

Transoniq Hacker

The Independent News
Magazine for Ensoniq Users

Chorus and Flanging Effects on the SQs – The Plot Thickens

Clark Salisbury



Welcome to this month's installment of "Programming The SQ When You Should Be Looking For A Real Job." So far we've talked about how to route voices to the effects busses and how to work with the reverb parameters to customize reverb effects. This time out, let's move on to some of the other on-board effects.

The SQ includes a number of effects that are delay-based and, as such, can be approached in very similar ways. Among these are the chorus, flanging and rotary speaker effects. The rotary speaker and flanger effects are found only in combination with other effects — primarily the reverb. The chorus, while it is found in combination with other effects, also presents itself as a single effect — the 8-Voice Chorus. We'll start out by examining this effect first.

As I've already mentioned, chorus is a delay-based effect, made possible through the use of delay circuitry. A delay is generally used to create echo-type effects. You put a signal into a delay, and what comes out is generally the same signal, but later — the signal has been delayed. If you mix this delayed signal back in with the original signal, the resulting sound might

give the impression that the original signal is echoing. This simple approach yields the original signal and a single echo. If one wishes to create the sound of multiple echoes, one need only route the delayed signal back into the delay itself. This delayed signal is then again delayed, yielding a second echo, and since the output of the delay is routed back to its own input, this second echo is again delayed, and so on. The process of routing a delayed signal back into the delay is referred to as "regeneration" or "feedback."

If this regenerated signal is routed back into the delay at full intensity, however, the echoes will continue to multiply at full volume until the sound finally becomes a wash of echoes. This is generally not a very pleasing effect. For this reason, provision must be made to attenuate (turn down) the delayed regenerated signal. The result is a series of echoes that get progressively quieter, eventually decaying to silence — a much more natural-sounding effect. We can hear this process in action by performing a few simple adjustments to the SQ's 8-Voice Chorus.

First, select a sound to experiment with. ROM sound 00, Dynamic Grand, should do nicely. Press the Edit button, then the Effect button. If you are not at the top of the effect menu pages, press button 0 also — you should be seeing the effect name, 'Concert Reverb', in the display. Select the effect name, and use the up/down arrow buttons or the slider to change it to '8-Voice Chorus'. We now have a piano sound that's being processed with a fairly straightforward chorus effect. Press button 1 — you'll find that chorus rate and depth are both set to 20

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— we'll be talking about these parameters in a moment. For now, though, set the Chorus Depth parameter to 0, and press button 2 to move to the next menu page.

Here we are presented with two parameters — Chorus Center, which should be set to 20, and Feedback, which should be set to +00. Select the Chorus Center parameter, and set it to 99. If you now play a few notes on the keyboard, you'll hear the piano sound and a single, quick echo. This is because Chorus Center actually controls delay time — the amount of time between the original signal and its delayed counterpart. The highest value is 99, so we have set the delay (which is the basis for the chorusing effect) to its maximum delay time. The delay is now long enough that we can hear it as a discrete echo.

Now select the Feedback parameter, and see what different parameter settings do. You'll find that as you increase or decrease the value for this parameter from its initial setting of +00, you will begin to increase the number of repeats from the delay. A setting of +99 or -99 will give you positive or negative feedback at full gain, completely unattenuated. The effect will be that the echoing continues until you change the value for the parameter, select a new sound, or turn the SQ off.

Leave the Chorus center parameter set to 99 and set the Feedback parameter to a value of +90 for now. Press button 1 to move back to the Chorus Rate and Depth page. Chorus rate should still be set to 20 — set Chorus Depth to 99, and play a note. The echoes are now shifting in pitch — moving up and down in a fairly regular way as they decay. What's happening here is what sets chorusing apart from simple delay effects — the delayed portion of the signal is being modulated. To be more precise, the delay time itself is being modulated — in this case by a sine wave. The effect is that delay time is being shortened and lengthened cyclically — as the delay time gets shorter, the pitch of the delayed signal rises, and as it gets longer, the pitch of the delayed signal gets lower. Any of you who have played with the time control and digital, analog, or tape delays will recognize this effect. The theory is that if you mix this pitch-shifted version of the signal back with the original signal, the result will sound like more than one voice sounding in unison — a "chorus" of voices, each one slightly off-pitch from the others.

Of course, the effect that we've put together here is a bit exaggerated — for most typical chorusing applications we'll want to be a bit more subtle. For example, try setting the Chorus Depth parameter back to a value of 20, and hit button 2 to move back to the Chorus Center and Feedback page. Try setting the Feedback parameter to a value of +35 or so. The chorusing will now be quite a bit more subtle, although there will still be a rather pronounced "slapback" echo at the beginning of the signal. This heavily chorused sound, with the slapback echo at the beginning is a popular effect among many electric guitarists — you might want to check this out with some of your favorite guitar patches. If the slapback is bothering you, you can shorten it by adjusting the Chorus Center parameter — lower values will cause the initial echo to shorten, finally becoming so short as to be imperceptible as a separate echo.

The Chorus Center parameter has another use, besides that of introducing a slight echo into the chorused signal, and that is to "tune" the chorusing effect. Different settings for the Center parameter yield chorusing effects that seem to be "tuned" higher or lower in the frequency spectrum.

To become proficient with chorusing effects, you should also become familiar with the interaction of the Rate and Depth parameters. You'll find that these two parameters interact when you are attempting to arrive at a pleasing chorus effect. Increasing the depth, for example, may necessitate a corresponding decrease in the rate, and vice-versa. Also, the overall amount of chorusing should be taken into account. In the case of the 8-Voice Chorus effect, this is programmed from the first effect menu page — pressing button 0 will take you there. With the multiple effects that include chorusing, chorus amount is controlled from within the effect menu pages — the parameter for controlling chorus amount will be presented as "Chorus Level."

Flanging is very similar to chorusing — in fact, it is nearly identical. As such, all the parameters that we've talked about in our discussion of chorusing will apply to the flanging effects. The only real difference between flanging and chorusing is that flanging effects are achieved using shorter delay times than would be used for chorusing effects. The effect of sweeping these shorter delay times is easy enough to make apparent by example. Starting with the same sound, ROM 00 Dynamic Grand, hit the Edit, then the Effect, then the 0 button to move to the first page of the effect menu. Select the effect type, and change it to Flanger+Reverb 1 — the flanging effect should be immediately apparent if you listen to a few notes from the SQ.

Now hit button 2 to move to the Flanger Rate and Depth page. Set Flanger Depth to 00, and hit button 3 to move to the next page. Set Feedback to +00, and select the Flanger Center parameter. Set it to 00 as well. Now, increment the Flanger Center parameter one number at a time while repeatedly striking a key on the SQ keyboard. You should hear the sound go through a number of fairly subtle tonal changes. What is happening is that the signal, having been very slightly delayed and mixed back with itself, is exhibiting amplitude changes in a variety of frequencies. When you mix two identical waves, one slightly delayed from the other, certain frequencies will be amplified and others will be attenuated. This is because at some points in the two waves' cycles, both waves will be traveling in the same direction. In this case, adding the waves together at this point will result in those frequencies being at greater amplitude than in either wave taken separately. If we use a sine wave as an example, we find that adding a sine wave with an amplitude of +10 with another identical sine wave with an amplitude of +10 will give us a sine wave with an amplitude of +20.

At other times, the waves will be traveling in opposite directions — one might be going positive while the other is going negative (remember, since one wave is delayed from the other, it might still be moving in a positive direction while the original wave has taken a turn to the negative). Adding the two waves together at this point will have the effect of cancelling some or all of the frequencies out. For example, adding two identical sine waves, one with an amplitude of +10 and the other with an amplitude of -10 results in a wave with an amplitude of 0, or no wave at all.

Of course, the waves that we are mixing together in our flanger are much more complex than sine waves, so this phenomenon of frequencies accentuating and cancelling each other sounds much more complex. And I should mention that this is not limited to the flanger only — both the chorusing and rotary speaker effects will exhibit some of this effect. But the characteristic sound of flanging

(Continued on page 6)

RND (🎵🎵)

Ensoniq News

[Ed. — Last month we mentioned that Ensoniq has become the authorized distributor of all C-Lab products and promised more news this month...]

Yes, it's true — Ensoniq Corp has been appointed the official US distributor for C-LAB Software. This popular line of Atari software includes *Notator*, the premier sequencing/notation package available in the world. Other titles include *Creator* (sequencing), *Aura* (ear-training), *Midia* (MIDI education and analysis) and *Notator Alpha* (educational version of *Notator*). All current C-LAB owners will now be serviced by Ensoniq, and updates/upgrades are available to OS version 3.1.

Errata: In the last issue Pat Finnigan gave a wrong answer to the question, "Why can't I use the Data Entry Slider as a Timbre modulator?" The answer he gave described the functionality of the X-Control modulator, which is the ability of the SQ-1 (or any of our products) to take an external MIDI controller source (such as a breath controller) and route it into the voice architecture to change any modulatable parameter.

To use the Data Entry Slider as a Timbre modulator you must put a Sound into a Preset, and then press the Edit Sequence button, Bank button 7 (Mix), and Screen button 4. While you are on this screen you can move the Data Entry Slider and your sound will change.

Of course if a sound does not have Timbre implemented as a modulator of one of the parameters this may still have no effect. In that case you would have to re-program the sound to take advantage of Timbre as a modulation source.

NEW SOUND RELEASES

EPS-16 PLUS/EPS

SL-10 thru 13 String Sections — These are the long-awaited new string section samples from the sessions that were held last year with legendary producer, Phil Ramone. Each volume is dedicated to a different section of the string orchestra; basses, cellos, violas and violins, and includes a multi-disk expressive instrument, a smaller section for workstation sequencing, and various articulations (spiccato, coleigno, glisses and more). Sequences were performed by the session arranger, Claude Gaudette (Sig Series). Each set contains 5 disks and a sound manual w/performance notes and background on the session. Suggested retail: \$39.95.

SL-14 Solo instruments — Includes lead trumpet, piccolo, trumpet, flugelhorn, soprano alto and tenor saxes, bassoon and oboe. Contains 5 disks and a sound manual w/performance notes and background on the session. Suggested retail: \$39.95.

ESS-18 Jeff Lorber Signature Series — Jeff is one of LA's top session players and producers, having crafted hits for many artists as well as his own solo career. This 5 disk set features drums, drum loops, basses, keyboard, pad and lead sounds. Also

included is a sound manual w/performance notes and a biography of Jeff. The package includes artwork from famed artist, Peter Max.

SQ Series

SC-6 — 160 Sounds for the SQ series keyboard and rack, programmed by Eye & I Productions. Includes a sound description sheet. Suggested retail: \$99.95.

SD-1/VFX-SD

VSD-1003, 1004 — 120 sounds per disk, covering a wide spectrum of styles and sounds. Includes a sound manual w/performance notes. Suggested retail: \$19.95 per disk.

Hacker News

Now that we've started adding "Drives Reported to Work by Readers," to our listing for EPSs, we have to be extra careful — the Burnoulli 44M (removable) that was reported to work does work, but required special formatting at a computer lab. Don't try this at home!

