Guitar Strength." The important ingredients to note include (1) the CV pedal, which acts as a mediator between voices one and three, and (2) the PLUCKED GUITAR wave on voice two which acts as a unifier to the patch by giving it an attack similar to that of an electric guitar. Other features of the

# SQ-1 & 2 Prog: Guitar Strength

By: Jack Stephen Tolin

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Waveform	String	String
Wave	Sawtooth	Plukd Gtr	Elect Gtr
Delay Time	000	000	000
Wave Direction	-	Forward	Forward
Start Index	-	00	00
MODSCR	-	Off	Off
MODAMT	-	-	-
Restrk Decay	00	00	00

PITCH	1	2	3
Octave	-1	+0	+0
Semitone	+00	+00	+00
Fine	-05	+00	+05
ENV1	+00	+00	+00
LFO	+10	+00	+10
MODSCR	Off	Off	Off
MODAMT	-	-	-
KBD Pch Track	On	On	On
Glide	Off	Off	Off
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	30		30
Noise Rate	00		00
Level	00		00
Delay	00		00
MODSRC	Wheel		Wheel
Wave	Triangle		Triangle
Restart	Off		Off

FILTER	1	2	3
Filter 1	2Lo	2Lo	2Lo
Filter 2	2Lo	2Lo	2Lo
FC1 Cutoff	000	000	000
ENV 2	+75	+75	+75
FC1 KBD	+50	+50	+50
MODSCR	Pressr	Veloc	Pressr
MODAMT	-99	+50	-99
FC2 Cutoff	000	000	000
ENV2	+80	+80	+80
FC2 KBD	+00	+00	+00
FC1MOD-FC2	On	On	On

ENV2	1	2	3
Initial	00	90	00
Peak	90	70	99
Break	65	50	65
Sustain	50	00	50
Attack	00	00	15
Decay 1	15	10	49
Decay 2	99	05	99
Release	37	00	37
Vel-Level	00	06	00
Vel-Attack	19	19	19
Vel Curve	Linear	Concave	Linear
Mode	Normal	Normal	Normal
KBD Track	+00	+00	+00

AMP	1	2	3
Initial	50	99	50
Peak	99	99	99
Break	75	75	75
Sustain	20	00	20
Attack	05	00	00
Decay 1	50	50	50
Decay 2	70	70	70
Release	30	30	30
Vel-Level	19	19	19
Vel-Attack	00	00	00
Vel Curve	Convex	Convex	Convex
Mode	Normal	Normal	Normal
KBD Track	+00	+00	+00

OUTPUT	1	2	3
VOL	90	99	90
Boost	Off	Off	Off
MODSRC	Pedal	Off	Pedal
MODAMT	+45	-	-45
KBD Scale	+00	+00	+00
Key Range	A0 C8	A0 C8	A0 C8
Output Bus	Fx1	Fx1	Fx1
Priority	Med	Med	Med
Pan	+00	+00	+00
Vel window	000	000	000

CMRPS & DIST & VERB	
FX-1	50
FX-2	15
Decay Time	60
HF Damping	00
Flange Rate	15
Compression	72
Dist Level In	11
Dist Level Out	03
Revb-Cmprss Fdbk	-03
HiPass Cutoff	00
LoPass Cutoff	66
MOD (Dest)	Nothing
BY (MODSRC)	-
MODAMT	-

patch include the following: playing with pressure/aftertouch from an outboard keyboard will "cut off" voices one and three because their frequencies will be filtered out; rolling the mod wheel forward will bring on the classic tremolo/vibrato/wiggly-pitch effect; playing the sound very slowly will make the sound very boring to listen to (just kidding).

The result, then, of your choice of waves for voices one and three will be alternated to and fro by the CV pedal and will be identifiable as a fuzz guitar mainly by the wave on voice two. In this way, you can test out which waves make a pleasant (or rude) addition to the patch and possibly add them in via layering of voices. The best way to determine this is to play around with the altered patch for a while in a way that makes it sound like a played guitar.

For example, go to the first screen of the Wave bank and select "One" for edit voices, and then select Voice One. Go to screen two, and then select "String-Wave" for the Wave Class and "Clavinet Piano" for the Wave. Next, go back to the first screen and select Voice Three. Then, go back to the second screen and select "String-Wave" or "16-Bit Piano" for the Wave Class and "Grand-Piano" or "16 Bit Piano-Hi/Lo," respectively for the Wave.

Now play fourths, a I-IV-V progression, pitch bend up or down, use the modulation wheel to your own satisfaction, play "Bar-racuda," a solo line and whatever else you can think of. From

time to time, slowly move the CV pedal forward and back. Listen for each wave specifically and the transition as well. Notice how each wave brings a new flavor to the overall sound by emphasizing different frequencies and, as a result, the different sonic effects of the waves coupled with the sonic effects from the feedback.

And, by the way, the reason that there is usually feedback accumulating near the end of the sound is that compression will increase the gain — or volume — of the system thereby making the feedback increase as well. So, as soon as the amps, outputs or filters of the waves all reach the value of "0," the feedback will stop as well. That is why the feedback cuts off suddenly; all values affecting the volume of the patch have reached "0."



Choose the waves and combinations you like best. After trying your own ideas, send your best in to the *Hacker* and impress the rest of us. Keep on hacking! ■

*Bio: Jack Tolin is currently a Psychology major at Eastern Nazarene College in Quincy, Mass. It is said that, many a time, you can hear very loud and strange noises coming out of his dorm room.*

# The Book of SQ (& KS-32)

## — Part XIII, "It Goes To 11"

*Clark Salisbury*

Welcome back, SQ (& KS-32!) programmers. In this month's installment, we'll be wrapping up our rather long-winded discussion of the SQ effects algorithms by examining the last two SQ effects, the "DIST+CHORUS+REVB" and the "CM-PRSS+DIST+REVB" algorithms.

Both of these are multi-effect algorithms, which is probably fairly obvious. The "DIST+CHORUS+REVB" algorithm contains three separate effects: distortion, chorusing, and reverb. The "CM-PRSS+DIST+REVB" algorithm actually contains four effects: compression, distortion, reverb, and flanging.

If you've been following these articles, programming the "DIST+CHORUS+REVB" effect should pose no difficulty — the only effect contained in this algorithm that we haven't yet discussed is the distortion effect, and it only has one parameter to worry about — "Dist Level," which is used to set the amount of distortion.

The distortion generated by this algorithm is generally best used for more subtle effects — to add a little edge to an electric piano or organ sound, for example, or to add a touch of "crunch" to an electric guitar sound. The reason for this is that the distortion in this algorithm works much like the natural distortion generated by tube amplifiers — the more you turn up the amp, the more distorted the signal becomes. To achieve this effect, however, the distortion is set up to be interactive with the output stage of the SQ. What this means is that if you want a highly distorted signal out of the SQ, you need to have both the distortion level and the voice output level turned up fairly high, and this can make the resulting sound a good deal louder than most of the other programs you'll have on board. So for highly distorted sounds, you're probably better off using the "CM-PRSS+DIST+REVB" algorithm, which we'll talk about in a moment.

At any rate, to get a sense of how the "DIST+CHORUS+REVB" algorithm works, let's try it out on an organ sound — ROM sound #31, "Organ 1." After selecting this sound, enter edit mode by pressing the "Edit Sound" button. Go to the effect editing menu, and then hit the screen 0 button to move to the first of the menu pages. You'll find that the effect is currently set to "ROTARY SPKR+REVB" — use the cursor buttons to select this parameter (it should start flashing) and change it (using the slider or up/down buttons) to "DIST+CHORUS+REVB." You'll immediately be able to hear the change in sound — the organ is now fairly distorted and somewhat louder (owing to the extra gain boost from the distortion effect).

A little experimenting will show you that the FX1 and FX2 bus parameters are used solely to control reverb levels for voices routed to either of the two effects busses. Distortion level and other effect parameters are controlled elsewhere. And in keeping with conventions established for the other multi-effects, voices routed to the FX1 bus will be routed through the distortion, chorus, and reverb, while voices sent to the FX2 bus will be routed through the reverb only. This, of course, allows you to have a mix of both distorted (and or chorused) and straight sounds, without having to give up the reverb for either type of sound. In this case both the voices that make up this sound are routed through the FX1 bus, which is the way we want it.

Move to the next page in the effects menu. Here you can set the reverb decay time (remember that level is set from the FX1 and FX2 bus parameters) and the distortion amount. Note that varying the "DIST LEVEL" parameter not only varies the amount of distortion, but also the overall level of the sound. You might think that you could set the amount of distortion you want here and then use the voice output level to control the overall level of the sound, but it ain't so; reducing the voice output level will also reduce the distortion amount. That's why I prefer to use this distortion algorithm for more subtle effects.

At any rate, setting the "Dist Level" parameter to something like 26 will give us a nice gritty organ sound, without being overly loud. Unfortunately, using this effect algorithm means having to give up the "ROTARY SPKR+REVB" algorithm which is so effective on organ sounds. You can, however, use the chorus to simulate this type of effect.

Move to the next effects menu page. Here you can set the chorus rate and depth — the default values for both of these parameters is 20. Leave it there but set the depth parameter to 06 — this way when we speed the chorus rate up to simulate a fast Leslie speaker setting, the sound won't get overly wobbly. Now hit the screen 3 button to move to the next page, and set the chorus center parameter to 92 or thereabouts (which will have the effect of making the chorusing more pronounced on the upper frequencies), and set the feedback parameter to +50 to thicken the overall effect up a bit. Finally, go to the effects modulation page and set the effect up to "Modulate RATE by MODWHEEL +60." This allows you to control chorus speed via the modwheel, and viola! Simulated rotary speaker effect.

Now let's move on to the final effect algorithm, the "CM-PRSS+DIST+REVB" effect. To get a bead on this one, we'll try doing a distorted electric guitar-type of sound. Start by

selecting ROM program #24, "Clav." I often like to use clav-type sounds in place of guitars, particularly for live performance; they sometimes seem to cut a little better.

Enter editing mode and move to the top of the effects menu pages. Select the current effect (in this case it should be "CHORUS + REVERB") and select the "CMPRSS+DIST+REVRB" effect. Play a few notes now and you'll find that the sound is pretty gonzo already — lots of crunch, with a bit of feedback (the ringing sound at the tail end of a note), and an abrupt decay.

As with the other multi-effects, FX1 and FX2 are used to control reverb amounts. The rest of the effect levels are controlled from within the algorithm itself. However, the reverb in this effect is interrelated with the compressor in a way which we'll discuss in a moment, so we may find we're using the reverb a bit differently in this effect than in others.

Move to the next page of the effects menu, and here's where you'll find controls for reverb decay and HF (high-frequency) damping. As you may remember from previous discussions of reverb parameters, HF damping allows you to control the rate of decay of the high frequencies contained in the reverbed signal. A higher number for this parameter will cause the high frequencies to decay more quickly than the lower ones.

Move us to the next effects menu page. From here you can set the one parameter related to the flanger, rate. A higher flanger rate will make the flanging more pronounced; values above about 30 or so will begin to sound downright silly. If you don't want any flanging, set flanger rate to 00. Also available on this page is the "Compression" parameter — basically, a compression amount control. A compressor is a gain-control device which will attenuate louder signals and boost quieter ones. The net effect is to remove dynamics from the input material, so don't be surprised if sounds that are highly compressed don't seem as responsive to keyboard velocity as other sounds — that's the way compressors work. Compressors became popular among guitar players when it was discovered that they could help to increase the apparent sustain of the guitar. Of course, sustain is not generally an issue with the SQ, since most of the waves are looped and can be sustained as long as desired. But the sound of compression has become so associated with certain types of guitar sounds that its inclusion in this multi-effect is most welcome.

Note that if you set the compression control up full — 99 — most of the dynamics from the clav sound will have disappeared. Also, the overall level of the sound will increase a bit, driving the distortion a bit harder, so the sound will become grungier as well. Leave compression set to "72" and move to the next effects menu page.

From here we can control the distortion amount. This distortion algorithm presents us with both distortion "In" and "Out"

controls. Putting more signal into the distortion will drive the distortion harder, providing more grunge. Of course, putting more signal into the distortion will also cause the signal at the output to be louder, so the distortion "Out" control allows you to bring the overall level of the effect down into a listening range that won't endanger your good standing with your landlord. You'll find, though, that these controls are somewhat interactive and are also interactive with the voice output level parameter located in the AMP section, so the most distorted sounds are only attainable at rather high volume — just like in real life. You'll also note that the range for both the "In" and "Out" parameters is from 00 to 11 ("It goes one more than 10" — Nigel Tufnel, guitar player for the band, Spinal Tap).

Go to the next page, "Reverb to Cmprss Feedback." You can use this parameter to route some of the reverbed signal back into the compressor and on through the rest of the effects, allowing you to simulate the effect of an electric guitar feeding-back into its amplifier. The effect will be most pronounced at the tail end of a note played (that is, if you keep this parameter set within a reasonable range — about -10 to +10. For settings greater than this I can take no responsibility — you're on your own).

Onto the next menu page. This presents us with a two-band filter, allowing the sound to be further tonally tailored. You will remember from our discussion of filters that the "HiPass" filter is used to filter out lower frequencies, letting high frequencies pass through. This will have the effect of thinning out the overall sound. The "LoPass" filter does the opposite — it lets low frequencies pass through, while removing the highs. This will have the effect of mellowing the sound out. Note that using either filter to remove some or all frequencies will also affect the overall level of your sound, since the filters actually remove frequency-specific parts of the sound.

The final page of the this algorithm is the effect modulation page. We've already spent a good deal of time discussing modulation in previous articles, so I won't go back into that here. And with this we finally wrap up the effects programming section of our journey through the SQ series of synthesizers. Stay tuned, though — in the next installment we'll be talking about tips, tricks, and advanced programming techniques relating to the SQs. See ya then. ■



*Bio: Clark Salisbury has been actively involved in the composition, performance, and recording of electronic music for over 8 years. His favorite color is chrome.*

# Installing a MIDI Indicator in an EPS Rack

Sam S. Mims

My EPS-16 PLUS module is probably my all-time favorite instrument. But there is one thing I wish it had that it doesn't — a simple LED to indicate if MIDI is being received or not. In a complex setup with audio lines running from keyboards into mixers and MIDI cables snaking in and out of patch bays, keyboards, and modules, it's inevitable that occasionally something that is supposed to be playing won't be. And it can be a tedious procedure to track down the source of the problem.

If you're not hearing your EPS or EPS-16 Plus rack, it's simple to plug a set of headphones directly into the sampler to see if it is making noise or not. If it isn't, then either it has crashed or it isn't getting MIDI signals. Now you're stuck with tracing and repatching a squillion MIDI cables or simply rebooting the EPS, reloading a sound, and seeing if it plays. Neither of these is much fun in the middle of a session or a gig. To get around this trouble, I installed an LED on the front panel of my EPS-16 which lights up whenever any MIDI information is received.

The indicator itself can be any standard LED, available in parts shops everywhere. The circuit to drive it is simple, and requires only two components — a 220-ohm resistor and a common diode, such as a 1N4001 or equivalent. The circuit was outlined in an article by Craig Anderton in *Electronic Musician* (April, 1990, page 80). It took me a few hours to adapt and install it in my sampler, and the new indicator looks like it came that way from the factory. Note that this project *WILL VOID* the warranty on your EPS (if it is still valid), and it requires some basic skills with a drill and a soldering iron. Neither this author nor the *Transoniq Hacker* can be held liable if you blow your house apart. So, if you're still game, let's make sure all cables — especially the power cable — are unplugged, and proceed. In addition to the three parts listed above, you'll need a drill and bits, a soldering iron and solder, a medium Phillips screwdriver, and about 30 inches of small-gauge paired wire.

(1) Remove the EPS module from your rack, and pop off the knobs from the volume and data sliders. They should pull right off.

(2) Remove the rack ears, if any, by taking out the four machine screws from each. If no rack ears are on the EPS, these screws will still have to be removed.

(3) Remove the small machine screw(s) from the top and/or bottom of the case that go into the disk drive. There is one hole on top, and one on bottom, but only one of these may be in use.

(4) Remove the five small screws from the rear panel that secure the top cover. Keep these separate, for they are a different size from the screws in the top and sides.

(5) Remove the two small screws from each side panel, and the four from the top. You should be able to remove the top of the case now.

(6) The front panel should also be free at this point, except for the wires which are attached to it. Unplug all the wiring connections except the ribbon cable to the disk drive and make sure you know how to put them back!

(7) Remove the four screws that secure the disk drive to the front panel (two at the top, two at the bottom). Set the disk drive aside.

(8) Remove the eight screws that secure the large circuit board to the front panel. The circuit board should be completely free at this point.

(9) Drill a hole in the front panel to mount the LED (these vary in diameter). The hole should be directly above the data slider, and directly to the right of the sequencer RECORD, STOP/CONT, and PLAY buttons (see diagram).

(10) Insert the LED in the hole from the back of the panel; it should fit snugly. A dab of Krazy Glue should hold it in place.

(11) Drill four tiny holes in the front panel circuit board that will mount the resistor and the diode parallel to each other. These holes should be in the unused upper corner of the board, directly above the data slider. Be sure that they are low enough so that the resistor and diode will clear the mounting rail on the front panel, yet high enough so that the holes are well clear of the etched traces on the board.

(12) Insert the diode and resistor in the new holes. It doesn't matter which way the resistor is inserted, but it does for the diode. Make sure that the cathode lead of the diode — marked by an indicator stripe on one end — is toward the center of the circuit board. Bend this cathode lead of the diode and the nearest lead of the resistor together, and solder them together.

(13) Cut a 24-inch length of the wire pair, and solder one end of this to the free ends of the resistor and diode (the ends closest to the edge of the board), one wire to each component. This will carry the MIDI signal.

(14) Cut a six-inch length of wire pair, and solder one wire to the resistor/diode connection, and the other wire to the opposite end of the diode.

(15) Solder the free end of the 24-inch wire pair to the MIDI IN jack, mounted to the main circuit board in the EPS. The wire leading to the resistor should connect to pin 4 of the jack, the

wire leading to the diode should connect to pin 5.

(16) Solder the free end of the short wire pair to the two leads of the LED. The wire from the resistor/diode connection should go the anode lead of the LED.

(17) Wipe off any fingerprints from the inside edge of the display window, then reinstall the circuit board to the front panel.

(18) Reinstall the disk drive to the front panel. The excess wire to the LED can loop above the drive to keep it free from the data slider.

(19) Reconnect the wiring to the front panel.

(20) Reinstall the top cover, and the volume and data slider knobs.

Now, you should be able to see at a glance whenever your EPS rack is receiving MIDI data. Any MIDI information — notes, pitch bends, and so on — will cause the LED to light up, regardless of the channel. If the EPS makes no noise, yet the LED lights up, then either MIDI channels are set wrong, or the EPS has crashed. Note that the LED requires no power from the EPS and therefore it operates even when the EPS is off. ■

## But I Don't Want Chorus

— A Quick Tip for Working with EPS-16 PLUS Effects

Bryce Inman

As is true of many EPS owners who upgrade to the 16 PLUS, the first place I turned my attention was those new-fangled on-board effects. I have an SPX 90 which is capable of a number of useful effects, but since it's my only processor, I use it almost exclusively as a reverb unit. Now, with those cool on-board effects, I could finally use multiple effects in my sequences.

The combination of effects I most wanted to use was a mixture of reverb and digital delay. So, I scrolled through the available effects looking for what I needed. Reverb and digital delay... reverb and digital delay...hmmm, the closest I could find was ROM Effect #10 which contains chorus, reverb and digital delay.

I decided that would have to do — all I had to do was bypass the chorus. After looking at the diagrams in the owner's manual, however, I thought I was out of luck. According to the manual, Bus 1 is routed through the chorus and reverb, Bus 2 is routed through the reverb and Bus 3 is routed through the digital delay. Bummer! What I needed was one channel for reverb another for the digital delay and finally — this part was missing — a channel that would provide a dry signal path.

Now, those of you who are expert programmers might see the solution to my problem right away, but I'm just an average keyboard player who has difficulty with technological stuff if it's not spelled out in black and white (and sometimes even when it is).

I finally discovered the solution to my problem as I was playing around with the factory disks Ensoniq so kindly included with my keyboard. As I was messing around with Disk 003, I found that the drums (TR 808\*) had been placed on three separate tracks. The first track was dry, the second track had digital delay and the third track had reverb! (I discovered later that the reverb also had some chorus mixed in.) When I looked to see which effect was being used, I found that same one I had tried earlier (the mixture of chorus, reverb and digital delay)

was being used. So where did they get the dry channel?

Here's the solution: What hadn't occurred to me was that, although Bus 1 has to run through both the chorus and reverb, the chorus can be turned off leaving this as a reverb only channel; and, although Bus 2 has to run through the reverb, the reverb mix can be turned all the way to zero so it becomes a dry channel.

To set up this configuration requires only two changes as follows:

1. After selecting ROM effect CHOR+REV+DDL, press EDIT then EFFECTS.
2. Scroll a couple of pages to the right until the screen says BUS 2 REVERB MIX = 25. Set this value to 0. This turns off the reverb for Bus 2 making it a dry bus.
3. Scroll a few more pages until the screen reads CHORUS MIX = 50. Set this value to 0. This turns off the chorus for Bus 1 making it a reverb-only channel.

That's it!!! Now Bus 1 has reverb, Bus 2 is dry and Bus 3 has digital delay. Okay, this isn't anything earth-shattering, but this little discovery opened my eyes to a number of possibilities that weren't previously apparent. I hope this little tip is helpful for those of you who, like me, have difficulty reading between the lines. ■



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

# Transoniq Trivia II

Garth Hjelte

Searching for the meaning of life is hard. I mean it really is. Considering all the different alluring things that concepts, ideas and people have to offer us, it can get quite confusing. I know you're all in search of something, but we can all agree on thing. Everything else is just plain trivia, isn't it? Sure is. Below is an example of such. After all, what could be more trivial than Transoniq Trivia?

1. What is unique about September '91's cover?
2. What *Hacker* advertiser doesn't "give you the bird"?
3. What *Hacker* writer names himself after a famous fictional sci-fi character?
4. What is a Talisman?
5. How is the *Hacker's* color-of-the-month determined?
6. Who is Otis?
7. Where are the remaining copies of Gary Giebler's first album?
8. Whose voices are "nothing short of stunning"?
9. Who is the Ensoniq distributor in Australia?
10. What software company's products does Ensoniq distribute at the present time?
11. Who created the "Ensoniq Suite"?
12. BONUS QUESTION: What company does the "Ensoniq Suite" admonish Ensoniq not to be like?
13. What cartoon movie is this man a fan of?
14. In the 3.4 OS chip update of the ESQ-1, Ensoniq accidentally screwed up one of the waveforms.
  - A. What waveform was it?
  - B. Which reader caught it?
  - C. ANOTHER BONUS QUESTION: What popular soft drink does this writer consume when he works on his computer?
15. What did Jack Tolin do to Erech Swanston in 1992 — and in what month?
16. According to the *Hacker*, what broadcastingly prepared sample company has "completely disappeared"?
17. Look at the back covers of Dec. '91 and Jan. '92. Name the four differences.
18. What is wrong with this sentence: "Hi, my name is Bryce Inman. Y'all come down to Texas, ya hear and we'll talk EPS while my wife's fixin' some babyback ribs!"?
19. What went up in price in May '92.
20. What country is William Pont from?
21. Black dots started appearing on the *Hacker* cover in what issue?
22. How many writers were added to the "bevy" listing at the start of '92?
23. Who "quit" at that time?
24. Who is John McCubbery?
25. Who was the last official *Hacker* typist?
26. What is the name of Dick Lord's company?
27. What feature is missing from the July '92 issue?

27. The Current OS List.
26. Upward Concepts.
25. Shad O'Connell.
24. Head of the Electric Factory.
23. Chris Barth, Kenn Lowy, and Jordan Scott Shear.
22. Four — Mark Clifton, Gary Giebler, John Loffink, and Tom Shear.
21. August, '91 (over the "!" in *Transoniq*).
20. South Africa.
19. The price of "all other" subscriptions to the *Hacker*, from \$30 to \$32.
18. Bryce refuses to say the words "y'all" and "fixin'"; D. Bevy change.
17. A. Permit Number.
16. Radio Ready.
15. Replace him as a *Hacker* writer in May '92.
14. A. The EPNO2 wave.
13. *Fantasia* by Walt Disney Studios.
12. Sequential Circuits.
11. *Hacker* writer extraordinaire, Pat Finnigan (TH — who, parenthetically, has hands-down raised the biggest truckesses over the years.)
10. C-Lab.
9. The Electric Factory.
8. K. Thomas's.
7. In his bedroom closet.
6. Ensoniq's pet name for its DOC III chip, which powered the VPX there? (TH: We try to make it as random as possible, actually.)
5. There is no particular order. Well, is there? (TH: We try to make it as random as possible, actually.)
4. One with magical powers (TH: If this were so, there'd be many more pages of ads.)
3. "Captain Kirk" Sinkard
2. Rubber Chicken Software Company
1. The articles in the *In this issue* directory are not separated by keyboard or article type.



Garth — The man behind the chicken.