Third Party News

Radio Ready, who's been selling samples for the EPS, seems to have a disconnected phone at this point. They may be just moving or whatever, but, at least till we hear what's going on, caution is advised before ordering any sounds.

TRANSONIQ-NET HELP WITH QUESTIONS

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

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

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

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

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

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

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

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

ESQ-1 AND SQ-80 QUESTIONS — Tom McCaffrey. 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.

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.

HYPERSOBIQ NEW PRODUCTS

Nightwind Sound, ("Eccentric Samples for Mirage and EPS"), has released *Demo Tape Vol. III* for the EPS - containing Ancient Greek, Medieval, Ethnic and Industrial Percussion sounds. \$6. For more information contact: Nightwind Sound, 170 Mar Monte Ave., La Selva, CA 95076.

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Steve Vincent

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Question: Do you use protection?

The January Hacker contained my easy-to-do-it-yourself instructions on how to make your own dust cover for your keyboard. If you want to practice Safe MIDI and protect your expensive, sensitive gear from dust, animal effluvia or salivating voyeurs but would rather not mess with fabric stores, glue guns and seal-a-meals, then check out this item.

I will spare you additional horror stories about cats marking territory and just review the product. The Le Cover dust cover I have for review fits both my ESQ-1 and my EPS perfectly. It is snug, it won't slip or blow off (for those windy outdoor gigs) and Le Cover thoughtfully designed cut-outs for the cables sticking out the back of your board. It is made out of durable vinyl with a nylon exterior, making it both waterproof and scratch-resistant. Also important: This is a very classy-looking cover. I hate to admit it, but next to Le Cover, my home-made dust cover looks, well, home-made. The Le Cover comes in a number of snazzy colors; mine is a very rich looking burgundy. And it does keep the dust off your keyboard.

The Le Cover Company manufactures custom covers for a wide variety of electronic equipment, including most well-known boards, drum machines, mixers and amps. They will also custom-make a cover for other oddball gear like your sitar/ac-cordion hybrid MIDI controller, according to the dimensions you send 'em.

This is a quality product: low learning curve, well-written manual (you real hackers can just dive right in and put the cover on your board without consulting the manual), and it adds class and protection to your studio. Two thumbs up. ■

Bio: Steve Vincent is a marriage and family therapist with an addition to MIDI, and is the compiler of the Hacker Compilation Tape.

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- **Film Textures**—The most twisted material devised yet for the SQ film composer. Includes haunting soundscapes, bright orchestral sounds and much more. Great for aggressive new age compositions! (SQ02)
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—*Electronic Musician*, July 1990 (V101)

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is most closely associated with this process.

Most of your considerations when using the flanging effects will be identical to those when programming the chorus — flanger rate, depth, center, and feedback all function identically to their counterparts in the chorusing algorithms. The main difference is that flanging uses much shorter delay times than chorusing effects — although there can be some overlap between the two types of effects. In addition, the flanger presents a parameter not contained in the chorusing algorithms, the Input Invert parameter, and what it does, simply put, is to invert the polarity of the delayed (or flanged) signal. Its effect is to reverse the pattern of affected fre-

quencies — notches in the frequency spectrum will become peaks, and vice-versa.

At any rate, this should give you a good start at making up some new and cool effects. Don't worry that we haven't spent time yet on the distortion, phase-shifting, compression, and rotary speaker effects — we'll be getting to them all in good time. So stay tuned, and I'll be seeing you later...later...later...later... ■

Bio: Clark Salisbury is a partner in the MIDI Connection, a Portland-based consulting firm. He has been actively involved in the composition, performance, and recording of electronic music for over 7 years and is now producing his own pop-oriented compositions. His favorite color is chrome.

HACKER BASEMENT TAPES

Slice O' Sibs

Daniel Mandel

Tape: G2.
Artists: Mitchell and Mark Germaine.
Contact info: Mitchell (708) 498-5604, Mark (708) 948-7662.

Equipment: EPS w/4x expander, Casio CZ3000, Yamaha RX11, Quadraverb, MXR 1100 digital delay, Teac 16 Band EQ, Sansui WSX-6 6 Track Cassette, Tascam 234 4 Track Cassette, Teac 2300 R-to-R. (Using the standard sound library included with the EPS, plus the Rubber Chicken VFX Volumes I and II. Rock guitar, Super Bass and Fretless Bass are public domain sounds.)

This issue brings us a team of brothers who found that they enjoyed working with each other! They have a rich history of playing in bands, writing and singing — but not necessarily together. On this project they bring their different musical tastes together, mix it up, and the result is G2.

Note: All of the songs were recorded live from the EPS sequencer in 20 voice mode. The only overdubs were for vocals and lead solos on each song. Most songs consisted of 4 to 6 sequences strung together in song mode on the EPS.

A significant characteristic of this tape is its heavy-footed tempos and unpolished vocal performances. Yet despite these problems there were some good performances and songwriting. The first song, *Nostradamus*, has some interestingly awkward rhythmic moments almost tripping over itself. I don't know why this wasn't caught before the vocals were laid down. The second song, *Tonight*, effectively utilized the technique of maintaining interest through change in tempo. In the third song, *Emotions*, they showed they've got a good sense of how to "hook" the listener, ever an important event. The fourth song, *Times We've Shared Together*, was the best of the bunch.

This is a collection of well-constructed listenable songs. The

piano patches used worked wonderfully and the instrumental performances, live and sequenced, were very solid, if occasionally sluggish. The overall choices of which patches to use was conservative but well thought out. An admirable attempt was made at producing a "natural" sounding sax solo with solid attention paid to the phrasing, the musical "sentence construction." This was also helped by the placement in the mix. The sax patch was not as obvious as the other instruments.

This is a well constructed "demo" tape with the right number of songs. From what I can hear the songs are probably representative of the talents of these two. There is a consistency of style here. If I were an A & R man looking for a new act, I could easily place this sound into a single category — probably easy listening, light jazzy pop. If I could hear more of the songs that this duo has produced I'm not sure I would have chosen these four particular ones, but this slice does show their wares fairly well. If a little more work could have gone into finding that great vocal performance on each song, this tape might have been even more successful. ■

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.

Jazz Through MIDI

Daniel Mandel

Product: Learning Jazz through MIDI — jazz improvisation lessons.
Price: \$49.95.
Source: New Sound Music, P.O. Box 37363 Dept. J1, Oak Park, MI 48237. Phone: 313-355-3643.
Keyboards: EPS, VFX-SD, SQ-80.

Hmmm. Wouldn't it be great if my synthesizer, which I invested some serious bucks in, was continually offering me new ways to use it, new ways to interact with it, and different reasons for having it? I mean more than just playing a lot of sounds, even though I can use each sound in a different way. What if I could actually learn from my synthesizer/MIDI equipment!

We buy our synths for a variety of reasons. Many of the people who've sent tapes into the Hacker Basement tapes really started out as guitarists. A few are pianists/keyboard players. But how often do we think of our synth as being a fine instrument the same way we might consider a guitar or even a Rhodes electric piano or a set of vibes? Every once in a while a product comes along which makes us take a second look at the way we use our equipment. (Who would have ever thought we'd be making phone calls from our cars?)

Jazz Through MIDI is a wonderful concept which takes your synth and rethinks its function from the ground up. Using the sequencer in your rig, you're shown examples of standard jazz scales, chords, voicings, bass lines, and playing styles. The purpose here is to provide the musician with a sequencer-based learning system — a low-cost, non-tedious way to improve your jazz chops with minimal pain.

You'll notice I haven't mentioned the "P" word yet. Okay, now hang in here: This concept does not work without the sometimes regarded as horrifying timesink we musicians refer to as *practice!* Now we all know how difficult it is to be really committed to improving your abilities, but the fact here is this. If you practice these scales, chords and styles of playing, eventually you yourself are gonna be producing what you heretofore were only hearing.

There is musical notation to go along with every section. In order to put this across New Sound Music has been very thorough in providing everything that you need except for a mother's sweet voice to shout, "Daniel, *I don't hear you practicing!*" If you don't read music, there are definitely good books that give you the basics. Remember forewarned is forearmed, *Jazz through MIDI* requires at least a basic knowledge of music notation.

I know that in my own rocky road to musicianship I've gotten discouraged many times when even after an excellent lesson where I was really getting it, I would get home and I just couldn't "hear" the rhythm quite right or I would misread a note and practice it that way! What a help it would have been to go back and hit PLAY on my sequencer to remember how it's supposed to

sound. This method also helps you getting over that hump of "seeing" how it sounds. Remember the movie *Amadeus*? I was so envious of how Mozart could just look at an entire score and know how the music would sound. What a trip! This method brings you one step closer. I know this brings up the whole issue of do we have to read music to be good musicians. Regardless of where you stand, I think the fact that this narrows the gap is good news for both sides.

OK, so you're saying to yourself — what do I really learn from this stuff? What do I really come away with after I've sat down for a half hour with this disk in my synth? "DANNY, I STILL CAN'T HEAR YOU!!" your mother shouts ever so politely.

Well, let me tell ya — it's all about jazz. Each section discusses how what your learning fits into Jazz music. There's a section on the blues as well. New Sound Music has really put together an amazing package. You may have to go to your local library or university to get the cultural and sociopolitical perspectives on Jazz — but for the price of this package it's quite a deal, you're getting a lot. For the beginner, especially, what a great way to learn about a style — from good examples coming out at you from your own gear!

Now a note about the MIDI in *Jazz Through MIDI*. New Sound Music has left no channel unturned in their efforts to satisfy you guys. Every instrument (and often there are several instruments) are put on different MIDI channels with drum mapping given special consideration. This is there in case you can afford more equipment than I can and you have a controller or sequencer running more than one synth and a rhythm unit or two!

One problem, although this is a minor aspect — the production value of the literature and written music that goes along with the disk is where they saved their money. It is not a fancy package, but it is well put together. If their entire book read like their advertisement you'd probably pay more for it, and it would look nicer. So if you're an image monger, you might hide the book under your bench when your friends come around.

The sequences themselves are wonderfully constructed. While not the sort that will wow your socks off, they are the standards to learn by. There is a percussion patch included for drum mapping for the VFX disk.

I was very inspired by this package. If I had known it was available I would have purchased it long ago. When you consider the alternatives, probably nothing will out-teach a real live teacher who can listen to you play and guide you away from your mistakes and toward your strengths. This alternative is a viable, inexpensive and authentic learning experience.

If I had a rating system New Sound Music would get many, many high numbers! I can't say much more than send in your money, besides I gotta go... "DANNY! ARE YOU UP THERE?" ■



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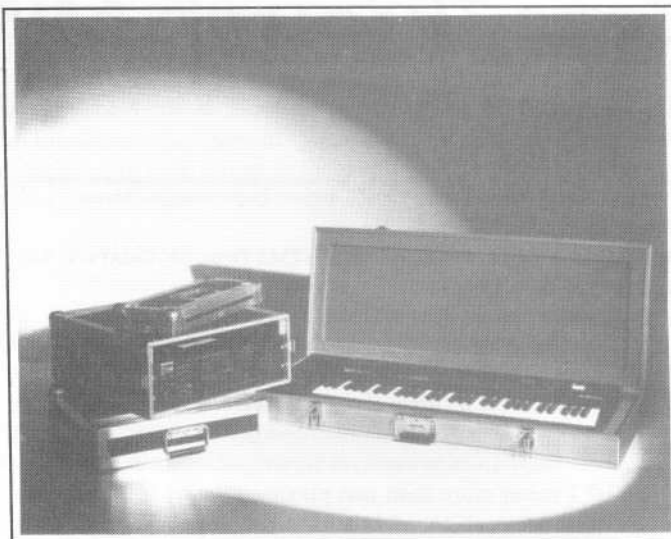
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Ensoniq DP/4 Parallel Effects Processor Specifications

In Issue #76 Ensoniq announced their new DP/4 Parallel Effects Processor. Here is an up-to-date listing of the specs. Introduction is set for March, 1992. A review will follow shortly thereafter.