# Confessions of an Upgrader

or — How I Stopped Worrying and Learned to Love my SD-1/32

*Jeffrey P. Fisher*

I know many VFX-sd/SD-1 owners are contemplating upgrading into the latest, greatest SD-1/32 voice. It's expensive (\$699 for VFX-sd, \$250 for SD-1s purchased before November 1991, and \$100 for the newer SD-1s) and you're probably wondering if it's really worth it.

Well, here's what you get with your new upgrade:

## For VFX-sd owners:

- SD-1 new waveforms including 16-bit pianos, solo violin, vibraphone, timpani, moog and slap bass, and several hip percussion/drum waves.
- An extra set of ROM sounds — 60 sounds/20 presets using many of the newer waves — it's kind of a "Best Of" collection from the VFX-sd library. You get 120 ROM sounds, 60 RAM, plus the cartridge all on board.
- The new Drum Map feature.
- 16-bit output DACS for pristine sound quality.
- Several new effects algorithms including a killer distortion effect, a dense plate reverb, and a phaser.
- The sequencer operating systems updates.
- And a complete cleaning, calibration, and general overhaul to bring your VFX-sd into Ensoniq's state-of-the-moment specs.
- To sweeten the deal, Ensoniq throws in a new manual and the latest OS disk: VSD-201.

## For original SD-1 (and VFX-sd) owners:

- The SQX-70 memory expander that increases the sequencer to 75,000 notes.
- Sequencer upgrades to version 4.1 with the new SWING feature added.
- 32 voice polyphony.

That may not look like much, but once you see and hear what you've been missing, you'll be pleasantly surprised.

## The Verdict

So is it worth it? The answer is an emphatic yes! Especially for VFX-sd owners. It may be a little less attractive for SD-1

owners (though the lure of 32-voice polyphony is strong). They may want to wait and see if Ensoniq decides to offer more features soon.

I sent my VFX-sd off for the complete upgrade and am very happy with the result. They even fixed my keyboard-calibration error.

The new sounds are topnotch and made even better by the new output circuitry. Before I shipped my board, I recorded a simple sequence on tape using some of my favorite sounds. When my upgraded synth returned, I again recorded the sequence to tape then compared the two. I was shocked. I expected a subtle difference, but was amazed by the clarity, better fidelity, increased punch, and the crisp and clean highs.

The new sounds really shine and old patches get new life. In fact, several of my sequences sounded completely different. And then there's the new piano. I thought the Mega-piano was cool — this 16-bit piano is hot. The included sound, DYNAMIC GRAND, really shows what this wave can do (and sound like)! The drum map feature is a welcome addition, as are the increases in sequencer memory and polyphony. Even with dynamic voice allocation, my VFX-sd suffered during complex musical passages. The 33% increase really makes a difference. And the additional memory makes copying and backing up a snap. Disk copies now only take about three disk swaps.

Unfortunately, even though it's an SD-1/32 voice under the hood, the outside still says VFX-sd. How about a slap-on sticker so you can impress your friends?

## How to Upgrade

What does it take to get the upgrade? Contact Ensoniq and they'll give you a repair authorization number. Next, pack up your keyboard (you saved the original shipping container just for such an eventuality, didn't you?) and write the authorization number on both ends of the box in big, BOLD letters. Then, trek on down to your nearest UPS office. It'll cost between \$12 – \$18 to ship UPS ground depending on where you live. (Ensoniq also requires that it be insured — or at least they say that they aren't responsible for any damage that happens en route.)

In about two weeks your fresh, new SD-1/32 voice will arrive COD. To simplify matters, Ensoniq decided to only offer the upgrade COD. Unfortunately, that means you can't use your credit card to pay. I applaud them for making it uncomplicated, though. The return shipping charges are included in the COD total.

## Still not Convinced?

So, the new sounds, new features, and the painless upgrade procedure not enough for you? Don't take my word for it. Go down to your local Ensoniq dealer and ask to hear the SD-1/32 voice. Load in the SD-1 PALETTE demo and play these RAM (INT0) sounds: DYNAMIC GRAND, RUDE-GUITAR, STACKED, and WARMS BOWS. Next, play these ROM sounds: MOOG-MUTE (RM15), CROSS-BASS (RM15), DRUMS-MAP-R (RM19), 808-MAP-R (RM19), and ORCH-PERKS (RM19).

Need more? Play the SD-1 PALETTE demo sequence.

## And One More Item of Interest to Professionals

Remember this: the upgrade is really a kind of repair. If you use your VFX-sd/SD-1 for business, like me, the cost is fully tax-deductible! ■

*Bio: Jeffrey P. Fisher is a composer for films and video and the author of How To Make Big Money Scoring Soundtracks for Corporations, Cable TV, and Commercials.*

---

# For Those of Us Who Cannot Face One More Manual

Tony Thomas

---

For: SD-1/SD-1 32 Voice (also available for the EPS-16 PLUS, SQ-1 & SQ-2 and VFX).

Product: Talking Owner's Manual — audio cassettes.

Price: \$14.95

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

---

Deciphering the contents of most keyboard manuals is like learning a foreign language. You often have to wade through pages and pages of technospeak to find the pearl you are seeking.

As a result, many novices don't even bother to read manuals. They find them too frustrating, too intimidating and too difficult. Instead, they plunge in and attempt to learn a complex instrument via trial and error. If they happen to stumble on a function or sound they need, they are elated. Unfortunately, their elation soon turns into frustration when they are unable to replicate that feat later on stage or in the recording studio. It is no wonder that most people never get beyond playing the presets on the instruments they buy.

*The Talking Owner's Manual* is designed to alleviate the intimidation factor and to help the SD-1 owner navigate this complex instrument without getting seasick. The package consists of an audio cassette and a 3.5" SD-1 disk. You pop the cassette into your tape deck, load the disk into your SD-1 and you're ready to go. You'll probably have to use a portable cassette recorder, unless your setup includes a mixer which will enable you to listen to a tape deck and your SD-1 at the same time. This is probably the best option since the tape sounded a bit fuzzy through my good quality tape deck. The duplication quality could definitely stand some improvement.

It is recommended that you jot down the counter numbers on your tape recorder which correspond to each section of the tape and use the same tape recorder each time, since these numbers vary from recorder to recorder. You can use these numbers as

an index when you need to review certain sections of the tape. It also might be a good idea to keep a notebook handy to jot down your thoughts and ideas while listening to the tape.

The tape opens with a short primer which tells you how to hook up the SD-1. Next, there is a tour of the instrument's front panel, with short explanations of each function. Then, there is an overview of the *Ensoniq's Musician's Manual*. The manual is used as a reference source for the Talking Owner's manual.

The rest of the tape provides detailed information on how to use the SD-1. Sonic examples are included on the tape to illustrate, for example, how sounds can be used. This is a nice touch since it enables the listener to hear what can be done with the SD-1, interactively. The disk included with the package is used to demonstrate the sequencer and disk functions of the SD-1. There also are some good demo sequences, drum patterns and templates which you can use. There are also some excellent demos of the factory sounds.

*The Talking Owner's Manual* is a novel product that can be an invaluable learning aid to the SD-1 owner. It is almost like having an experienced teacher giving you lessons on how to use this powerful keyboard. The disk that comes with it adds to the usefulness of the package and can be used as a building block for creating your own sequences. Although the *Talking Owner's Manual* is an effective adjunct to *Ensoniq's Musician Manual*, I can only imagine how much more powerful it could have been if it was a videotape. ■



*Bio: Tony Thomas is a veteran journalist who has contributed to several national magazines including Mix, Electronic Musician, Music Computers and Software, AV/Video and REP. He is also an established recording engineer, producer, composer and keyboard player.*

# SQ-1 = B-3

## An Equation For Making Your SQ Scream Like a Tonewheel Beast!

Mark Clifton

Now I may be young, but I feel that I've had the opportunities to experience some of the finer things in life — namely power analog, down-and-dirty Rhodes and the mighty Hammond B-3 organ. All of these came before my time, but good luck has allowed me to get to know each of them (especially the B-3), and turned me green with envy for all you old-timers who were around when they ruled supreme. I've spent many an hour pounding on the old Hammond C-3 (identical to the B-3 except for the addition of chorusing and a lovely oak cabinet) at my church, and know for a fact that there's nothing like crankin' up the old Leslie speaker, yankin' out all the drawbars, and pummeling its keys into oblivion. Its classic grungy sound and wobbling Leslie have made it a staple in jazz and rock n' roll since its inception. There's just something about that unique, almost organic sound that draws people to it. It's an instrument that you can't cheat or lie about your musicianship on. To play it requires a certain brutality that you would never use on other instruments. You can't be a whimp if you want to play the B-3.

Okay, enough romantic rambling (the B-3 just has that effect on me). It's time to tell you how to get a nice simulation of this bliss on your SQ-1. If you don't want to haul around the genuine article (which weighs a good four hundred pounds), or pluck down the few thousand dollars for a used one, then your SQ should work nicely. So far, there hasn't been a synthesizer in the world that can reproduce the sound of the B-3 with total accuracy, and the SQ-1 is no exception. I find that the B-3 simulations on the SQ lack the grit and high-end scream of the real thing. This is a fault in the raw waveforms and too-clean output of the SQ (yes, 21-bit D/A converters do have their curses), and can't really be helped. Still, I guarantee you'll be surprised at how gutsy your SQ-1 can sound.

### Sound Generation

The B-3 generates sound using 96 electronic tonewheels that each create a (somewhat imperfect) sine wave in a specific harmonic. Drawbars above the B-3's two 61-note manuals control the volume of each harmonic. There is a set of nine drawbars for each manual, making them both separately "programmable." Drawbars can be pulled while notes are sustaining, which gives a level of realtime control that is hard to achieve on a synthesizer. There is a way to match the same effect on the SQ, but I'll cover that later.

The layout of the drawbars is as follows:

Drawbar	Interval	Equivalent Note
16'	Sub-octave	C2
5-1/3'	5th	G3
8'	fundamental	C3
4'	octave	C4
2-2/3'	12th	G4
2'	15th	C5
1-3/5'	17th	E5
1-1/3'	19th	G5
1'	22nd	C6

There is also a set of three drawbars for the pedals which are the same as the first three of the manual drawbars. Each drawbar is marked with the numbers 1 through 8, which are used as increments with 1 being the lowest volume for that harmonic and 8 being the highest (0 is off). These numbers are also used to code drawbar combinations (ex: 888508-700). The corresponding SQ-1 volume vale is roughly 12 increments for every 1 on the B-3.

It is possible to create excellent B-3 sounds using additive synthesis, which builds sounds out of harmonic sinewaves exactly the way the 'B does. But this seems fairly impractical with the SQ's three-oscillator structure which would only allow three sinewaves to be used at once. You could create a string of sounds, each with a different set of harmonics, then assemble them into a preset, but this would severely limit polyphony. Another solution is the "1 + 2 Harmonics" waveform, which is actually two sinewaves playing in unison an octave apart. If you look at the harmonics that the B-3 drawbars produce, you'll notice that they are nothing but consecutive sets of firsts and fifths, with a seventeenth (major third) thrown in. By substituting the "1 + 2 Harmonics" wave for any harmonics that lie an octave apart in a certain drawbar combination, you can create bigger additive B-3 sounds while still saving polyphony.

The SQ-1 also contains four "Organ Variation" waves that correspond with certain drawbar combinations. I don't know how the waves were created, but it's a pretty good bet that they're either samples of a real organ or additive recreations. After doing some lengthy comparisons, I've matches the drawbar combinations to the waveforms that they correspond with:

### Organ Variation 1:

(C2 - Ab5) 878070030, (A5 - C6) 878070000\*

Organ Variation 2: 888000000

### Organ Variation 3:

(C2 - Ab5) 888830030, (A5 - C6) 888000000\*

Organ Variation 4: 878070000

\* Multisampled, probably eliminating the higher harmonics to avoid beat frequencies.

The results aren't completely accurate, but are extremely close. By chaining together these waveforms with sine and 1 + 2 Harmonic waves, you can recreate almost any drawbar combination.

The B-3 can produce only a straight, continuous tone, so envelopes should be set to full.

### Key Click

Key click is a short electrical pop that sounds on attack and release of the B-3's keys. Despite Hammond's attempts to eliminate this "defect," it became an integral part of the B-3 sound, and many musicians did all they could to enhance it. Programming a short envelope release time of about 03 seems to produce a sufficient pop at the end of the sound. You can also get a pop at the beginning of the sound by programming an attack value of 99, but this pop is slightly whimpy. If you have an extra oscillator on hand, you might want to use it to produce a more pronounced key click. Just take the "noise Loop" wave, feed it through a 3Lo/1Hi-Pass filter with FC1 Cutoff = 073 and FC2 Cutoff = 80, and set the Amp Envelope for the minimum possible decay value. That's it — pathetically painless.

### Key Percussion

Key percussion was an effect added to "smooth out" the B-3's sound. It is basically a single sinewave whose pitch can be switched between an octave ("second") and an octave and a fifth ("third") above the fundamental. There is a switch for selecting either "normal" or "soft" volume and another one for selecting either a slow or fast decay. Fast decay lasts about one second while slow decay is about a second and a half, after which the sound dies away, almost like a bell. The key percussion disables the 1' drawbar when it's activated, so any sound with key percussion should not include that harmonic. The effect is only single-trigger, so the previous key must be released before the percussion will retrigger. The SQ-1, even with its multiple glide effects, can't simulate this, so I just leave it alone and let the effect trigger normally.

### Chorus and Vibrato

The vibrato on the B-3 is controlled by a rotary knob that

lets you select between three different types. The vibrato that is produced is a complex sinewave, and can be turned on or off separately for each manual.

Chorusing is present only on the C-3 and other "B" models, and is controlled by the same rotary knob that controls vibrato. There are three chorus/vibrato combinations offered. The chorusing effect can be achieved by slightly detuning the oscillators of the SQ.

Both effects are fairly subtle, so it is hard to give an accurate formula for reproducing each one. You'll just have to do some close listening and program them to taste.

### Leslie Speaker Effect

One of the main components of the "classic" Hammond sound is the Leslie rotating speaker. The SQ-1 has an excellent "Rotary Speaker + Reverb" effect that approximates this sound. The reverb can be programmed to taste, but there are certain sets of parameters that seem to create the closest simulation of the Leslie speaker. "Slow Speed" should be set to 10 and "Fast Speed" to 99. "Rotor Center" should be at 50 and "Rotor Depth" can be anywhere between 24 and 32 depending on the characteristics of that particular sound. The "Speed Mode" parameter is used to judge the way that the effect will speed up and slow down in accordance to the controller that you assign to the "Modsrc" parameter. For a truly accurate representation of a Leslie, "Speed Mode" should be set to "Switch." As for the controller, I find that the modwheel or modpedal works best — or maybe even the dread timbre slider. The modwheel offers the most realistic operation since its position corresponds to the position of the slow/fast toggle switch on the B-3.

Now, before I go, a performance tip: To simulate the pulling out of drawbars, assign the volume of a harmonic or group of harmonics to be controlled by a controller such as the modpedal. That way, moving the modpedal will bring those harmonics in and out in realtime. Cool, huh?

I hope you have fun hacking these B-3 sounds. Now, before I fall into a B-3-induced psychosis, where did I put that Prozac?!

Special thanks to *Keyboard Magazine* for being an invaluable reference source for this article. ■

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

# SQ-80 Sequencing tips

Tom Shear

Despite its simplicity, the SQ-80's internal sequencer is pretty powerful. Sure, it doesn't have some of the ridiculously detailed features of software sequencers, but if you work with it long enough you learn ways of working around this limitation. So, this time out I'll be sharing some tips n' tricks with you that have made my SQ-80 sequencing career a lot easier and that will hopefully be useful to you as well. Many, if not most, of these tips will apply to just about any kind of sequencer — so you EPS and VFX types need not feel left out.

1. Save frequently. Probably just about everyone out there has been given this piece of advice at one time or another, but few seem to follow it. Anytime you make a major change, *save it!* Yes, it does take some extra time, but if it can save you the time and frustration you would encounter later if you accidentally erase something (and believe me, you will!), it's worth it.

2. If you have a small home studio at home, you probably love making tapes of your own music. There's nothing more satisfying than getting a really clean, professional sound out of your cheap equipment that puts some professionally recorded stuff to shame. One problem I encountered was the little bit of noise I would get when I was mastering the tape and I was waiting for the song to begin. True, I could keep rewinding it and marking the start of the song with the counter, but no matter how careful I am, I still get a tiny bit of that noise that no one else would be likely to notice, but that drives me up the wall. To get around this, whenever I record the sequenced part of my tape, I leave the clicking countoff on. This way, when I'm mastering the song, the countoff tells me precisely when the song begins and allows me to get a great-sounding recording with none of the tell-tale noise at the start of each track!

3. We all know that layered sounds sound great, but we could do without the loss of polyphony. If you have the extra track(s), there's an easy way to avoid this when sequencing. Instead of making an actual patch implementing the LAYER feature, just record the track using one of the sounds you want to layer, copy it, and change the patch of the copied track to the other half of your layered combo. This way, you get the same sound as you would if you were using a layer, but you aren't reduced to four voice polyphony!

4. One creative possibility that sometimes yields interesting results, is to replace a melodic synth sound with a percussion or drum sound or vice versa. Nine times out of ten you'll get garbage, but occasionally you'll get a great rhythm track you never would've thought of before.

5. One of the features that the SQ-80 sequencer is missing is the auto-mixing facilities of the EPS. Does this mean we're

shut off from this great feature? Of course not! Simply go to the AMP pages on all the patches you're using in the current sequences and set up the WHEEL as a modulator with a value of -63. Then, go to the section where you want the song to fade out. Set up a track with any patch and record a slow, steady advancing motion of the mod wheel. If you've done this correctly, when you merge this track with each of the other tracks, you should hear a nice, automatic fade.

6. Another trick that can sometimes sound cool is the following: record one track on the sequencer, preferably something rhythmically busy with lots of sixteenth notes. When you've got your track, copy it. Next, go back to the original track and quantize it to 16th notes, but leave the copied track as is. Unless you play with absolute precision, the unquantized track should be slightly different than the quantized one and the two should interact in interesting ways.

7. One of the annoying things about the SQ-80 sequencer is that when you are using a MIDI instrument on one of the tracks, all it says on the track is \*MIDI\*. So how are you supposed to know what sound goes on channel 3? I've had this problem all the time trying to remember what samples I used in a particular song on which track. Well, unfortunately, there's no easy way to do this I'm sorry to say. What I've done is to keep a MacWrite file called "tracklist." In this file, I enter what the name of the sequencer file is, which sequences make up a particular song, the name of the song, and what instruments go on what channels. People with access to a program like Hypercard could pretty easily program some type of special database that would do a better job than this, but right now I'm feeling just a little too lazy.

8. My final tip is to keep a special "Ideas" sequencer file. This way when you're in the middle of something and inspiration strikes, you can quickly load this file up and punch in your idea before you lose it and go back to what you were doing without worrying about forgetting your new idea. It also gives you a pool of ideas to try out in your other songs. Having trouble coming up with a bridge for your new tune? Just call up your ideas file (or files) and listen to some of those old ideas you never got around to making into full songs. One of them might be perfect! ■



*Bio: Tom Shear is a student at Syracuse University where the tuition is too high and the temperature is too low.*

## EQUIPMENT

Yamaha TX802 with 1,000+ patches (Opcode/Mac format), \$575. Fostex 450 8x4x2 mixer, \$450. Passport Pro4 (v4.5.2), sequencer for Mac. \$1000 takes all, plus many extras, too! Call Jon at WAVX, (207) 594-9283.

EPS with 2x expander, 100 disks, all pedals - \$1000. Yamaha T677 with 2 extra RAM cards - \$1100. Both used only in church. 717-366-1300.

EPS 4x/SCSI \$1000. Home use only. Original box and manuals. Call Miguel at 617-693-7703 (day) 603-595-0399 (eve).

Want to trade my 500cc Yamaha motorcycle for your Mirage, Stratocaster, \$400, or ? Denver area. Call Bob at (303) 337-4570.

KB-32 \$1550. EPS-16+ rack \$1650. Both new, purchased 7/24/92. Taken out of box only once to check-out everything. Visa/Mastercard accepted. Jones, Barnett Drive, Tazewell VA 24651. Phone: (703) 988-7442.

Ensoniq EPS-16 Plus with 4x expander, scuzzi port, extras. Also sequences, disks, like new, boxed. (813) 646-0442. Asking \$1950.

Yamaha RX11 drum machine, RAM cartridge, books, \$225. 309-699-0351.

ESQ-1 early model (metal case) \$600. E-mu Proteus/1 \$600. Alesis HR-16 \$225. Alesis MIDI and MicroVerbs \$150 each. Alesis 1622 mixer \$675. Yamaha 802 8-channel mixer \$200. 1-800-926-2583, Visa & MasterCard OK.

EPS-16+ Turbo, brand new, warranty, 3 megs memory, SCSI, instant flash memory, dazzling digital effects, tons of extra sounds. \$2495. (510) 828-5208.

Expander chips for VFX-sd. Returned from Ensoniq after further upgrade to SD-1 was installed. I'd trade these chips for two blank carts. In case of a tie, I'd choose carts loaded with your best patches. Please write: Ken Jacobs, McCune Sound, 2200 Army St., San Francisco, CA (415) 641-1111.

## SAMPLES

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

Proteus and U220 sounds digitally mastered on Compact Disk (CD). 600 samples total, covering 98 individual sounds. \$14.95 + \$2 s/h. CA Res. add appropriate sales tax. Digitelesis, 5232 Camino Playa Malaga, San Diego, CA 92124.

Professional 16-bit samples for the EPS-16 Plus. Series 1: Analog Classics. Series 2: Legendary Digital. Series 3: Studio Drums. Series 4: Experimental Industrial. Each 5-disk series: \$35 + \$5 shipping. Make cheque or money order payable to: Dennis Cooke, 128 Greendale Cres., Kitchener, Ontario, Canada N2A 2R6.

Prosonus Sound CDs: Violins solo/section/FX, Celli solo/section/FX, Horn/Tuba + FX. \$45 each (includes postage). (310) 392-8373.

Mirage samples: Plus moving wavesamples all over. 7 sounds in one bank, much more. Listings: \$1.00. Demo tape: \$6.00 (includes listings). Mr. Wavesample, 162 Maple Place, Keyport, NJ 07735. 908-264-3512. Make checks payable to Jack C. Loesch.

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

SUPERB EPS-16 PLUS SAMPLES of E-mu ProcuSSION, Minimoog, K-4, and more, from the *Hacker's* Sam Mims, \$9.95 per disk. Post-production quality sound effects samples for EPS-16 Plus, all from digital source recordings, \$5.95 per disk, \$5.45 each for six or more. Mirage Disk 1, samples from Minimoog, DX-7, and VFX, for \$7.95. Send SASE for free listing to: Syntaur Productions, 2315 Mid Lane #44, Houston, TX 77027, or call (713) 965-9041.

## PATCHES/SOUNDS

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. Also available for the ESQ and SQ-80 are Soundsets 1, 2, and 3. Forty patches per set, each with 22-page booklet of programming notes and performance tips, for \$17.95. Send SASE for free literature. Syntaur Productions, 2315 Mid Lane #44, Houston, TX 77027, or call (713) 965-9041.

120 High-Quality SD-1/VFX-sd-II sounds by Eric Olsen. See my review in the June Issue. Call for info or send check for \$25 for Volumes 1 and 2 to: Eric Olsen, 6050 Adaway Ct., Grand Rapids, MI 49546, (616) 676-0863. (Please specify which version instrument you have.)

## SOFTWARE

IBM users: Cakewalk 4.0 sequencer, Dr. T's Copyist Professional (DTP) music transcription program. \$100 w/complete package/manuals. (310) 392-8373.

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.

## MUSIC

"Anthony Ferrara, Contemporary Guitarist" E.P. cassette, reviewed in July '92 *Hacker*. Send \$5.50, check or m.o., payable to: Anthony Ferrara, P.O. Box 14503, Philadelphia, PA 19115.

## INSTRUCTION

VFX-sd USERS... 113-minute complete and thorough owners manual on audio cassette. Includes disk of performance templates ready for playing or sequencing, plus Blues sequence. You play the leads as you experiment. Listen and learn its true powers while your hands operate the VFXsd's controls, step by step. Order shipped fast with \$14.95 check (includes P/H) from: Talking Owner's Manuals - VFX, 21405 Brookhurst #151, Huntington Beach, CA 92646. FAX: 714-631-5695.

## 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.

## SD & VFX Prog: LEANFLUTE

By: Dara Jones, Dallas, Texas

NOTES: An all-occasion flute for all you polyphony misers out there.

**THE HACK:** This is quite a handy collection of flute sounds, a different one on each patch select. The aftertouch vibrato is very nice; these are very musical and expressive patches. I didn't want to change the sounds a bit. But I did fix one thing that seems like a simple oversight. (TH - A last minute note from Dara also mentions and corrects this same glitch.) On Voices 1 and 2, the VELOCITY THRESHOLD (third Output page) is programmed higher than zero, meaning that when a note is struck softly, the patch does not

play. This is a useful feature for doing velocity crossfades between sounds, but not here. Set them to zero, and you can play at any level you like.