Memory

- 400 Presets (200 ROM, 200 RAM)
- 100 each (50 ROM, 50 RAM) of the following:
 - > 1 Unit Presets
 - > 2 Unit Presets
 - > 4 Unit Presets
 - > Config Presets (4 Units plus all the signal routing parameters)
- 256k words (512 kbytes) of delay memory
- Max delay time per unit: 1.6 seconds
- Max single delay time possible (no regeneration): 6.4 seconds

Algorithms

- | | |
|-----------------------|----------------------|
| 1) Small Room Reverb | 24) EQPChorusPDDL |
| 2) Large Room Reverb | 25) EQPVibratoPDDL |
| 3) Hall Reverb | 26) EQPPannerPDDL |
| 4) Small Plate | 27) EQPFlangerPDDL |
| 5) Large Plate | 28) EQPTremoloPDDL |
| 6) Reverse Reverb | 29) PhaserPDDL |
| 7) ReverseReverb2 | 30) 8 Voice Chorus |
| 8) Gated Reverb | 31) Flanger |
| 9) NonLin Reverb | 32) Pitch Shifter |
| 10) NonLin Reverb 2 | 33) FastPitchShift |
| 11) NonLin Reverb 3 | 34) Pitch Shift 2U |
| 12) MultiTap Delay | 35) Pitch ShiftPDDL |
| 13) 3 sec. Delay (2U) | 36) EQPCompressor |
| 14) Dual Delay | 37) Inverse Expander |
| 15) EQ-DELAY-LFO | 38) Expander |
| 16) Tempo Delay | 39) KeyedExpander |
| 17) VCFPDistortion | 40) DePEsser |
| 18) Guitar Amp1 | 41) Ducker/Gate |
| 19) Guitar Amp 2 | 42) Parametric EQ |
| 20) Guitar Amp 3 | 43) Aural Enhancer |
| 21) Speaker Cabinet | 44) Vocoder |
| 22) Tunable Speaker | 45) Sine/Noise Gen |
| 23) Rotating Speaker | |

Input/Output Specifications

- A/D - D/A conversion: 16 bit linear
- Input Level: -12.5 dBV to +18 dBV
- Output Level: +15 dBV maximum
- Input impedance: 1 M Ω
- Output impedance: 2.6 k Ω
- Frequency Response: 2 Hz - 18 kHz
- Dynamic Range: 96dB

- Signal to Noise ratio: -87dB
- THD+Noise: 0.005% (-86dB)
- Crosstalk between channels: better than -80 dB (1 kHz)
- IM distortion (SMPTE): 0.05%

MIDI

- Responds to 6 MIDI channels at the same time
 - > Each Unit can have its own MIDI channel
 - > A separate MIDI channel can be used for controller information
 - > A separate channel can be used to send Config Preset program changes
- Separate program change mapping tables available per Unit
- Responds to the following MIDI controllers for parameter modulation or effect bypass :
 - > Controllers #000 - #127
 - > Pitch bend wheel
 - > Note number
 - > Velocity
 - > Pressure (channel/mono or key/polyphonic)
- Can save/load the following data types as MIDI Sys. Ex.:
 - > Single Presets
 - > Bank of related Presets (1, 2, 4 Unit or Config)
 - > System global data
 - > All data (all Presets plus System global parameters)

Front Panel Controls

- 4 input, 4 output knobs
- 1 Hi-Z input (overrides Input 1 on back panel)
- Individual Peak and Signal LEDs for each channel
- 32 character back-lit LCD display
- 2 character LED display w/MIDI indicator
- Digital 32 step Data Entry Knob
- 12 buttons (Write/Copy, Cancel/Undo, Left Arrow, Right Arrow, Select, Edit/Compare, System/MIDI, Unit A, Unit B, Unit C, Unit D, Config)
- Active/Bypassed status LED for each Unit
- Power Switch

Rear Panel Connections

- (4) 1/4" Input connectors (can be grouped as 2 mono/stereo pairs)
- (4) 1/4" Output connectors (can be grouped as 2 mono/stereo pairs)
- Pedal/Control Voltage input (allows modulation from external sources, such as the CV pedal)
- Dual/Single foot switch input (for use w/SW-5 or SW-2)
- MIDI In/Out/Thru
- A/C line connector

Get Your Transfer Ticket Punched!

Review: Giebler's SQ80VFX

Ed Lecuyer

For: SQ-80; VFX-sd (or SD-1) and IBM (or compatible) with hard drive and 3-1/2 inch floppy.

Product: SQ80VFX.

Price: \$44.00.

From: Giebler Enterprises, 8038 Morgan Road, Liverpool, NY 13090, (315) 652-5742.

Two months ago my "authorized Ensoniq dealer" was clearing out VFX-sd's at an unheard of price — a price so low that an unemployed college student like me could buy one. So there I was, back in my dorm room, taking off the SQ-80 that I had befriended years ago off of my synth rack and replacing it with a lovely VFX-sdII. After sending my SQ-80 to some lucky new owner in Florida, I wondered if there was any way to transfer two years worth of SQ-80 sequences into the VFX-sd.

Low and behold, I remembered such an item — Giebler Enterprises' SQ80VFX program for IBM compatibles; so I consulted my trusty *Hacker* collection and ordered the product.

Let me start off by saying that Gary Giebler is a master hacker. Anyone who can completely figure out the disk formats for all of the Ensoniq synths AND figure out how the SQ-80 and VFX-sd sequencers store their events deserves a prize. We Ensoniq owners got the prize instead, wonderful software that takes care of tedious tasks simply and effectively.

The SQ-80VFX program "says was it does and does what it says." The user puts their SQ-80 disk into the IBM, Gary's program displays the files on the disk, you press a key and the program transfers the SQ-80 files to VFX-sd files.

Just how does it work? Well, first it converts the SQ-80 sequencer file into a Standard MIDI File (SMF) and stores those files onto the hard drive. Next, the program converts the Standard MIDI Files into VFX-sd files and puts the results on the hard drive. Finally the program copies the VFX-sd files from the hard drive onto a VFX-sd disk.

So I've got an SQ-80 sequence transferred over to my VFX-sd; now what do I do? Well, unfortunately you just can't hit PLAY and expect to hear your favorite sequence magically reproduce itself. The final step is to remap your sounds so that what was once DRMSET on your SQ-80 doesn't play ALTO-SAX on your VFX-sd. This is, frankly, not all that trivial a step and I found myself reprogramming certain parts over again just so it sounded better. Ah, KITCHN-SINK is much better than DRMSET don't you think?

Now I wish I could end this review right here and say that the product is perfect and everyone will be very happy with it. It's

good — but not perfect. There are a few drawbacks:

1. Speed — To do a transfer of a SQ-80 disk containing 5 songs took almost an hour. Of course, this is much faster than reprogramming the stuff, but it *seems* slow.
2. When doing a transfer, you have to transfer the whole disk. An option to tell the program which files you want to transfer would have been useful. And it would have been cool if the option were there to format VFX-sd disks.
3. If the program fails during its final step (transferring the converted file from the hard drive to the VFX-sd disk) due to a bad sector on the VFX-sd disk, the transfer must be restarted from scratch — the program will not give any sort of error message "VFX-sd Disk Bad — Use Another" and wait until you do; instead, the program just hangs in the final step.

Back to the kudos. Some of the program's other features include:

- Transfer of SQ-80 sequencer files into SMF. (It won't do SMF to SQ-80 or VFX-sd transfers, however)
- Reads and displays the contents of any Ensoniq disk. (It won't, however, copy or format these disks, one of his other programs will)
- The ability to filter whatever controller information that you specify during the transfer.
- The automatic elimination of two concurrent key-on's that play on the same note at the same time. I would have preferred that this were an option, not a requirement as it sometimes "picks" the wrong note to remove.

A feature to allow one to take sequencers from file A, and put them into file B would be useful. When I write my sequences, I put one song in a disk file, when I write my sequences, I put one song in a disk file. When I gig, I try to cram as much into the machine as possible to avoid that nasty dead time between songs. I'm sure Gary (or Ensoniq) could make this task easier.

I realize that a lot of the things that Gary's program doesn't do that I've mentioned could be done with some of Gary's other programs. I would have rather paid a little more for this program to have them included. I won't be ordering his Ensoniq Disk Manager because I don't feel that I need it. But, if he had charged on extra \$10 to include some of that program's features (disk formatting, etc.) into the SQ80VFX transfer program, that would be an extra \$10 he would have made from me. He might be better off combining all his programs and

utilities into one huge program that "every Ensoniq owner must have" and price it accordingly.

In closing, this program is a must-have for anyone who wants to transfer SQ-80 sequences to a VFX-sd or into an SMF. I hope Gary continues to develop useful products like this one so we can spend less time doing the dirty work — and more time making music. ■

Bio: Ed Lecuyer is studying computer science and sound recording technology at the University of Massachusetts at Lowell. He keeps himself busy by disturbing the other people in his dorm with his music and by blatantly plugging his tapes in the "Hacker." He hopes that this is not how he will spend the rest of his life.

Riding the Edge

Jeff Rhoads

For: SQ-1, SQ-1+, SQ-2.

Product: SC-4 Soundcard.

Price: \$99.95.

From: Ensoniq Corp., 155 Great Valley Parkway, Malvern, PA 19355.

Accessories Order Line (800) 553-5151 or contact your local Ensoniq dealer.

After the ideas or sounddesigns for the SC-3 were "in the can," the marketers at Ensoniq may have asked some questions like "What does the SQ Soundcard series need now?" or "The SC-1, 2 and 3 pretty well cover all the standard bases and then some, so, what could the average, (possibly) red-blooded SQ-head be looking for now?" or "Should we reinterpret things like cellos, guitars, string pads etc, or can we afford to be, well,... different?"

Enter the SC-4, a decidedly different soundcard that attempts to answer these questions as well as some that haven't been asked yet. Once again, Ensoniq has enlisted the help of a third party — this time, Sound Source Unlimited. Sound Source Unlimited already offers a Film Textures card for the SQs, as well as a number of soundtrack patches for other keyboards, so it might stand to reason that the SC-4 contains many unusual timbres. Expect the unexpected.

At the first sitting I wasn't real sure about this. Then, I let it alone for a month and came back to it for another listen. Quite simply, it sounded much better. It's not without its share of problems but any card that bases itself on primarily subjective material will likely reveal as many shortcomings as strong points.