- Sam Mims

*Bio: Sam Mims is currently touring and recording in Asia with Malaysian pop singer, Zainal Abidin. He is also keyboardist for Capitol Records artist, Richard Elliot. He recently relocated his iguana, his company, Syn-taur Productions, and himself from Los Angeles to Houston.*

WAVES	1	2	3	4	5	6
Wave	ChiffFlute	WoodFlute	Ocarina	Ocarina		
Wave Class	BreathSnd	BreathSnd	BreathSnd	BreathSnd		
Delay	0	0	0	0		
Start	0	0	0	0		
Direction	Forward	Forward	Forward	Forward		
Vel Start Mod	0	0	0	0		

MOD MIXER	1	2	3	4	5	6
SRC-1	Press	Press	Press	Press		
SRC-2	Velocity	Velocity	Velocity	Velocity		
SRC-2 Scale	0.3	0.3	0.3	0.3		
SRC-2 Shape	Smoother	Smoother	Smoother	Smoother		

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

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

FILTER 1	1	2	3	4	5	6
Mode	3LP	3LP	3LP	3LP		
Cutoff	57	57	57	57		
KBD	+19	+19	+19	+19		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	+17	+17	+17	+17		
ENV2	+86	+86	+86	+86		

FILTER 2	1	2	3	4	5	6
Mode	1 HP	1 HP	1 HP	1 HP		
Cutoff	0	0	0	0		
KBD	+4	+4	+4	+4		
MODSRC	Timbr	Timbr	Timbr	Timbr		
MODAMT	+50	+50	+50	+50		
ENV2	+26	+26	+26	+26		

OUTPUT	1	2	3	4	5	6
VOL	52	52	52	52		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	+11	+11	+11	+11		
KBD Scale	+5	+6	+7	+6		
LO/Hi Key	A0/A4	A0/C8	A0/C8	A0/C8		
Dest Bus	FX2	FX2	FX2	FX2		
Pan	37	69	24	76		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	0	0	0	0		
Pre-Gain	On	On	On	On		
Voice Prior	Medium	Medium	Medium	Medium		
Vel Thresh	+44	+26	0	0		

LFO	1	2	3	4	5	6
Rate	31	31	31	31		
MODSRC	Mixer	Mixer	Mixer	Mixer		
MODAMT	+18	+18	+18	+18		
Level	16	16	16	16		
MODSRC	Mixer	Mixer	Mixer	Mixer		
Delay	52	52	52	52		
Waveshape	Sine	Sine	Sine	Sine		
Restart	On	On	On	On		
Noise SRC RT	-	-	-	-		

### SELECT VOICE

00		2			
0*	1				
*0			3	4	
**	1	2			

### 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	98	98	98	98		
Peak	99	99	99	99		
Break 1	79	79	79	79		
Break 2	98	98	98	98		
Sustain	99	99	99	99		
Attack	0	0	0	0		
Decay 1	17	17	17	17		
Decay 2	15	15	15	15		
Decay 3	20	20	20	20		
Release	43*	43*	43*	43*		
KBD Track	0	0	0	0		
Vel Curve	Convx1	Convx1	Convx1	Convx1		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	44	44	44	44		
Vel-Attack	0	0	0	0		

### ENV3

	1	2	3	4	5	6
Initial	83	83	83	83		
Peak	99	99	99	99		
Break 1	99	99	99	99		
Break 2	97	97	97	97		
Sustain	99	99	99	99		
Attack	6	6	6	6		
Decay 1	17	17	17	17		
Decay 2	20	20	20	20		
Decay 3	26	26	26	26		
Release	34*	34*	34*	34*		
KBD Track	0	0	0	0		
Vel Curve	Convx2	Convx2	Convx2	Convx2		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	6	6	6	6		
Vel-Attack	2	2	2	2		

### PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	x1
Restrike	19
Glide Time	0

### EFFECTS (1)

Effect	Large Hall Reverb
Decay	76
FX1 Mix	41
FX2 Mix	62

### EFFECTS (2)

Pre-Delay	2
Early Refl Level	49

### EFFECTS (3)

FX2 Mode	Norm Stereo Send
HF Damping	40

### PERFORMANCE

Timbre	0
Release	0
Pressure	Key

**Prog: Boss Clav**

By: Mark Haymond, Evansville, Indiana

Notes: This is one of those sounds that I played around with for a while, then, after 231 changes, it sounds pretty good.

The modwheel adds fullness and sustain. The low end is good for bass rifs.

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Waveform	Waveform	Waveform
Wave	Organ4	ClavVar	ClavVar
Delay Time	0	0	0
Wave Direction	-	-	-
Start Index	-	-	-
MODSCR	-	-	-
MODAMT	-	-	-
Restrk Decay	0	0	0

LFO	1	2	3
LFO Speed	34	34	34
Noise Rate	00	00	00
Level	00	00	00
Delay	00	00	00
MODSRC	Wheel	Wheel	Wheel
Wave	Sine	Sine	Sine
Restart	Off	Off	Off

AMP	1	2	3
Initial	80	99	99
Peak	99	99	99
Break	50	57	57
Sustain	00	00	00
Attack	02	00	00
Decay 1	56	48	48
Decay 2	56	99	99
Release	15	12	12
Vel-Level	19	19	19
Vel-Attack	06	06	06
Vel Curve	Quikrise	Quikrise	Quikrise
Mode	Norm	Norm	Norm
KBD Track	+00	+00	+00

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

FILTER	1	2	3
Filter 1	3Lo	3Lo	3Lo
Filter 2	1Lo	1Hi	1Hi
FC1 Cutoff	000	034	034
ENV 2	+99	+99	+99
FC1 KBD	00	+21	+21
MODSCR	Wheel	Wheel	Wheel
MODAMT	+70	+28	+28
FC2 Cutoff	000	030	030
ENV2	+42	039	039
FC2 KBD	00	+14	+14
FC1MOD-FC2	On	On	On

OUTPUT	1	2	3
VOL	82	87	87
Boost	Off	Off	Off
MODSRC	Veloc	LFO	LFO
MODAMT	+00	+00	+00
KBD Scale	+00	+00	+00
Key Range	C2C7	C2C7	C2C7
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	+00	+28	-28
Vel window	000	000	000

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

ENV2	1	2	3
Initial	99	99	99
Peak	99	99	99
Break	45	65	65
Sustain	00	01	01
Attack	00	00	00
Decay 1	20	10	10
Decay 2	60	69	69
Release	00	19	19
Vel-Level	72	72	72
Vel-Attack	00	00	00
Vel Curve	Convex	Convex	Convex
Mode	Norm	Norm	Norm
KBD Track	-28	-28	-28

Standard  
Sound  
Programming

**Effects Programming**

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

**CHORUS AND REVERB**

FX-1	15
FX-2	00
Decay time	22
HF Damping	00
Chorus Rate	20
Chorus Depth	20
Chorus Center	50
Feedback	+00
Chorus Level	53
MOD (Dest)	FX2-Mix
BY (MODSRC)	Wheel
MODAMT	+74

**The Hack:** This is a rather nice slant on an old original. The Organ Variation wave helps give Boss Clav the little extra umph it needs. However, some might want more punch. For Voice 1 set the Waveclass to Transwave and the Wave to Resonant1-X. Then balance the outputs of Voices 2 and 3 by changing the Vol to 75 in the Output Section (for both voices). The Amp Section Envelopes for Voices 2 and 3 could stand some Decay-Sustain modification; again for both voices Decay 1 = 48 and Decay 2 = 29. Finally, for a more percussive or "Herbie Hancock" effect, go to the Filter Section for Voices 2 and 3. For both voices change FC1 Keyboard to -99.

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 & KS-32 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.

Hi Guys!

Are you planning any kind of ongoing articles on the DP/4? My employers will be purchasing a few of them in the near future and so it would obviously be helpful to us to have some running documentation on its features and applications.

- Paul

[TH - Yup, we are going to cover the DP/4. We'll go through our usual pattern of announcement/specs/first-look/review/beg-for-articles. Right now, we're in the process of first-look and review. More to come, but it'll take a while.]

---

Dear Hacker,

First, to Jeff Rhoads:

I'm a recent subscriber to the *Hacker*. Great magazine!! Being a diehard hacker on the SQ-1, your Hackerpatch page is the first thing I turn to for the latest SQ-1 patch. I do appreciate your insightful analysis of each patch, and the additional improvements that can enhance the patch. This has been very helpful as I hack and learn. The question I have for you (and others): has anyone compiled a collection of "Best of SQ-1 Patches?" If such material exists, please let me and the other Hackers know. Thanks!

And to Clark:

Your articles on programming the SQ-1 are great!! How about a book? Like, "Everything You Wanted to Know About the SQ-1 (but couldn't figure out from the Blue Book.)" As I see it, the Blue Book lacks direct examples and seems to be somewhat disorganized - especially for the first-time user. Still, your hands-on and step-by-step approach works well for me. Keep up the good work.

Thank you,  
Mark Haymond  
Evansville, In.

[Jeff Rhoads - Well, we really wouldn't want to take up valuable Hacker-space just

reprinting "Best-ofs." If what you really want is an electronic compilation of all these patches all ready for loading (much like what Garth Hjelte did for the ESQ/SQ-80), then maybe some generous reader who's been punching them all in will contact us. (Sorry - I don't have one.)]

[CS - Funny you should ask. I've actually been thinking of taking the SQ series and turning it into a book so I could sell it and make loads of dough. The only thing holding me up, really, is that I want the book to adhere to the same high standards that you've come to expect from me in my long and somewhat consistent career. And then, of course, I need to actually finish writing it. I'll keep you posted.]

---

Clark,

I couldn't help noticing how involved you are with the *Transoniq Hacker*. The organization that I started with some friends, International Samplers Coop is planning on starting a newsletter this August. I could use any advice that you may have regarding doing this since I'm a big fan of the *Hacker*. Would you be interested in any involvement with this project? I realize you're a busy man, but an article or a review would be really helpful for us. The newsletter "Loop" will involve all forms of sampling, so the scope is limited to only things that are sampler oriented in nature.

By the way, we have BBS support via MusoBBS: (818) 884-6799, voice (mine): (310) 455-2653. We will be part of Midilink, and are already with Fidonet.

Thanks  
Jim Norman  
[71321,2614]

[CS - I'm delighted to be considered for publication in your new newsletter. As far as advice goes, the best thing I can come up with is this: Don't give up your day job right away - not that many people become fabulously wealthy doing newsletters (ever heard of a newsletter baron? I think not.) And I'm speaking from experience here when I say include some articles. Oh, and advertising can be a source of income as

far as I can tell - you might want to give it a try.

Seriously, though - you'd probably get some good ideas from Eric and Jane, legendary publishers of the *Hacker*, two of the finest and most generous people I know, who wouldn't even bat an eye if I were to ask for a raise right this minute... yeah, they might be able to help. Apart from that, keep in touch and good luck!]

[TH - Of course the Most Important Thing to remember is to make sure to keep the writer's payment to a minuscule honorarium. (It's bad enough that they get famous and go off to write for your competitors and author books and the like - they don't have to live off it too!)]

---

Yo Hacker,

1. On my VFX-sd, I enjoy the high-pass capability of my filters along with the versatility of their variable configuration, but I have found that the resonance function (like on the ESQs and SQ-80) is even more useful. From what I've heard, this seems to be a popular opinion. My understanding of digital filters is almost nonexistent, so I was wondering if you could tell me how practical it would be to add the resonance function to them. I am guessing that this technology could even add the capability of giving different shapes to the resonant response curve. For example, maybe the user might be able to select between the "standard" type of resonance or one that would make it sound like a Moog filter. Is this sort of thing really practical or am I just fantasizing?

2. Is there any chance of finding modulatable start and end points for waveforms on a future Ensoniq synthesizer (maybe this would make Transwaves obsolete)?

3. Also, I was thinking that when I get old and hard of hearing, it would be really nice to have a hearing aid with an onboard effects processor. How about it, Ensoniq?

Ensoniq still makes the most original and versatile keyboards around. I think of my SQ-80 as basically an expanded version of

the Memorymoog, so when a MIDI-equipped Memorymoog came on the Denver market recently, I said to myself, "Hey, never mind, I've already got an SQ-80."

Keep up the good work.

Sincerely,  
Kirk Slinkard  
Lakewood, CO

[CS - 1. In my opinion, filter resonance is somewhat overrated. Although resonance does add some functionality to a filter, using resonance on full-bandwidth samples tends to make them sound a bit less hi-fi. Of course, Ensoniq synths include transwaves and effects algorithms (most notably the Phase Shifter) which allow you to simulate a number of resonant filter effects. As far as them adding this capability to synths that are already in production, my guess is that you're not very likely to see it happen - perhaps Ensoniq will have something to say on the subject.

2. The original recipe EPS included modulatable loop start, end, and position, and the EPS-16 Plus expanded on the capability by adding a number of Transwave-type functions for modulating the loop in various ways. Oddly, I've yet to see a sound that really takes advantage of any of these way cool features.

3. You could model it after the M1 "Frontal Lobe" and call it the "Ear Lobe."

[Ensoniq - 1) Implementing resonant filters in our current products is not possible, since that capability has to be designed "from the ground up" into the oscillator chip (where the digital filtering is done). But be assured that we always consider these sorts of features when we are designing the hardware platforms which will be the basis for future products.

2) As Clark said, the EPS-16 PLUS offers lots of ways to modulate the wave pointers. On our synthesizers, you can modulate the wave start point with velocity.

3) The Sound Selector\* does contain a programmable 13-band equalizer. Other forms of DSP (e.g. reverb, chorusing or fuzz-wah) have not been specifically requested by hearing aid wearers. Go figure.]

---

Dear Resident Genius,

I have had some great results on my EPS. I sample radio station IDs and get different effects by moving around the keyboard then settling on the root key and letting the complete ID play out. I'm trying to come up with some other technique that would let me do more serious things with voices. And how do I synchronize my sequencer to a 60 second sample (in C and played back a 5th in G)? The voice drops in pitch. I want my sequencer to compensate for the drop in time introduced by pitch shift. Some of my stuff is getting played locally 24 times a day.

Looking for info,  
Al Trautman  
Lydia, LA

[CS - I'm a pretty firm believer in doing serious things with voices, too, although sometimes comical voices provide a refreshing break.

I'm not sure I understand what your synchronization question is, but I'll give it a stab anyway.

The sequencer's tempo is set in beats-per-minute, or BPM. When the tempo setting is at 120 BPM, for example, the sequencer will play through 120 beats in one minute. If you are sequencing in 4/4 time, this means that in one minute 30 measures will play (120/4 beats per measure).

If the sample itself has a tempo that you are trying to sync your sequencer to, probably the easiest way to do so is simply to create sequence that plays the sample, and then adjust the sequencer tempo while listening to both the sample and the sequencer's metronome click. It can be pretty difficult to keep a 60 second sample in time with the sequencer tempo, though. You might want to try chopping the long sample up into several short samples: Copy the sample several times - params only, if you're short on memory - and then assign each copy a different root key and key range, and use the sample start and sample end parameters to set which chunk of each copy gets played. Once these shorter samples have been created, you can set the sequencer tempo to that which most closely matches the tempo of the samples, and then trigger each sample in

order while recording the sequence. In this way, no single sample is long enough to drift too far from the sequencer tempo before a new sample is triggered.

Still, the sequencer will not compensate for the change in time that accompanies any pitch change. In digital samplers, the length of a sample (its time) and the pitch of a sample are two functions of the same process - you can't change the pitch without changing the time using digital sampling alone. Some effect processors, such as pitch shifters, will allow you to raise and lower the pitch of a sound without changing the length of time it takes to play, but most of the affordable ones introduce noticeable artifacts into the signal if it is shifted very far from its original pitch.]

[Ensoniq - You don't specify whether you have an original EPS or EPS-16 PLUS. If it's an EPS-16 PLUS, you might want to check out the Audio-In Effects Disk from Waveboy Industries. This disk features the Time Dicer, a harmonizer-type effect which lets you transpose the pitch of a sample without affecting its length (time). Very cool.]

---

Dear Hacker Hierarchy,

Thanks for putting out one dope rag. My entire life is devoted to biting my nails and drooling over what great secrets will be revealed in the next issue (checks for articles aren't bad reading either, so keep 'em coming). I just wish you would make the issues a little thicker. With only about 30 pages in each one, it gets to be like eating a USDA serving size of filet mignon. Sure, it's enough for basic nutrition but I'm hungry for more (and how about some dessert, too.) And yes, I would be willing to pay a higher subscription price if I could get more great information like you provide now. You wouldn't need a big increase in the number of pages. Only about a thousand more would do.

And now some questions for Ensoniq.

1. I noticed that in the "Current Ensoniq O.S." box, there are different OSs for each of the SQ products (SQ-1, SQ-R, SQ-1 PLUS, SQ-2). If all four of these products have identical voice architecture and almost identical guts, then why have separate OSs for each?

2. How did you manage to sneak something as big (literally) as the new KS-32 past the TH Rumor Department which always seems to catch word of these kinds of things in advance? But it seems that you've managed to pull the same thing off with the DP/4 and the SQ-1, too. Perhaps the spy T-Hacker planted in your R & D labs has gotten a little rusty. He did a good job seeing the EPS-16 PLUS, though. Remember, month after month - "There's something REALLY BIG coming!"

3. I recently found out that Ensoniq is also a major manufacturer of consumer hearing aids. What came first, the hearing aid or the synths? It makes sense to be in both businesses and it seems that the two technologies go hand-in-hand. Was the sampling technology in that groundbreaking Mirage an outgrowth of hearing aid research or vice versa?

4. My SQ-1 classic is getting ready to go the factory to get upgraded to 32-voice status. Since you guys seem to have gotten gung-ho about upgrades (don't get me wrong, I love them) have you considered making your future synths open-architecture like the Peavey DPM-3? Having the ability to simply plug in new ROM chips would greatly reduce the cost and hassle of having to send the keyboard off to the factory to get the whole motherboard replaced each time.

And now one for the *Hacker*: Have you

ever thought of setting up a network among *Hacker* writers and alumni for exchanging ideas and other tidbits like patches and juicy rumors? There's a lot of geniuses listed on that back cover that, if united, would be a force to be reckoned with. Heck, with the help of the editing staff, we might even be able to overthrow the government. (Recession, what recession? Free EPS-16 PLUS Turbos for everyone!) Maybe I'm just a networking type of guy (man, I wish I had a computer!) but it would be nice to get some camaraderie among the *Hacker* readers. As a matter of fact, I'm going to do something stupid and list my address and phone number (they're probably already in the classified section. Anyone want to hire an SQ-1 programmer? (My emotionally protective mother says I do it real well!) That way, anybody who wants to chew the fat about SQ-1 programming, or life in general, can do so as they please. I'll do anything to brighten my otherwise dull existence, as you can probably tell. But be forewarned - stalkers, burglars, hitmen and pushy salesmen will be asked kindly to go elsewhere.

I love this nutty magazine.

Mark Clifton, II  
11972 Homeguard Dr.  
Woodbridge, VA 22192  
(703) 494-5432

[CS - And I love our nutty readers.]

## Questar Sequencer

### Powerful Music Software For IBM PC Compatibles

Questar Sequencer is a professional quality sequencer that is both easy to use and affordable. It has all the important features you need to make great music.

Here are just some of Questar Sequencer's features: pull-down menus; on-line help; mouse support; 48 tracks with *loop*, *channel*, *velocity*, *key transpose*, and *port* settings; edit commands include: *copy*, *cut*, *paste*, *percentage quantize*, *length*, *slide*, *fill*, *search/replace*, *transpose*, *undo*; system exclusive librarian; dual port support; syncs to MIDI Time Code, SMPTE, or MIDI Sync; loads and saves Standard MIDI Files; tempo and meter maps; MIDI metronome, much more!

Now, in addition to supporting MPU-401 compatible interfaces, Questar Sequencer supports FM cards such as the Sound Blaster! You can use FM alone, SB MIDI and FM, or MPU-401 MIDI and FM. Compatible with .IBK FM sound files. A bank of 128 FM sounds is included!

Requires 512K RAM and DOS 2.0 or higher.

**Only \$49.95**

**30 Day Money Back Guarantee!**

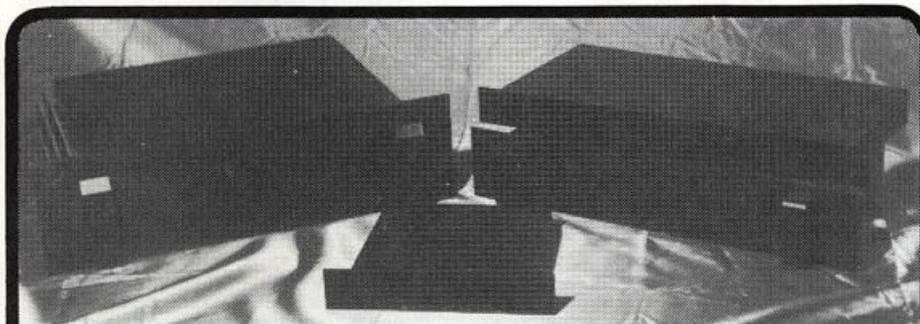
To Order: Send check or m.o. for \$49.95 plus \$5 shipping/handling and disk size.

**Questar Technology**

P.O. Box 295, Allendale, NJ 07401-0295  
(201) 825-2182

[*Ensoniq - 1*] You answered your own question when you said "almost identical guts." Though these products share a common architecture, there are differences: The SQ-1 PLUS has a 61-note keyboard, the SQ-2 has a 76-note pressure sensitive keyboard, the SQ-R has no keyboard, no sequencer. And so on. Each of these products requires its own OS version to account for these differences.

3) The synth came first. The hearing aid division came about after one of our founders was told by an audiologist that his hearing loss could not be addressed by a conventional hearing aid. His reaction was, roughly, "What's the matter with you people? You never heard of VLSI chip technology?" They mostly hadn't. And so (after years of R & D and market research) the Sound Selector\* was born. Our music technology and our hearing aid technology both have their roots in our custom chip design capabilities. Ensoniq's goal as a company has always been to seek out markets where custom VLSI technology could be employed to competitive advantage.



### Professional Rack Enclosures

	w/handle	CUSTOM OPTIONS
RAX 1/S ( 19 x 1.75 x 7.50 )	\$24.95 N/A	COLOR GRAPHICS/LETTERING Your Name or Logo
RAX 2/S ( 19 x 3.50 x 8.75 )	\$29.95 \$34.95	● Virtually Any Color ● Color Knobs
RAX 3/S ( 19 x 5.25 x 10.5 )	\$34.95 \$44.95	CUSTOM PANEL FABRICATION Round, Square or Rectangular Holes
RAX .50 ( 9.5 x 1.75 x 7.50 )	\$19.95 N/A	● Any Size (within Structural Limits).
FULLY BLACK-FULLY ASSEMBLED		CUSTOM ENCLOSURE SIZES (Available Upon Request).
UNITS INCLUDE RACK MOUNTING HOLES		

ALSO AVAILABLE: 1, 2, & 4 Channel Noise Gates ● Filter Enhancement EQ's Power Amps ● Dynamic Noise Reduction

S/H ADD \$3.50 for RAX 1S & .05 / \$5.50 for RAX 2S & 3S

Cashier's Check ● Money Order ● Check (Bank Clearance)

**STRADA**

STRADA P.O. Box 612 Alpha Il. 61413 (309) 667-2553

## LEARN JAZZ IMPROVISATION WITH YOUR MIDI SEQUENCER!



INTRODUCING JAZZ THROUGH MIDI™  
A FUN AND EXCITING NEW  
METHOD FOR LEARNING JAZZ.

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



**\$49.95**



**NEW SOUND MUSIC**

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

4) As great as an "open" architecture sounds, it is awfully hard to deliver on the promise of "never becoming obsolete," no matter how well intentioned. One problem is that the system will always be limited by the hardware that is available at the time of its design, however general-purpose you try to make it. So when faster processors, bigger memory chips, more powerful effects chips (just to name a few) become available over time, these "never obsolete" products will not be able to give you the benefits of such advances. They can, of course, offer new features using the existing hardware, through ROM upgrades. (We do that too.)

But sometimes there's just no substitute for some new hardware, such as the main board upgrades that give you 11 additional voices on the SQ and SD products. This could not have been accomplished with a ROM upgrade alone, no matter how "open" the system.]

Dear Clark Salisbury,

When I read your response in the *Interface*

(July, #85) I was surprised and, after some consideration, annoyed. I write this letter to clear my position and to express some criticism, but without animosity.

First, you are wrong when, after reading my "succinct" letter, you think: "He has a Quadra computer and an Ensoniq SD-1: this is a reach guy." Sorry, Clark, it is impossible to see into the life of an unknown man from some words on paper. You are not "envious or anything," but your words seem to reflect the opposite - Hey, it's just a gratuitous assumption; words are so dangerous...