There are plenty of nice pads here; "Majestic Pad" and "Freebird" have full, strong orchestral bases with flutish and bell-like tones at the top. "Harmonica Dreams" works beautifully. It shares a wide-envelope harmonica (courtesy of the Vocal Ensemble wave) with a swirling backdrop that fades in after a slight delay. How many of us would have thought of using Synth Bass and Acoustic Bass waves to create a pad.

That's what they've done for "Impression 1," a foreboding, complex mood (if you're in a minor key) with a slight attack. But, voice 1 doesn't sustain all the way through. This is especially evident in higher registers. Adjusting an envelope changes this but then you ask yourself if that's a feature or simply a programming glitch? See what I mean; highly subjective.

There are plenty of odd splits on the SC-4. Some are labeled as such, some aren't. Among the most interesting are those that seem to "crossfade" in the middle register. "Split 1" uses a Breath wave across the entire keyboard with a percussive hit from C4 down and a Doorbell wave faded into the upper octaves. The result is a swirling metallic sound that's usable and intriguing. But the same idea or voice is used too often within a split. "Renaissance 1" uses a heavily modulated String Ensemble for its upper half, "Renaissance 2," an Acoustic Guitar. They *both* use Claves and a Crash Cymbal below C#4 in their bottoms with the only apparent difference being gain levels between the two. This would probably not merit a comment if it just happened here but it happens more than once. (One could argue that percussion is the logical bottom for Renaissance 1 and 2 but even that's a bit of a stretch.) Similar bottom or upper parts show up in more than one split patch where they seemingly have no place. We're not talking about Bass/Piano type patches either.

The SC-4 rides that cutting edge and to a large degree is successful. There are plenty of good robotic and industrial sounds here. "Industry Job 1," "Musical Industry" and "Percs Plus 3" all make good use of banging metal and off-harmonics. "Industry Job 1" sounds particularly good when MIDIed to a tonal instrument like a piano. Although "Robot Noises" is just a variation of the SQ's Multi-Wave, the really twisted among us might even try using it in place of a string or brass pad. Percussive sounds abound on this card. In keeping with the soundtrack theme, both "Movie Tribe Perc" and "Video Tribe Perc" will conjure up fresh images of King Kong's Island or Jamaican breezes. Even some of the better new age timbres click and clang: "New Age Perc 2" uses fast, high, steel drums atop a whooshing foundation. Cowbell is added to the

lower half, causing a more immediate, even sharper attack. (Again, the splits that work don't really sound like splits.) Try using this patch for ostinato patterns.

You won't find too many workhorse-type sounds on the SC-4. Standard keyboard, fretted and horn patches are few and far between and/or hidden under an off-title. And some of the basses have very high velocity values. "Muted Bass" and "Soul Bass" have to be hit rather hard to be heard at full filter. Why? Not only does this hurt your fingers after a while but it's hard on the keyboard. Most other recognizable band-type instruments serve as part of more complex ideas: "Pans & Brass," "New Aged Piano," "Saxesque" and so on.....

As you might guess a card like the SC-4 contains a lot of "movie" sounds and effects, many of which might be used to signal surprise or suspense. (There's even a patch called "Suspense Hit") These patches are very good and probably represent one of this card's strongest suits. "China City1," "Fright Night," "Old Movie," "Erie Tales 1," "Camp Noises," "Night Animals" bring to mind those things their titles suggest while still managing to sound clever and musical.

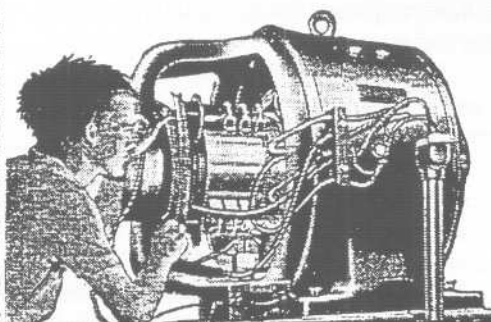
Now, why is it important to know where the SC-4 fits into the existing SQ soundcard family? The obvious answer is that this new card should somehow add to, not copy, what's already on

the market. The SC-4 does not attempt to re-invent the basics. That's okay, some of us like taking chances. But another reason for wanting to know where the SC-4 "fits" is that there aren't nearly as many third party sound options available for SQ's as many of us had hoped there would be by now, though Ensoniq's certainly taking up some of the slack here. So, each new soundcard release from the factory is very important to perspective buyers. Its sounds should probably be tight and relatively accessible. The SC-4 is most certainly not as accessible, as they say, as its relatives. And, some of its entries fall short because they sound strained or "rushed." Its good patches are very good, though. I just wish that some material had been designed with a little more consistency.

When you listen to the SC-4 for the first time, try to spend a little time with it. I realize this is sometimes hard to do in the music store but even a few extra minutes will help you decide whether or not you can use it. There's lots of unfamiliar material here so don't do too much fast driving the moment you get your hands on it. Give yourself some time. Ensoniq (via Sound Source Unlimited) has provided something a little different for the SQ, stuff to promote new ideas rather than try to fit old ones. If you're a composer, playing original material, doing soundtrack work, or just savor the unusual, take a listen — carefully. ■

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Ensoniq VSD-1001 Sounds for the SD-1/VFX-sd

Jeffrey P. Fisher

For: VFX/sd, SD-1.

Product: VSD-1001 — 2 banks of 60 sound programs with 20 presets.

Price: \$19.95. (Disk.)

From: Ensoniq Corp., 155 Great Valley Parkway, Malvern, PA 19355, or contact your local Ensoniq dealer.

It's quiet in the house and my wife is still asleep. So, it's headphones, a cup of coffee and the VSD-1001 programs.

This is the second disk in Ensoniq's VSD library, with two banks of 60 programs and 20 presets. Unfortunately, my review copy of these sounds came sans manual. "Who cares?" you might thoughtfully inquire. Well, Ensoniq's accompanying manuals usually are fairly nifty little packages — not yellow brick roads necessarily, but useful nonetheless. Anyway, proceeding blindly onward.

VSD-1001-A

These programs are organized nicely: acoustic pianos, electric pianos, other keyboards, rock guitars, acoustic guitars, basses (bassi?), organs, sax, trumpets and brass, strings and drum kits.

These are quality patches. There're no surprises here — nothing exotic. These sounds were evidently designed to show how good the VFX-sd or SD-1 can sound. These are probably the types of sounds you'd use for club dates, wedding bands, home recordings — any time you need a selection of basic, Top-Forty-type patches. They are meant to be imitative acoustic sounds and they are. But since the ROM presets (and other sounds shipped with your keyboard) also do a fine job of providing good imitative instruments we better see what else this disk has to offer.

ORCHESTRA-1 layers velocity-sensitive percussion sounds on top of strings. You get different drum waves with every string note. It's an unusual approach that requires good keyboard control technique. SULTRY-SAX is a mellow horn with a pleasing delay effect. ROCK-ORGAN is properly nasty and distorted for those Emerson licks. The pianos are fine, especially the electric pianos. Interestingly, the programmer used a heavily filtered kick-drum waveform for the mechanical "thump" at the start of the sound. It's a very clever and realistic effect.

Minor complaints — Acoustic twelve-string guitars have only four sets of strings tuned in octaves and the remaining two sets of strings, everything above B4, tuned in unison. This set's 12-STRING-2 doesn't really follow this too closely. Maybe this is one of those cases where the name of the sound is what throws you rather than the sound itself. And in some of these

patches the aftertouch routed to vibrato was somewhat oversensitive. Just a little press and STRING-PAD, for instance, goes wildly out of tune. And the patch selects oft times subtract waveforms creating a thinner sound — not necessarily the most creative or subtle variation.

VSD-1001-B

The literature says these are unusual and soundtrack programs. Got that one right, all right. Some of these are so weird that it's not all that obvious where to use 'em. There're lots of old analog sounds using buzzy sawtooths, some "synthy" sounds circa 1979, and wavestation-type loops. If you've got the time and inclination to personalize and mold some of these patches to your own taste it can be quite a learning experience — you'll really appreciate them. Otherwise, I think you might be using the VSD-1001-A sounds more.

Special Note

These sounds are compatible with both the VFX-sd and the SD-1. However, certain programs (indicated with an asterisk) use waveforms and/or effects that are exclusive to the SD-1. The VSD-1001-A has 21 (!) such patches. The pianos will use the Megapiano waveforms (if you have a VFX-sd 2.0) but the lead guitars need the SD-1's distortion algorithm to sound good. And one bass, one vibe, and some string sounds look for the SD-1's new waves. VFX-sd owners get the infamous "UNKNOWN" wave cycle.

SD-1 users will really appreciate the patches that use the new waves/effects because the rest of the available library, obviously, doesn't. This compatibility problem is going to haunt VFX-sd owners with every new sound program release. So keep in mind that over one-third of these sounds weren't really designed for your VFX-sd and it may be time to consider upgrading. Still, on the other hand, two-thirds of the patches ARE new for the VFX-sd and the price ain't bad and it's not like there's a huge supply of new sounds from which to choose. Yeah, be glad there're there but think about upgrading. ■



Hearty thanks go to SOUNDPOST Music in La Grange, IL for their assistance in the preparation of this article.

Bio: Jeffrey P. Fisher is a composer and sound designer for commercials, industrials and film.

"Hidden Waves" on the VFX-sd

The Exploration Continues

Walter Cooper

It's early Saturday morning. I'm dressed and walking toward the home studio. The night before I had been working on my first volume of sounds for the VFX-sd. Let's see if that xylophone patch really sounds that good. I call up xylophone 1 on the DX and compare. Ummmm, I like mine better...am I sure? Yeah, I'm sure. Okay, check out the sax sound...it's good too. What's next?... Agogobels?...The wave's there. Why not?

I load my initiate program from disk and begin working. Turning to page 8-9 of the VFX-sd manual I find the agogobel wave under percussion wave class. Using voice one and calling up the wave page I find the agogobel wave on the synth. Since the program is initialized there is no sound. Umm! Do this to envelope 3 and that to envelope 1 and so on. I hear something. Sounds like percussion but very faint...Next step, make a copy of all voice parameters and copy to voice two. After turning voice two on, the volume is doubled. The output is reading 99 so I can't boost it farther. Okay, how about copying all parameters to voice three. Bingo! More volume... Yeah, the volume slider is not all the way up now. Oops. I pushed the data slider all the way up. The wave class now reads Multi-drum. Why not press the wave button and move the data slider all the way up just to hear each wave as I truck back down to agogobel?...Okay! The wave now reads (unknown)..(unknown). Huh? Looks like time to abandon ship. If I press the wave class button the keyboard will only recalibrate itself. I'll have to start over again...But what if the wave class comes up after pressing the button? Okay, press it. The wave reads PERCUS PE. I don't remember this wave listed. Nope, it's not in the manual.

This was Christmas, 1991. Since that time the cat has been released from the bag as it were. Joseph Travo, in the January '92 issue has accessed two of these waves (UNDTUNED and STRING SO) via a VFX, an SD-1, and a ram cartridge. There are five additional waves and the order of all seven is as follows:

PERCUS PE(148)	SOUND BA(144)
UNDTUNED(147)	UNDBRASS(143)
BREATH(146)	STRING SO(142)
SS-SOUND(145)	[Ed. — Note the run-on names here.]

These waves are completely programmable and appear on the wave page under the Multi-Drum class even though (UNKNOWN) appears on the voice select page.

How does one access these waves? If you have a VFX-sd Version I, try the following procedure. Using any sound get to the wave page and select the wave class parameter. Move the data slider all the way forward. I know, I know, just do it. The wave should read PERCUS PE. These waves are only accessible via the data slider. The up cursor will only take you to Room kit wave #141. To enter the remaining waves simply press the down cursor one increment at a time. I tried this method on three Version Is without a hitch.

Okay, you have Version II. The following method works, (sorta). Find someone with a VFX-sd, Version I. Create a patch using the

Version I method. Name the patch "HIDDEN WAVE" or "WALT COOPER" or something. Save this sound to disk under one program bank. Next, load this program into your Version II. Now follow the Version I steps.

Why "sorta"? Well, I've created patches using my Version I and loaded them into Version IIs with the following results. On some instruments the patches worked fine and on others no sound was produced or was not quite the same. In all instances these waves appeared on the wave page.

You have an SD-1, you say. Sorry, folks, I've been busy programming and fooling around on my SQ-1 and SQ-R. As soon as I can experiment with the SD-1 I'll pass it on. And what about you original VFX owners? Refer to Travo's method and try using your data entry slider and cursors to uncover the one wave above and the four in-between. The waves lie between Room kit wave #141 and the mega piano waves (Version II). ■

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

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Sample Variations

William Pont

One of the first things I tried out on the VFX-sd was its Multi Wave and the Transwaves. What a surprise those Transwaves were to me. One of the biggest sounds on my EPSQ-80 disks is one called MWSWEEP. Based on an SQ-80 sound this patch was created by taking a sample of the sawtooth wave with the resonance filter being modulated by the Mod Wheel. A fast spin of the wheel and a short sample later yielded the very first physical transwave ever in 1988, but of course I never thought of it that way. Ensoniq did however and provided keyboard players with an innovative new technique now known as Dynamic Synthesis. The slow modulation of the transwaves makes the sound alive with constantly changing timbres. The same, albeit to a lesser extent, can be said of the Multi Wave. When I decided to also sample this machine's ROM I thought that by sampling the Multi Wave my job would be over in a minimum of time. Well, so much for that theory...

First of all; the MW does not contain all the transwaves (17) and single waveforms appear to be missing as well. Additionally, not all the samples play back at unity when playing the MW, resulting in some samples playing at too low a playback rate and others too high. Sampling the MW at 39 kHz produces 3 diskettes of one sample and besides that the MW is too long for even a fully expanded EPS to handle unless you are satisfied with a severely reduced sample rate. And the VFX is only a 12 Bit machine!

Forget the Multi Wave; enter separate samples. If you have the patience to painstakingly sample each raw sound (147 of them) some of them consisting of up to 16 samples like the Mega Piano or the Sax, good luck to ya! I did it, though and the result is ten diskettes stuffed with samples. My eyes have permanent imprints of the ebony and ivory of the keyboard. Not to mention all that looping....

If you are nuts enough to do what I did then this article is for you, otherwise get outta here and bug your sound engineer.

Variants of samples are as the name implies, variations of a sampled sound. VFX and SQ owners know what this is all about. They all have seen names like Saxophone, Sax-var and Sax-var 2. Likewise, there is a Guitar and guit-var and there are others. The timbres of the variants differ distinctly from the original as a result of keyshifting and Ensoniq accomplishes this with a method that is normally not recommended to samplers. Namely, stretching a sample over a longer or different section of the keyboard than originally intended. It is a way of creating additional sound waves in a synth's ROM without it costing significant memory space in that ROM.

Well, recommended or not, if manufacturers can do a neat trick like that, then so can we, sample nerds and nerdettes.

Here is how. First ingredient required is the Master sample(s). Say we have a saxophone sound consisting of 8 samples. Next,

you need a pair of good ears. This particular kind of hacking can't be done with visual editors at all as it involves subtle changes in the timbral characteristics of a sound and those need to be heard.

If you are fortunate enough to own a Dynamic Component Synth, like a VFX, SQ or SD type keyboard you might want to check this out. Select a patch, set all parameters to neutral and once you have a plain vanilla (remember to also remove the effects) select the Saxophone Wave in the wave page. Listen carefully then select Sax-Var. Notice the difference? Amazing isn't it? What's even more astounding is the fact that you are listening to exactly the same wave. The difference in timbre is caused by the different keyboard mapping employed in this variant. Sax-Var 2 sounds more different still and it, too, is a copy of the first wave, Saxophone.

Now that you have sampled the Sax make two copies, layer 2 and layer 3. We will presume that you did a neat job of sampling the first layer (all samples running in numerical order, more on that in another article).

Press EDIT. Select layer 2 and underline WS=XX. Playing C2 should yield WS=9. (If it does not you definitely must read that other article on organizing wavesamples.) On the VFX, select Sax-Var and make sure that the octave setting is set to 00. Using those excellent ears, determine the length of the synth's keyboard that the first sax-var sample occupies and make a note of the last key. On the EPS, press KBD RANGE and set HI=XX to that value. It is possible that this new setup (layer 2) of the first sample (actually WS9) completely overlaps the second (WS 10) but don't panic and don't delete WS 10. In the case of a total eclipse you will have to go to the EDIT page and find the next sample manually by pressing the UP or DOWN arrow key until the display reads WS=10. The importance of keeping samples in numerical order should now be fairly obvious. Press KBD RANGE and set LO=XX to the next higher value. Going back to the VFX, listen to the next stretch of the keyboard and make a note of the last key of sample 2. Enter this value in the EPS — HI=XX parameter. Do this with the remaining six samples and presto, you have an exact copy of Sax-Var as it appears on the VFX. Now treat the third layer in your new instrument the same way using Sax-Var 2 and you are ready to create some serious VFXlike Sax sounds. This method is applicable to all of the VFX sounds that have 'Var' in the name. It saves a bundle of memory. Both real-time EPS memory as well as disk space. ■

Bio: William Pont runs Phoenix Audio which specializes in sound re-synthesis. Also a co-founder of the South African user's group EMMA (Ensoniq Musicians and MIDI Association) which distributes and maintains all Ensoniq gear in Southern Africa. Current project: African Sounds. Anyone interested can reach him at 0112711 (11) 792-5996. You may also write to: Phoenix Audio, PO Box 68950, Bryanston, 2021 Rep. of South Africa. Or PO Box 534, Moorpark, CA 93021.

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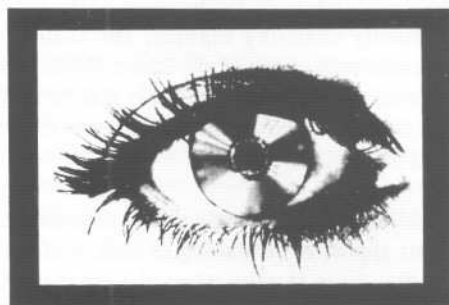
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Why is Everybody Always Pickin' on Me?

Tom Shear

As a former bassist, one of the first sounds I'm apt to check on a keyboard is, yeah right, its bass sounds. Now, with a great board like the EPS-16 PLUS, you oughta be able to get perfect replicas right out of the box, right? Well, not quite. You see, as a former punk bassist, I have developed an affinity for fast, steady eighth or sixteenth note basslines, most easily played with a pick. The problem: When you try to replicate this on a sampler with most sounds, it just sounds plain stupid. Luckily, however, this problem is not without a remedy.

Before we go into how to fix the problem, let's examine what the problem really is. First of all, when playing any instrument with a pick, the player usually uses both upstrokes and downstrokes. By their nature, these different strokes have slightly different sounding attacks. Our bass sample however only has one attack and when you try to play like Dee-Dee Ramone, the same old attack is being retriggered over and over in a very unrealistic way. The other problem is that most bass patches have little or no release to them. When you pick a note, it "rings" until you either mute it or play another note. So with this in mind, let's fire up our EPSs and get busy!

First, find your favorite picked bass sample. If you don't have one, you can use a normal (non-slap) bass sound, but the results won't be quite the same. Use CREATE NEW INSTRUMENT to create a blank instrument template. Next, use the COPY WAVESAMPLE command to copy the wavesample(s) of the original bass sound into the new blank template. This allows you to have the original, unaltered copy of the bass sound and also makes it easier to program the patch selects since you don't have to worry about "un-programming" the old ones. Once you have your new instrument set up basically, CREATE a NEW LAYER and copy the contents of LAYER 1 into LAYER 2. Now the fun part begins.

Hit EDIT-INSTRUMENT so that you're on the 00 PATCH page. Edit it so that only LAYER 1 is playing this way. Next, select the *0 patch select and edit it so that both LAYER 1 and LAYER 2 are playing when this patch is selected. Use the right arrow key to get to the KEYDWN LAYERS page. Edit it so that only LAYER 1 is playing on the downstroke. Scroll over to the KEYUP LAYERS page and make sure that only LAYER 2 is playing on the upstroke. If you play this patch now, you will notice that a note plays both when you press your finger down on the key and when you lift it up again. This makes it easier for us

keyboard types to play high speed lines without having to have jackhammers for fingers. But, it still doesn't sound too good yet.

So, hit EDIT again so that you're on the LYR=1 WS=1 page. Select LAYER 2 for editing and whichever wavesample you wish to edit first. (I would suggest doing them in numerical order.) Hit the WAVE button so that you're on the LOOP MODE page. Use the right arrow key to scroll to the SMPL START page. Scroll over to the number in parenthesis, which should be 00. Hold down the *0 patch select with your left hand and bump this number up to any number from 1 through 3. I've found that 1 usually sounds the best, but after 3 it stops sounding realistic. Of course, this number will vary depending on how long the bass sample is, but as a general rule, edit this value just enough that the the very first part of the attack is eliminated, resulting in a less "sharp" attack. What we have done here is to alter the attack of the upstroke without having to take separate samples for it. Pretty neat, huh? Now go through the rest of your wavesamples in LAYER 2 and alter them using the same method.

Finally, we need a little ring for our notes, so select LAYER=1 for editing and hit EDIT- ENV 3. Scroll to the TIMES page and select the furthest number to the right (the release time). Now, bump this number up until the note rings on a little after you release the key. Make sure not to overdo it, but your ears are probably the best guide here. Repeat this process for LAYER 2. Press down the *0 patch selects and there you go! You should have a pretty nice sounding picked bass simulation. Play some steady eighth and sixteenth note basslines and listen to how much better it sounds than the original. Now you may use the other patch selects to have muted or non-ringing versions of the sound or do whatever you please.

For those of you who can't get a decent picked bass sound or who are simply too lazy to try this, I'll offer my version of this sound to anyone who sends a blank disk and SASE. My address during the school year is : 255 Small Road, Syracuse, NY, 13210 and is P.O. Box 271, Lyme, NH 03768 in the summer. Good luck! ■

3D Sounds Review

Barbara Ockel

For: EPSs/Mirage/all samplers.

Product: CD #1 — Drums and percussion samples.

Price: \$5 per disk, \$40 for the CD.