Yes, I have a Quadra computer, but this "spendy brand new fancy-schmancy high-end computer and these money-sucking collections of chips and dip switches" is, for me, another piece of shit ("merde" in French) for my job. I am a professional graphic designer and the computer is only a tool for me, a tool like ink, brush and pencil. Today, I use this "slow" tool; yes, the Quadra is a slow machine for my purposes. I dream about a powerful machine like the Silicon Graphics Iris 4D workstation, but it's only a dream for a "middle income earner" like me. As a graphist, I want to improve my style daily and for this reason I search for better tools. Another detail - I pay for this computer every month and the owner of it is the leasing company. I lease a new machine every two years (for the same price). Please contact the leasing company for buying this "boring hardware at a substantial cost savings."

Secondly, I am not a pioneer. I dislike computer freaks and other fanatics who spend time and money around the latest high-tech machine. When I leased the Quadra, I used only the software compatible with it and my job. I don't have the time for testing "strange incompatibilities and mysterious high-tech hiccups." When I want technical information, I sometimes read those magazines where pioneers describe their paths. But now I am sure about one thing. Don't buy a Quadra only for playing MIDI applications. A Mac SE or PC clone or Atari is right for the job - and your money.

Third, when you speak about the money-market, I think you react ingenuously. You walk near your shoes ("tu marches a cote de tes ponpes" as we say in France) because you are totally in the money-market

every day. You write in a magazine which utilizes advertising and you support a non-philanthropic company (read: Ensoniq Corp.).

The people at Ensoniq support their products which is a nice marketing attitude and this means money, more money. They build nice instruments (I love my SD-1 and I had a marketing attitude when I bought it because I like innovative companies like Ensoniq), but their target is to sell more and more synthesizers and samples, money-market guy.

Four, I play music as an amateur and for this reason my choice is the Ensoniq SD-1. The second reason is the money, because the SD-1 is a great music workstation (synthesizer, digital effects, drum machine...) I own only an SD-1 running through headphones and have no money for other music hardware. People in the money-market hate me!

Hey, Clark, the heart of the SD-1 is a "spendy brand new fancy-schmancy high-end computer" from Ensoniq and I like to read stories from the *Transoniq Hacker* and "Pioneers and braves who will blaze the trail into the land of mysterious high-tech hiccups."

When I speak about a SCSI interface for the SD-1 it's only an idea for adding the missing link to this powerful music workstation (an internal 20 or 40 Mb hard drive? an external SyQuest drive?), without a "money-sucking" external computer. No way to install a SCSI interface? I couldn't care less - my first priority is playing music with the SD-1.

The last point (ouf!) - this letter is a "succinct" letter because I don't speak about the "American way of life" versus the "French way of life," based on economical considerations. But you and I don't care about these sorts of tricks. The most important thing to know for you "middle income earners" and probably the readers is that in France, amateurs and some professional musicians are like your "middle income earners" and we have a head, a body, two arms, two legs and ten fingers for playing Ensoniq musical instruments and we love, we hate, we dream, we eat, we drink, and sometimes we read *Transoniq Hacker* and sometimes we try to buy another piece of shit like a computer and/or musical hardware. And sometimes

we need money for upgrading our old VFX (another natural attitude? influence from the money-market?) and like you, we don't need "slogans" for playing music.

Hey Clark, I like to read the Interface every month (and it seems that the Interface is more a technical forum than a musical tribune – but for the internal or external computer it's the same thing. And behind everything, there is a man, a musician – or a joke...) Please, take my letter with a grain of salt.

And one more thing – I have a stupid question about my SD-1. If it is really a high-tech computer disguised as a keyboard instrument, why can't programmers extend the OS code for driving a SCSI interface? A complete workstation with an internal hard drive?

(Hey, don't shoot at the pianist...)

Sincerely,  
Jean-Luc Berthelot  
Drancy, France

*[TH – Looking back over Clark's answer to your previous letter, well, gee, maybe he was feeling a little frisky – and we're sure he'll have some comments following ours. However, there are a couple things here that we'd like to comment on (assuming you're at least partially serious). We think that there may actually be some real, live, cultural differences at work here – on this side of the pond, we're actually PROUD when we have money-sucking equipment!*

*Also, we suspect that you may have felt there might have been some disdain expressed toward the idea of making money (a feeling that does seem to infect some "artists"). Well, not here. Clark was just fooling around. Actually, the Hacker is not the least bit defensive about being money grubbing. Not only do our advertisers pay us, but (gasp!) so do our subscribers. And we wouldn't have it any other way! Profit is the market's way of telling you that what you're selling is worth more to people than what you're using up to create it. When this puppy starts to lose money it's not because all of a sudden we're kinder, sweeter people, it's just telling us (with emphasis) to either stop or change what we're doing. And Ensoniq never claimed to be running a charity either.]*

*[CS – On first reading, I was pretty sure*

*I'd made you hopping mad ("pissed off" as we say in America) – at least 'til I reached the sentence in which you say to take your letter with a grain of salt. Now I'm not so sure if you are angry with me, teasing me, or just being French. In the interest of over-clarifying my rather long-winded original response to your original letter, I'd meant it with tongue planted firmly in cheek – that is to say, take it with a big grain of salt. To set the record straight, I use a Mac IIci with a 320 meg hard drive; I'm not the least bit anti-technology, anti-computer, anti-pioneer, or anti-French. And I'm sure I would have opted for the Quadra had pricing not been a factor – it sounds like a great machine.*

*If I offended or annoyed in any way, I apologize and assure you it was purely unintentional – just a feeble attempt at a bit of levity. Oh well – c'est la vie, dude (or garcon, as we say in restaurants).]*

To all,

As a Digidesign Sound Designer II and EPS user I have had great results for the past several years transferring my edited samples from Mac to EPS. When I upgraded to an EPS-16+, I had trouble sending and receiving sample files. After a support call to Digidesign, I was astounded to find that Digi has no driver for the EPS-16+ but does have one for the stock EPS. This of course means that samples edited in 16-bit format can be transferred to Ensoniq's 13-bit machine, but not to their 16-bit one.

Digi's response was that their emphasis is in supporting Pro Tools and Sound Tools and that writing a driver for the 16+ was not planned at the present time, but that enough interest would get them working on one... (i.e. if enough letters demanding a driver are sent to president Peter Gotcher).

I'd like to initiate this campaign and appeal to all users of this product to write to Peter Gotcher (at Digidesign, 1360 Willow Roar, Ste. 101, Menlo Park, CA 94025) to implement the EPS-16+ driver... otherwise it's Alchemy!

A. David Villani  
Data Music Services,  
Altoona, Pa.,

*[CS – Alright, Sound Designer users – the gauntlet is thrown down.]*

*[Ensoniq – The MIDI (and SCSI) drivers for the EPS-16 PLUS are identical to those for the original EPS where wavedata transfer is concerned. This means that any sample editor which can talk to the EPS should be able to talk to the EPS-16 PLUS without even knowing the difference. This includes Sound Designer II (v 2.02), which we at Ensoniq use daily to transfer samples to and from the EPS-16 PLUS. So we're not sure why you are having trouble (or why Digidesign told you it wouldn't work, for that matter.) We suggest you call Ensoniq customer service. We will probably be able to help you track down the problem.]*

Hacker:

I just got the June copy of TH (#84) and there was this article by Tom Shear about Backwards sampling...

Tom goes into a complex and long-winded way of getting a sample to play backwards. Has anyone written to tell you that he could have simply used the commands EDIT LFO (taking you to the low level data commands) and gone:

```
REVERSE DATA? <Enter YES  
SAMPLE START ##### END ##### (set  
them accordingly)  
ENTER YES
```

Then the data that you defined at SAMPLE START & END would be reversed and play backwards.

Just thought I'd let you know. I nearly did things the long hard way in my "pitch shifting" article if you remember. (It's generally possible to find several ways of doing the same thing with an EPS.)

Regards,  
Scott Fisher [scott@psy.uwa.oz.au]  
Department of Psychology  
University of Western Australia  
Nedlands, 6009. PERTH, W.A.

*[Tom Shear replies – I think Mr. Fisher has missed the point of my article. By "Backwards Sampling" I didn't mean to turn a sound in reverse, but to sample in a retrogressive, unnecessarily difficult way. Seriously, I would like to thank Mr. Fisher*



**PROFESSIONAL QUALITY  
LOW COST  
SEQUENCES  
FOR  
THE EPS/EPS-16 PLUS, SQ-80,  
ESQ-1, VFX-sd, SD-1, Roland,  
IBM/DOS**

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

**CALL OR WRITE  
ANY TIME 24 HOURS**

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

***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]

Demo Tape ... \$8

***K. Thomas***

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

and the other Hackers who contacted me personally to alert me to this simpler method of backwards looping.

*It just goes to show that Ensoniq's products are so flexible that they provide us with more than one way to skin the proverbial cat. Of course, I suppose my method is akin to skinning it with a spatula. I grant permission for everyone to send major-league "Duhs" my way.]*

*[TH — And, of course, you can always use Tom's method if your "Reverse Data?" button goes sproing.]*

Dear Sirs,

Since I've just started to be a *Transoniq Hacker* subscriber, I think it's time to make my first complaint to Ensoniq...

I am Portuguese, so I live in a European country called PORTUGAL, which is more than 900 years old, where the official language is Portuguese — a language spoken throughout the world by more than 150,000,000 people.

My point is, if Ensoniq does not have Portuguese Musician's Manuals, at least the English version could be sent here — because it's easier to understand than the Spanish version.

When I bought the EPS-16 PLUS, I was given the Spanish version of the *Musician's Manual*, which has been taking me a lot longer to read and understand.

Although Portugal and Spain are geographically and historically close countries, it does not mean that we speak the same language!

I'm looking forward to receiving the magazine, hoping it will help me to clear some doubts about the somewhat too complicated operating system of the EPS-16 Plus — which seems to have been developed without a major concern about being user friendly and functional at the same time. (Others have done this — Akai S1000.)

Sincerely,  
Paulo Abreu  
Rua Fernando Pessoa,  
No 20 r/c Esq.

1700 Lisboa, Portugal

*[Ensoniq — The decision to include a Spanish manual with the EPS-16 PLUS was made by our Portuguese distributor, who is:*

AMERICO NOGUEIRA, LDA  
Rua Alto das Torres, 893  
440 Vila Nova de Gaia  
Portugal  
tel: 011 351 2 2004616

*You can contact them at the address or phone number above. We're sure they will be happy to get you an English language version.]*

Dear TH,

I just received my first *Transoniq Hacker* and I like it a lot. I own an SQ-R 32 Voice. The article on how to use the effects was something I was looking for for a long time.

I have a couple of questions:

My SQ-R is getting very hot. It stands on top of a CD player. On top of the SQ-R is a TX-7. Since the TX-7 is rather small, the area over the power supply of the SQ-R is not covered, so there should be a lot of room for the cooling air to circulate. After using my SQ-R over a couple of hours it gets hot. I cannot put my hand on top of the power supply area for longer than about 10 seconds. Other than that, it performs fine. Is that normal considering that it's running off a 220 V line?

Does Ensoniq or any other company sell any public domain sounds or inexpensive sounds for the SQ-R on Atari ST disk? I do not like ROM cards, especially when they are \$99 apiece (which means they are even more expensive here in Germany).

Do you have an e-mail address?

Thanks for the help,  
Gerald Kaendler  
Leichlingen, Germany

*[TH — Our e-mail addresses can be found in the tiny print at the beginning of the Interface column. The CompuServe address is also accessible via Internet.]*

[CS - I wouldn't worry too much about your SQ-R - these little devils will get pretty warm at times. If you can, though, it would be a good idea to try to let a little air circulate fully around the unit - if you could use some kind of spacer to provide a half-inch or so of space between the SQ and the units above and below it, things should be hunky-dory.

I'm afraid I know of no inexpensive PD sounds in Atari or any other format. You might check the classifieds in this and other keyboard-related magazines, though - it's likely that something exists out there. Perhaps our readers may have some ideas?]

[Ensoniq - It's normal for the SQ-R to get warm after it's been on for a while. In fact, the metal case is designed to act as a heat sink, drawing heat away from the electronic components inside. As Clark suggests, leaving a little air space around the SQ-R (or any piece of electronic gear) is a good idea.]

Dear Hacker,

First, I'd like to say how much I enjoy your magazine. Even though I only own an SQ-80 and VFX-SD, I read (and reread) most of the articles, reviews and Interface when they're not too technical for my simple mind. Recently, since renewing my subscription (yes, I let it lapse, forgive me) I noticed that, with so many new products from Ensoniq appearing regularly, it's a hit-or-miss proposition finding something pertaining to any particular instrument. July, '92, for instance, had no articles at all on the VFX, except for the review on the ISD-3 sounds and only a few passing references in the Interface. So, maybe this is wishful thinking but do you foresee any possibility of creating an occasional "All..." periodical or series (like your Mirage package)? Are there any other readers who would comment on this?