From: 3-D Sounds, P O Box 114, Station C, Kitchener, Ontario, Canada N2G 3W9.

What a collection of sounds!

Here I am sitting here in front of my computer, in word processing mode for a change, with the speakers behind me playing a collection of samples that, in a way, sounds like a new age jungle sound track. The bass drums are incredibly low and full, I suspect they have been equalized, and perhaps additional processing added. At least in my own sampling efforts from drum machines I have found that shaping the sound to accentuate or sometimes change the characteristic of the sound produces very defined crisp sounds. If no processing is applied, (an incredible R-8 conga sound just distracted me, and now those bright, bright bells), the sample is usually just a somewhat lamer version of the original. Especially from the standpoint of having many sounds requiring different processing all included in the same same drum kit, it is most convenient to already have each sample sound the way it should and only have to add some ambient reverb and a very slight EQ to the kit.

At the moment I am hearing some drum sounds from the **R-8 Power Drums** that make my acoustic drums reverberate, now some great hi-hats, crashes and rides, very clean with good long decays, now a snare drum that any acoustic rock drummer would be proud of. Now from the same kit some ethnic drums, plops, cowbells, timbales, high bell and whistle. A very long explosive sound that sweeps along with a lot of white noise. Suddenly a loud, long buzzing electronic sound, would be great for a science fiction movie, or as a background for avant garde theatre. These sounds jump out at you, evoke images. I've always found that to be a good measure of how much I like a sound. If my brain doesn't respond to it, I have no use for it.

Now comes the **DR-550**, any R&B group could be very satisfied with these super-dry sounds. **HR-16** is next and here's my chance for a direct comparison, as I own an HR-16. It was not really possible to distinguish a difference. One unfortunate feature of the *3D Sounds CD* is that the different drums are not indexed, only each drum kit. You cannot put the sound in a repeat mode on the CD player to conveniently set the correct input level for a certain drum you want to sample. Luckily for us EPS owners 3D Sounds saves us the

trouble doing that as they also provide these sounds on EPS-16 disks.

The EPS does not sound as good as the CD. But that is to be expected. The samples are very clean for the most part, looping is pretty good on cymbals, and the loop starts early with good results, minimizing the memory the sound takes up. A very important consideration. **Rap Drums** sound good too, except on the bass drum there is a very bad click at the end of the sample. I was able to lessen the click by playing with the sample end, but couldn't get rid of it entirely. That should be resampled. None of the wave samples are named. It would have been nice to know what each sample is, especially when you start mixing and matching sounds yourself. At least I like knowing where a sound comes from, just for reference.

The **R-8 Electronic Kit** is excellent, as is the **XR-10 Kit**, a great bunch of rap music sounds — very low and very dry kick, Simmons toms, and very dry everything else. The **3D Techno Kit**, presumably an inhouse compilation of rap music sounds, is truly outstanding. It is a very pleasurable experience indeed when you can use something just as is and play. That is definitely the case for this kit.

Sample rates in all kits vary, sounds with more highs have higher sample rates than lower sounds, which makes sense, but they all seem to be around 30 – 45 kHz.

Back to the CD. It contains 57 drum kits. The sheer quantity is amazing, the sampling quality is uniformly good and a great deal at only \$40. The EPS disks are \$5. each, also very inexpensive. Not all samples from the CD are available on disk, but many are. 3D Sounds also has a lots of non-drum synth sounds available on EPS disks, which I suspect would be worth checking out.

The CD continues to be a listening pleasure. All the "must have" drum machines are covered, definitely in the R&B/Rap genre. There are lots of rock, jazz and ethnic drums, although not much in the very exotic category of the latter. Concluding, I wholeheartedly recommend these products, both are well made and priced reasonably. ■

Bio: Barbara Ockel has ventured into the world of visual arts by combining her skills with those of computer animators. She works on a Mac-based system using Vision and Micro-mind Director and hopes to add Sound Tools, funds permitting.

ROBO BOP

Brian Rost

For: ESQ-1 or SQ-80 and Atari ST computer.

Product: Robo Bop Rhythm Composition Program.

Price: \$20 US.

From: Frank Vuotto, F10 Software, P.O. Box 2201, Taos, New Mexico 87571.

What I love about small software companies is that they often come up with unique products that the larger companies never think of. Robo Bop is just such a product — a sequencer specialized for programming drum tracks that runs on any Atari ST computer, in either medium or high resolution.

ESQ-1 and SQ-80 users know that sequencing drums from the keyboard can be a royal pain in the butt. The ESQ-1 sequencer is not well suited for the task, since step editing is crude and additive overdubbing (i.e., adding new data to an existing track) is not supported. Robo Bop allows you to program your parts on a grid, similar to the setup found on many Roland drum machines, then dump the tweaked tracks over MIDI to the ESQ-1 sequencer. (I should point out here that Robo Bop will work equally well with any sequencer that supports input from the MIDI port or can import MIDI type 0 standard files.)

When you boot Robo Bop, you get a default setup for 13 instruments using the standard Roland drum kit mapping (it covers all the instruments on a TR-505 except the handclaps, one of the two cowbells and the ride cymbal). A setup file for the Sequential Circuits Drumtraks machine is also provided. You can edit any setup to taste, including setting the name, MIDI note number, default volume (velocity) and MIDI channel for each instrument in the setup. This setup can be named and saved to disk, so it is easy to have templates for drum kits that you use often. You may also choose to have one of your custom setups be the default, simply by naming it DEFAULT.SUP when saving it to disk. The velocity defaults may be overridden to get more dynamic control when programming patterns. You also have a choice of sending a note off immediately after the note on or prior to the next note on if you would like to trigger sounds other than percussion. As a "panic" button, hitting the escape key sends an all notes off (which is of course meaningless to an ESQ-1, but if you have other MIDI boxes in your setup you may find it useful).

The grid always shows two bars but may be defined as half a bar, a full bar or two bars, with four boxes per bar. If defined as less than two bars, you may still place notes within the two bar grid, which causes the bar length setting to be overridden. This is sort of confusing. You can also shorten one and two bar patterns if you like; the program simply truncates the programmed

notes. I suspect most users will stick with doing things in two bar increments most of the time, as it is less confusing to do so.

Two time signatures are available, 4/4 and 3/4. The 3/4 is shown as four groups of 3 sixteenth notes each, which is convenient when you are trying to program triplets but confusing when trying to do a waltz. The first sixteenth note of each group is shaded to aid in keeping your place on the grid.

A click of the left mouse button puts a note onto a grid box, a click of the right mouse button erases it. You get the default velocity for the instrument unless you jump down to the velocity boxes shown below the grid to select a new value, which is used until you select another value or another instrument. However, it is not apparent from the grid what the velocity value for any particular note is, which can make doing velocity edits tedious. The velocity boxes default to starting at 10, going up in increments of 10 until reaching 110, then going up to 115, 120 and 127. These values can be edited and saved with your instrument setup as a custom velocity curve.

The bulk of the editing features are accessed by clicking on one of a series of command boxes running along the left of the screen. Most are self explanatory, although the brief documentation is clear about all of the functions.

Up to 32 patterns may be in memory at once, selected by clicking on the appropriate box just below the grid (the patterns are split into two banks of sixteen). Clicking on a pattern box and then the PLAY box starts a pattern up, clicking on STOP or certain editing functions halts the pattern. As an alternative, hitting the space bar will start and stop playback also.

You can add and delete notes to the pattern while it plays. You can also scale the velocity of a given instrument via a MIX function by adding a fixed offset of -127 to +127 to the velocity of each note for that instrument in the pattern. You can have the mix affect all patterns in memory if you'd like, which can save time if the snare drum needs to come up in all thirty two patterns. There is a copy feature which copies one pattern into another, a quick way of creating a series of small variations on a basic pattern.

Once you have a few patterns finished, you can build them into sequences of up to 1000 patterns in length. In the sequence mode, you merely click on a pattern box and that pattern is added to the sequence and the length counter is incremented. There are insert and delete commands for fixing up sequences. This feature makes it possible to build parts which are equal in length to the sequences into which they will be recorded in the keyboard's sequencer. You can only save sequences, not in-

dividual patterns, although creating a sequence of just one pattern allows you to circumvent this problem. When you save to a disk file, the instrument setup, patterns and sequence ordering are all saved. You can save the data in a Robo Bop unique format, or as a type 0 standard MIDI file, for porting to other sequencers.

Robo Bop makes an interesting distinction between playing and dumping. Playing sends note data out of the computer's MIDI port, but no clocks. Dumping a sequence sends out clocks as well as the note data. Dumps are how sequences are transferred to the ESQ-1 sequencer. Since Robo Bop does not synch to incoming clocks, you must set SYNC on the CONTROL page to MIDI CLOCK, both for recording the sequence as well as when you want to just have your keyboard play along with the drum tracks as you edit them.

One interesting feature of the program is you can use it to sequence melodic parts in step time as well as drums and percussion. Since an instrument setup can specify any note number, MIDI channel and default velocity you like for the 13 instruments, you can assign the notes of a scale, for instance, and use the program to step enter parts. You are restricted to a 13 note window and sixteenth note resolution, however. By using the mode where a note off is not sent after the note on, the duration of sustained notes can be programmed by adding a new note with velocity of 0, which is equivalent to a note off, at the ap-

propriate time. While perhaps not the most intuitive way to step edit melodic parts, it does allow better control of entering velocity than is possible by step editing on the ESQ-1 sequencer, plus the grid makes it easy to see exactly where you are in the bar. A setup file is provided with the program as an example, defining a four piece drum kit on MIDI channel 10 and one octave of notes for a bass line on MIDI channel 2.

Of course, some things are missing from Robo Bop. First, there are no complex time signatures. You can splice together bars of 3/4 and 4/4 to create them, though. There is no provision for subtle time shifting or a "swing" mode as found on some drum machines. The minimum timing resolution is sixteenth notes, which may not be enough for some folks. All of these cons should be weighed against the very low price of this package.

If you would like to be able to sequence your drum parts with a more friendly step editor than your ESQ-1 provides, Robo Bop may be just the ticket. ■

Bio: Brian Rost spends his evenings either hunched over his SQ-80 or playing bass with the HUBCAPS, a Boston-based roots rock band. To unwind during the day he designs computers.

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Wanted: Casio MG510 MIDI guitar (prefer black). Mine was stolen and I'd like to replace it with one in good condition. Will pay \$350. 616-223-4327, Bob Higgins, 861 6th Ave., Suite 411, San Diego, CA 92101.

Wanted: VFX-sd and SQ-80 patches for trade. (708) 427-1615.

Wanted: VFX programmers to trade their ORIGINAL VFX PATCHES. (I have 105 HI-FI sounds, wide variety). No tweaks / copyrighted sounds please! Send VFX-SD-1 or Alesis DataDisk format to: Brad Kaufman, 11-26 Saddle River Road, Fair Lawn, NJ 07410.

SOFTWARE

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

PATCHES/SOUNDS

80 new SQ-1 sounds from Mark Clifton. Past Hackerpatches plus a multitude of solid usable sounds. CV pedal required. Send \$95 for RAM card or send own card and \$15 to: Mark Clifton, 11972 Homeguard Dr., Woodbridge, VA 22192.

60 VFX-sd patches created by Jim Grote. Wide variety of sounds with complete documentation. Call for free Information Packet, or send \$30 for VFX-sd disk to: Jim Grote, 3721 Frances Ave., Cincinnati, OH 45211. Phone: 513-661-8885.

A lot of songs & styles for Bachmann keyboards. More than 52 disks plus new ones as they arrive. Call or write to: C. Sansilvestri, Via Origoni, 9 21020 Barasso (Varese) Italy. Phone: 0332-746060.

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

lywood, CA 91602, (818) 769-4395.

FREE SOUNDS with expander orders, EPS/EPS-16+, VFX-sd/SD-1, SQ-1, SQ-2, ESQ/SQ-80. EPS-16+ FLASHBANK and Sequencer expansion available. Also expanders for AKAI, CASIO, ROLAND, PEAVEY, and YAMAHA. EPS/EPS-16+ Vol. I Sampling Made Easy & Vol. II Advanced Sampling videos: \$30 each or both for \$50. 100 Drum Patterns for EPS/EPS-16+, VFX-sd/SD-1, SR16/HR16: \$12. Best Prices. Wildwood Sounds, 4726 Pebble Creek Terr., Pensacola, FL 32526. Phone: (904) 944-6012, Tony, after 6 pm.

INSTRUCTION

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

OUT-OF-PRINT BACK ISSUES

M.U.G. will provide Out-of-Print issues for cost of

materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4 Productions, PO Box 615TH, Yonkers, NY 10703. Attn: TH Back Issues. Phone: (212) 465-3430.

Photocopies of out-of-print past issues of the Hacker can be obtained by calling Jack Loesch, 201- 264-3512 after 6 pm EST.

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

FREE CLASSIFIEDS!

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

ESQ & SQ-80 Hackerpatch

By Sam Mims

SQ-80 Patch: HHSNAR

by Dave Camp, New London, CT

HIP-HOP SNARE is a "now" sound which has recently migrated from rap to hip-hop to dance and finally to Top-40. It's tuned constant across the keyboard so that you can split it up or down with some other sound missing from your trusty beat box.

The Hack

There are many variations of this sound which you can get by substituting waveforms in OSC 2. Two that I liked were SNARE and KICK 2, with OCT set to +1. It's nice to have different tunings on different keys when you do this, but if you prefer constant tuning across the keyboard, duplicate the KBD2 modulators from oscillators 1 and 3 into OSC 2. With the SNARE substitute waveform, turning on the AM mode makes a nice drum sound as well; with the KICK 2 wave, you get popcorn popping. With Dave's original waves, turning on AM creates an interesting drum/cymbal hybrid.

SQ-80 PROG: HHSNAR										BY: Dave Camp	
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH			
OSC 1	-3	0	0	HI HAT	KYBD2	-1	KYBD2	-63			
OSC 2	+3	0	0	METAL	*OFF*	-	*OFF*	-			
OSC 3	0	0	0	THUMP	KYBD2	-1	KYBD2	-63			
	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH					
DCA 1	63	ON	*OFF*	-	*OFF*	-					
DCA 2	0	ON	*OFF*	-	ENV2	+63					
DCA 3	63	ON	*OFF*	-	*OFF*	-					
	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH				
FILTER	127	0	0	*OFF*	-	*OFF*	-				
	FINAL VOL	PAN	PAN MOD	DEPTH							
DCA 4	63	8	*OFF*	-							
	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD			
LFO 1	-	-	-	-	-	-	-	-			
LFO 2	-	-	-	-	-	-	-	-			
LFO 3	-	-	-	-	-	-	-	-			
	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK	
ENV 1	-	-	-	-	-	-	-	-	-	-	
ENV 2	+63	+58	+50	0L	0	2	8	4	19	0	
ENV 3	-	-	-	-	-	-	-	-	-	-	
ENV 4	+63	+63	+63	40L	0	2	0	0	23R	0	
	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC			
MODES	OFF	OFF	OFF	0	OFF	OFF	OFF	ON			
	SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY				
	OFF	-	OFF	-	OFF	-	-				



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

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

SD & VFX Hackerpatch

SD & VFX Prog: Firebird

By: Jim Grote, Cincinnati, OH

NOTES: This is a sample from the collection of 60 VFX patches that I offer. It is a potent, authentic orchestra hit, based on the opening "hit" in the fourth movement of Stravinsky's *Firebird Suite*. It is designed to be played by hitting four octaves at once (i.e., hit A2, A3, A4, and A5 at the same time). I actually used the musical score of Firebird to design this patch, programming the different sections of the orchestra. If you're tired of the standard "rap" sampled orchestra hit, check this one out.

WAVES	1	2	3	4	5	6
Wave	Strings	WoodFlute	Orch Hit	Rim Snare	UniBrass	WoodFlute
Wave Class	StrngSnd	BreathSnd	TunedPerc	DrumSnd	BrassSnd	BreathSnd
Delay	21	7	17	11	9	0
Direction	Forward	Forward	Forward	Forward	Forward	Forward
Start	0	0	2	0	0	0
Vel Start Mod	0	0	0	0	0	0

MOD MIXER	1	2	3	4	5	6
SRC-1		*Off*	*Off*			*Off*
SRC-2		Env1	Press			Env1
SRC-2 Scale		1.0	4.0			
SRC-2 Shape		Quant 8	Smoother			Quant 8

PITCH	1	2	3	4	5	6
Octave	-2	+2	-1	-2	0	+2
Semitone	0	0	0	0	0	0
Fine	+2	+4	+8	+2	0	0
Pitch Table	System	System	System	System	System	System

PITCH MODS	1	2	3	4	5	6
MODSRC	LFO	Mixer	LFO	LFO	LFO	Mixer
MODAMT	0	+50	0	0	0	-61
Glide	None	None	None	None	None	None
ENV1	0	0	0	0	0	0
LFO1	0	+6	0	0	+5	+6

FILTER 1	1	2	3	4	5	6
Mode	3LP	3LP	2LP	3LP	3LP	3LP
Cutoff	111	11	127	111	34	11
KBD	0	+66	0	0	+66	+66
MODSRC	Press	*Off*	Mixer	Press	LFO	*Off*
MODAMT	+16	0	+21	+16	0	0
ENV2	0	+99	+99	0	+99	+99

FILTER 2	1	2	3	4	5	6
Mode	1HP	1HP	2LP	1HP	1HP	1HP
Cutoff	0	0	127	0	0	0
KBD	0	0	0	0	0	0
MODSRC	Timbr	LFO	Veloc	Timbr	LFO	LFO
MODAMT	+65	0	+49	+65	0	0
ENV2	0	0	0	0	0	0

OUTPUT	1	2	3	4	5	6
VOL	99	87	98	99	82	65
MODSRC	Press	Timbr	LFO	Press	Timbr	Timbr
MODAMT	+7	-86	0	+7	-64	-86
KBD Scale	Zone	Zone	0	Zone	0	Zone
LO/Hi Key	A0/B3	C2/B3	C2/C7	A0/B4	A0/A0	C3/B3
Dest Bus	FX1	FX1	FX1	FX1	FX1	FX1
Pan	50	50	50	50	68	50
MODSRC	LFO	LFO	Keybd	LFO	LFO	LFO
MODAMT	0	0	0	0	0	0
Pre-Gain	On	Off	Off	On	On	Off
Voice Prior	Medium	Medium	Medium	Medium	Medium	Medium
Vel Thresh	0	0	0	0	0	0

LFO	1	2	3	4	5	6
Rate		38			38	38
MODSRC		*Off*			*Off*	*Off*
MODAMT		0			0	0
Level		0			0	0
MODSRC		W1+Pr			W1+Pr	W1+Pr
Delay		0			0	0
Waveshape		Triangle			Triangle	Triangle
Restart		Off			Off	Off
Noise SRC RT						

THE HACK: This is, no doubt, the best orchestra hit I've heard come out of a VFX. The sound is sort of a split, with one hit on the top half of the keyboard, and another on the bottom. Individually, they are nice enough, but pile them together and it's frightening! The only change I might suggest is to eliminate the sustain of Voice 1; Jim lets the strings hang on after the hit as long as the notes are held down. To make everything cut off together, change the Sustain level of ENV 3 to 00.

- Sam Mims

SELECT VOICE

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

ENV1

	1	2	3	4	5	6
Initial		77				77
Peak		0				0
Break 1		0				0
Break 2		0				0
Sustain		0				0
Attack		13				13
Decay 1		0				0
Decay 2		0				0
Decay 3		0				0
Release		0				0
KBD Track		0				0
Vel Curve		Convx2				Convx2
Mode		Finish				Finish
Vel-Level		0				0
Vel-Attack		0				0

ENV2

	1	2	3	4	5	6
Initial		0	0		0	0
Peak		99	99		99	99
Break 1		99	85		42	99
Break 2		99	64		28	99
Sustain		99	59		99	99
Attack		0	0		0	0
Decay 1		28	32		28	28
Decay 2		32	29		32	32
Decay 3		66	42		66	66
Release		44	48*		44	44
KBD Track		0	26		0	0
Vel Curve		Convx2	Convx2		Convx2	Convx2
Mode		Normal	Normal		Normal	Normal
Vel-Level		0	46		0	0
Vel-Attack		0	0		0	0

ENV3

	1	2	3	4	5	6
Initial		99	99	99	99	99
Peak		58	99	53	58	53
Break 1		0	99	0	0	0
Break 2		0	99	0	0	0
Sustain		58	99	0	58	0
Attack		42	0	42	42	40
Decay 1		0	0	0	0	0
Decay 2		0	0	0	0	0
Decay 3		0	20	0	0	20
Release		0*	19*	0*	0*	19*
KBD Track		0	0	0	0	0
Vel Curve		Convx1	Convx2	Convx1	Convx1	Convx2
Mode		Normal	Finish	Finish	Normal	Finish
Vel-Level		0	0	0	0	0
Vel-Attack		0	0	0	0	0

PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	x4
Restrike	0
Glide Time	0

EFFECTS (1)

Effect	Concert Reverb
Decay	40
FX1	61
FX2	25

EFFECTS (2)

Pre-Delay	25
Early Refl Level	20
Early Refl Time	7
Diffusion	76

EFFECTS (3)

FX2 Mode	Nrml Stereo Send
HF Damping	13
LF Decay	+10

PERFORMANCE

Timbre	0
Release	0
Pressure	Key

Prog: Ethereal

By: Mark Creed Stansberry, Stow, Ohio

Notes: This patch demonstrates the SQ's ability to produce a powerful, bigger than life sound. It works great with slow

chords. The modwheel drops Voice #1 a whole step for a dramatic detuning effect.