Also, since I can't for the life of me understand my Owner's Manual (especially programming) could you explain how to create a key-down fade (release) on VFX programs? I've tried adjusting ENV 4 (as on the SQ-80) but I can't get the entire sound to fade completely. The release function is only effective if (for instance on a string program) you use one track to



## From Rubber Chicken Software Co.

**High-Quality Samples for the Original EPS and EPS 16-Plus**

*We are your one-stop EPS shop - we do nothing but EPS! Hard drives, software, monthly newsmagazine, free consultation; everything the EPS-man could ask for!*

**NEW OFFERINGS**

**01/W Series!** A 10-disk set of some of the fattest sounds you've ever heard! Sample this recent burning hot synth! **Only \$49.95!**

**D-70 Heaven!** Light and breezy, other worldly, this 10-disk set shows the D-50 sound, but reveals the monster within! **Only \$49.95!**

**VFX IV!** It's out! Following in the footsteps of our other three "VFX meets EPS" sets, this is our hottest yet! Lush pads, strong drums, lunkedelic electric pianos! **Only \$49.95!**

**Pedal Steel!**

*For years we've been hearing the request of a quality pedal steel sample for the EPS. Finally, here it is! Slide and plucked sounds, with full use of the patch selects to obtain maximum expression! This is a two disk set, complete with other country music staples such as harmonica and jawharp.*

**Only \$14.95!**

**Other Summer Specials**

- EPS/Wavestation 15-disk sets I & II ~~\$59.95~~ **\$49.95 ea.!**
- The Chicken Drive 44mb removable Hard Drive w/ free cart of sounds ~~\$699.00~~ **\$599.00!** (lowest price on the block)
- VFX meets EPS I, II, III (25 disks) ~~\$99.95~~ **\$79.95!**
- Any Plus Pak (I - V) ~~\$39.95~~ **\$34.95!**

Please mention this ad to obtain discounts.

We Accept...  

**TOLL-FREE ORDER LINE**  
**1-800-877-6377**

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

P.O. Box 428 • Renton, WA 98057-0428  
Free catalog, just call or write!

play a line, minus the last note, and then use another track for the last note with the desired release. In fact, if you can explain, in simple terms, how to assign volume control to the mod wheel, like on the "Pedal Steel" program, to others like strings and sax, you'll have my undying gratitude and lifelong subscription.

Also, I'm interested in trading VFX sounds with anybody.

Thanks very much,  
Nick St. John  
6530 Annie Oakley Dr #2612  
Henderson, NV 89104

[TH - Actually, the July issue (#85) had Thomas's SD-1 Power Primer (a lot of which applies to the VFX), Mandel's review, and the SD/VFX Hackerpatch. It is a problem trying to fit everything in but we do try to balance things among the leading instruments. Between the (industry-wide) drop off in ad pages and the slow attrition of Mirage and ESQ-1/SQ-80 articles, there's been a marked increase in the space available for the newer stuff. In addition to the instrument-specific

material, we usually try to have an article or two that's more general and, of course the usual ads, Front Panel, Interface, and Basement Tapes that are for everyone.]

[CS - I'm not quite sure what you mean by "key down fade" - particularly in light of the fact that the VFX has no ENV 4 - ENV 3 is the envelope generally used to control the overall volume contour. The simplest thing I can tell you is that if you set the sustain level on ENV 3 to 00, and make sure the envelope mode is set to normal, the sound will eventually decay to silence. How long it takes to do so will depend, of course, on other envelope settings. Also, make sure that you are setting up the envelope you want for each active voice in a patch - adjusting the envelope parameters for one voice when there may be two or more voices sounding will probably not produce the desired effect.

You can control the volume of any voice within a patch by assigning the modwheel as the MODSRC in that voice's output section. Once it's been assigned, providing a positive number for MODAMT will cause the voice level to increase as the wheel is



**MONSTER DAN** is hotter than ever with hundreds of selections from the '50s to this week's chart for your ESQ-1, SQ-80, VFX-sd, or SD-1 — also ROLAND, MACINTOSH and IBM. Data includes sequences, drum patterns, patches and programmed mix. **Demanding professionals** agree that **MONSTER TRACKS** incredibly detailed arrangements are the greatest! Convincing demo available.

*Get your originals sequenced!*

### MONSTER TRACKS

655 Goodpasture Island Rd. #28  
Eugene, OR 97401  
**503-683-7115**

Instrument names are trademarks of Ensoniq Corporation.

*pushed forward, and assigning a negative number to MODAMT will cause the level to decrease. You may also want to disable modwheel control of the LFO, unless you want to change level and vibrato simultaneously.]*

Hello TH,

Just want to say that everybody who owns an **EPS-16 PLUS** should buy the Parallel Effects from Waveboy Industries. They are just wonderful.

Now to Ensoniq: After five months of waiting I still don't hear or see anything about the new JD-100 you demonstrated at the Frankfurter Messe — you know, that new synth, something like an SD-1 that can load EPS samples. It sounded great. So what went wrong?

Keep up the good work,  
Patrick Voes  
Hoeselt, Belgium

*[CS — According to Ensoniq, there was no "JD-100" introduced at the Frankfurter*

*Messe (besides, "JD" is a designation used by Roland). Are you sure you were in the right booth?]*

*[Ensoniq — Actually, we debuted only the DP14 Parallel Effects Processor at Frankfurt. Like Clark, we're not sure what (or whose) product you are thinking of.]*

Dear TH,

Here's an interesting **EPS-16 PLUS** bug for you, if it is indeed a bug. What I did was this:

I sampled an a capella passage and chopped it up so that there was one syllable mapped to two adjacent keys, another syllable mapped to the next two keys, etc. Mind you I did this *not* by COPY PARAMETERS ONLY and then changing the SAMPLE-START and SAMPLE-END, but rather by COPY PARAMETERS AND DATA and then truncating each wave-sample to get different syllables. Then, on the EDIT WAVE page, I set the mode to LOOP FORWARD and the loop size to 0. I know, I know, the loop size parameters generally don't allow this and if you increase the loop size, you'll never get it smaller than 1 sample again, but it's possible.

Then, when I played the note, it played ALL the samples in the layer, back to back, with a little distorted click between one sample and the next. Is the sampler just cruising through the whole memory, since it has been told to loop over nothing? And, if so, why the clicks?

By the way, if you do publish my letter and an explanation, let me know somehow, because my subscription has run out and I'm too broke to renew.

Thanks,  
Francisco Hulse  
Oakland, CA

*[TH — We'll see that*

*you get a copy of the following explanations.]*

*[CS — Francisco, that's not really a bug. All revs of the EPS do this when the loop length is set to a single sample — the EPS actually misses the loop markers and plays right on through each of the samples in memory, one at a time. It can even play through samples you think have been deleted, since these samples aren't actually purged from memory unless new data is written to the same location. It won't hurt anything, though — just sounds kinda weird.]*

*[Ensoniq — In this case, the sampler is in fact playing through all memory, having "missed" the loop. The little clicks you hear are caused either by level discontinuities between samples or, in certain cases, by the oscillator playing the parameter (program) data which is stored in memory at the front of each instrument.]*

Dear Hacker Interface,

Please help me. I've spent over six hours attempting to save and send sys-ex on my **EPS** (original) and can't do it. Three of the hours were spent before I read Brian Rost's "Storage Tricks for the SQ-80." I felt that his procedure for transferring

### 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

sys-ex messages was innovative and almost worked for me on my EPS. Before reading his article, I couldn't even save sys-ex.

Here's the lowdown. I have a Roland Juno 2 and have gotten the sys-ex MIDI dump into the EPS by using a Mac-based editor to hand shake through the EPS and to save the data on the EPS. However, when I try to send the data back to the Juno I get a MIDI error message. I did not forget to turn the memory protect off and the sys-ex on. The instruments were going direct In and Out to each other. I've tried almost everything.

If anyone out there has information to correctly and easily accomplish the sys-ex dump, please let me know. Thanks a trillion.

Yours truly,  
Mark Schaefer  
Pico Rivera

[CS - We've had other readers who've had troubles using machines that require hand-shaking when doing SysEx dumps, as your Juno does. I'm afraid I don't have an answer for you - you might want to try talking to Roland to see if they have any ideas. It may be that as the SysEx is moving from your EPS to your Juno, the Juno occasionally pauses to return some sort of acknowledgement to the host machine - the EPS. Of course, the EPS wouldn't pause to wait for this message, so this would give you problems.

It seems to me that Juno programs can be dumped and loaded individually (I may be wrong about this), so you might consider trying to send and load individual programs.]

[Ensoniq - We suspect that the Juno 2 hand-shaking and/or some timing issue related to it is causing your problem. There are some older synths (specifically those requiring hand-shaking) which are simply

never going to work painlessly with a "generic" Sys-Ex recording device like the EPS. Sorry we can't offer you any concrete answers here, but if you call Ensoniq Customer Service we may be able to help you find a solution.]

## 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!)

## HACKER BOOTEQ

M A S T E R C A R D	FOR IBM-PC'S WITH 3 1/2" DRIVE	ALESIS ENSONIQ KORG YAMAHA	\$22 EACH DISKETTE MANAGER	FREE SHIPPING IN THE USA ORDER BY MAIL OR PHONE NY - ADD TAX
	<b>DISKETTE MANAGERS</b>			
	Convert Standard Midi Files to/from your keyboard on an IBM-PC using our Sequencer Conversion Packages \$44 each (includes Disk Manager)			
	VFX-SD & SD-1, SQ-1 & SQ-2, EPS & EPS16+			
	Convert SQ80 Seqs & Songs to VFX-SD (\$44)			
	Convert SQ80 to Standard Midi Files (\$44)			
	GIEBLER ENTERPRISES (315) 652-5741 8038 MORGAN RD. LIVERPOOL, N.Y. 13090			

### New Fall Products

**VFX, VFX-sd, SD-1 owners —**  
Volume 4 - *Effects*  
Highway sounds, city noise, the countryside, space, ghostly, & more.  
\$40

**SQ-80 owners —**  
Volume 1 - *The Collection*  
40 sounds, 3 demos, & documentation.  
Disks: \$19

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

### YO ADVERTISERS!

Try an economical size ad in the *Hacker*. Our one-twelfth page ad (the size of this ad) is the perfect size for testing the waters, moving up from the classifieds, dropping back from larger ads, or just maintaining visibility over long periods with minimal expense.

**2.25" x 2.25" Only \$30!**  
We'll typeset it: \$5  
Reverse it (white on black): \$5

**Transoniq Hacker**  
1402 SW Upland Dr., Portland, OR 97221  
503-227-6848

### 3D SOUNDS DRUM SAMPLE CD #1

Over 1200 16 Bit CD Quality Samples From the World's Greatest Drum Machines!

TR-505, TR-606, TR-707, TR-808, TR-909, R-8, R-8 SOUND ROMS (9), DR-550, RY-30, XR-10, DDD-1, DRUMULATOR, HR-16, DRUMTRAKS, SIMMONS, RX-5, RX-11, LINN DRUM, XD-5 & MUCH MORE!

SEE JAN. 92 KEYBOARD FOR FULL REVIEW  
**ONLY \$40 + \$4 S/H**

WE ALSO HAVE A HUGE LIBRARY OF SOUNDS FOR THE EPS, EPS16+, MIRAGE, TX-16W, EMAX, S-900, S-50/330/W-30, S-10/MKS-100 AND DPM-SP PRICED AT ONLY \$5 + 50 S/H PER DISK. ALSO, PATCH DISKS FOR SYNTHS IN MANY FORMATS AT \$15 + 50 S/H PER DISK.

FREE LISTINGS - SPECIFY FORMAT  
MAKE CHECKS AND MONEY  
ORDERS PAYABLE TO D. WHITE

PO BOX 114, STATION C  
KITCHENER, ONTARIO  
CANADA, N2G 3W9  
VISA/MC 519-745-0021

### 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

### Summer Cover Sale

-Ensoniq SD1/EPS16+  
-Korg M1/T3, 01/W  
Reg... ~~\$24.95~~ Sale... 19.95  
**Call Now**  
while quantities last!  
**1-800-228-DUST**  
Mastercard / Visa Accepted

**Le Cover**

1 N. 353 Bloomingdale Rd.  
Carol Stream, Ill. 60188

# 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 Geislinger  
Editor: Jane Tallman

Our (somewhat regular) illustrious bevy of writers includes: Craig Anderton, Barry Carson, Mark Clifton, Walter Cooper, Gary Dinsmore, Rob Feiner, Pat Finnigan, Charles R. Fischer, Gary Glebler, 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 Silinkard, Bob Spencer, and Jack Tolin.

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: \$32/year. Payable in US funds.

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



## 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!



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



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