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Waveform	Trans	Inharm
Wave	Brass Org	Pulse 1X	ClusterLoop
Delay Time	0	0	0
Wave Direction	-	-	-
Start Index	-	0	-
MODSCR	-	Lfo	-
MODAMT	-	99	-
Restrk Decay	57	57	57

LFO	1	2	3
LFO Speed	29	16	31
Noise Rate	00	00	86
Level	99	99	19
Delay	26	26	26
MODSRC	-	-	-
Wave	Pos/Sine	Pos/Sine	Sine/Tri
Restart	On	On	ON

AMP	1	2	3
Initial	88	88	99
Peak	95	95	75
Break	99	99	50
Sustain	99	99	00
Attack	17	17	25
Decay 1	30	30	35
Decay 2	20	20	58
Release	60	60	20
Vel-Level	00	00	46
Vel-Attack	00	00	6
Vel Curve	Conv	Conv	Conv
Mode	Norm	Norm	Norm
KBD Track	00	00	00

PITCH	1	2	3
Octave	-1	-1	+1
Semitone	0	0	0
Fine	-6	+6	0
ENV1	-60	-1	0
LFO	+1	-1	+4
MODSCR	Wheel	Off	Off
MODAMT	-50	00	00
KBD Ptch Track	On	On	On
Glide	Off	Off	Off
Glide Time	0	0	0

FILTER	1	2	3
Filter 1	2Lo	2Lo	2Lo
Filter 2	2Lo	2Lo	2Lo
FC1 Cutoff	125	102	125
ENV 2	99	99	00
FC1 KBD	0	0	-5
MODSCR	Lfo	Lfo	Off
MODAMT	99	25	00
FC2 Cutoff	125	83	125
ENV2	99	99	0
FC2 KBD	0	0	-5
FC1MOD-FC2	On	On	Off

OUTPUT	1	2	3
VOL	67	54	86
Boost	Off	Off	Off
MODSRC	-	-	-
MODAMT	-	-	-
KBD Scale	00	00	00
Key Range	A0 A0	A0 A0	A0 A0
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	+98	-98	00
Vel window	00	00	00

ENV1	1	2	3
Initial	17	05	
Peak	0	0	
Break	0	0	
Sustain	0	0	
Attack	22	0	
Decay 1	0	0	
Decay 2	0	0	
Release	0	0	
Vel-Level	0	0	
Vel-Attack	0	0	
Vel Curve	Conv	Conv	
Mode	Norm	Norm	
KBD Track	0	0	

ENV2	1	2	3
Initial	00	00	
Peak	50	50	
Break	99	99	
Sustain	99	20	
Attack	50	59	
Decay 1	50	60	
Decay 2	40	24	
Release	16	13	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Conv	Conv	
Mode	Norm	Norm	
KBD Track	00	00	

Standard
Sound
Programming

Effects Programming

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

8-VOICE CHORUS

FX-1	70
FX-2	50
Chorus Rate	13
Chorus Depth	31
Chorus Center	76
Feedback	+22
MOD (Dest)	FX1-Mix
BY (MODSRC)	Wheel
MODAMT	+10

The Hack: Ethereal probably works best when using nice, fat chords. Its author demonstrates that even unusual patches may derive character from attention to detail: not only does Voice 1 drop a whole step (using the modwheel), it also jumps just about a minor 3rd upon key release. This provides a sort of "un-earthly" motion. Though no changes *need* be made to Ethereal, you can tailor Voice 1's key-release pitch shift by changing the ENV 1 value in that voice's Pitch section. (Different values will produce different intervals.) Try setting MODAMT (also in Voice 1's Pitch section) to -55. Voice 1 will then fall a perfect 4th with the modwheel. This will yield yet more interesting results, particularly when using open voicings. If you wish, soften the overall mix. Go to the Output section for Voices 1 and 3, and adjust VOL to 45 and 70 respectively.



Jeffrey Rhoads

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

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

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.

Dear Hacker,

I am sympathetic with Michael Schmitt's review of Maestas' *"The EPS Sampling Book"* which, fortunately, I did not buy. Lorenz Rychner with Bobby Maestas has published the *"Ensoniq EPS-16 PLUS Operations and Sampling Book"* which, as a novice, I found helpful in clarifying the turgid information in the 16's *Musician's Manual* and has been worth the investment to me.

Can somebody point me to information (and, hopefully, even review articles) on editor(s) for the **EPS-16 PLUS** using an IBM PC?

Richard Rawson
CS: [73607,3354]

[CS - We're starting to get a lot of inquiries about IBM EPS stuff from our readers, and I'm afraid I don't have much of a recommendation to make, apart from the fact that Turtle Beach Softworks put together a well respected sample editing program which I haven't seen advertised lately. And if there's anyone else out there doing IBM stuff for the EPS and/or EPS-16 PLUS, this might be a great opportunity for you all to get a free plug into the Hacker.

[TH - Turtle Beach's SampleVision was reviewed way back in Issue #55 (January, 1990).]

[Ensoniq - The package from Turtle Beach (SampleVision) is currently available and we recommend it highly to any IBM owners. Their phone number is (717) 843-6916.]

Dear Hacker,

Living here in Australia, I'm at a bit of a disadvantage when it comes to a lot of American products since the support and communication between users just doesn't exist here. I am a happy user of both an ESQ-1 and an EPS.

I have an EPS with a 2x expander cartridge and I would like to set up my own library using my IBM compatible 286 AT. It has a 40 meg HDD which I don't really use and so want to utilize it as a hard drive. No one

here seems to be able to see past Atari and Mac and shy away from anything different. I use a program called Cakewalk Pro which I am also very happy with and don't want to change.

What I would like to do is zone off a certain amount of the (IBM 40M) HDD for use with the Ensoniq EPS only but not exclusively as I also use the computer for Wordperfect and various other things.

Is this possible? Or is it necessary to buy a separate hard drive?

I look forward to hearing from someone who knows what's what.

Faithfully,
Russell James

[CS - Russell, I'm afraid you can't partition your hard drive to work both with your IBM and your EPS - it's gotta be one or the other. Don't feel too bad, though. You can't do this with Mac, Atari, or Amiga hard drives either.

If you decide to purchase a second drive, though, you might want to consider looking into removable media drives. A removable media drive would allow you to have different disks or cartridges or whatever formatted for different machines. For example, I have an Eltekon 44 meg removable SyQuest drive which I can use with any of three different devices that support SCSI data storage. Simply pop in the cartridge that's formatted for the device in question, and away you go.]

Hi Hackers:

Even though this magazine has less and less relevance to me, an occasional Mirage and Soundprocess user, I like to read about home music making, people discovering accidental bugs, and letters from people hundreds of miles from their Ensoniq dealers with bad hardware. I've seen the DP/4 at AES - very nice and smooth effects. Unfortunately, closed architecture. Synth manufacturers: We're going to buy general purpose computers for our synth and effects needs soon. Get on the ball! Put your chips on Nubus cards!

JHH Lowengard
NY, NY

[CS - I agree that open architecture designs suit my needs best, too. Unfortunately, this is not necessarily the case for the majority of electronic instrument customers. For example, how many musicians do you know that currently have a place into which they could plug a Nubus card?]

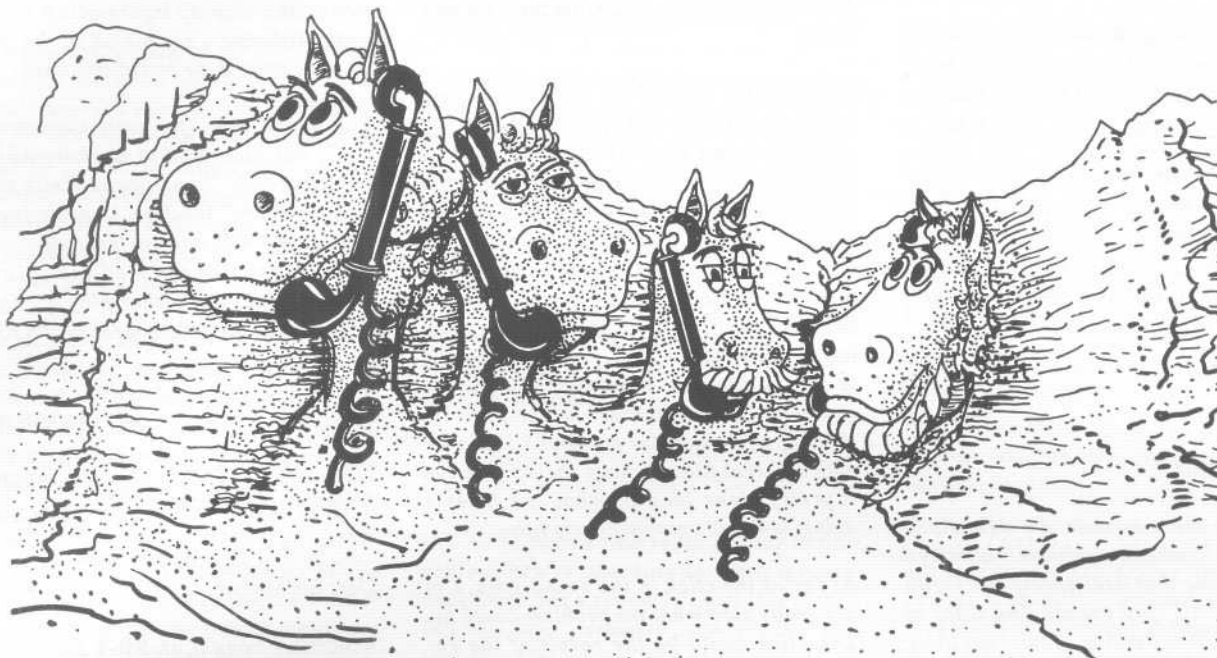
The Interface,

I totally agree with Mr. Schmitt's review of the *EPS Sampling Book* in TH #77. I ordered and received it a week before *Transoniq Hacker* landed in my post. I wish I had waited. Sniff, sniff. I would like to know if there's some serious book explaining with examples how the envelopes work. The problem is that in low pitch of many samples, mainly of my own, I can hear a "click" when I release the key before the sample ends. I've been working hard with the envelopes to finally obtain altered samples far from what they were at the beginning. It's with sampled low drums and basses from CD when I hear clearly that click.

One thing that happens is that my portable CD player outputs an almost inaudible carrier, a product of its own D/A converters or maybe that's only high pitched noise inherent in the quality of the final audio stage. Could it be aliasing produced for this noise when sampled on the EPS? Does anybody know of a suitable DIY HF filter/trap?

I'd like to know if TH has ever reviewed software for the Amiga called Synthia Pro, that load/save/edit/convert EPS 16+, Sample Dump Standard, and other samples via MIDI on the Amiga? Using this program, and here we go with the Ensoniq questions, the EPS gets completely bogged, sometimes writing strange characters. "POWER OFF" is the only cure. Is there any way to reset the EPS without switching OFF/ON? I can copy EPS disks with some Amiga copiers, but can't look into. How is the EPS disk structure organized? I'd like to optimize EPS disks. Concerning the O.S., I'd like to have the "Stop Sequencer First" feature disabled on new version and new SCSI commands, so that a hard disk behaves like a monster flop-

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py. Not the kind of CD-ROM it seems to be now. And for the future, I suggest the RAM be expandable with standard chips (SIMMs, DRAMs), or maybe through a SCSI port, like Amiga's hard disks with memory included. Stereo sample and "Sample Dump Standard" would be welcome.

The last question: In 20 voice mode, does it mean that the EPS 16+ can play no more than 20 "wavesamples" at a time? I have a guitar instrument, with 8 layers and 1 wavesample sound together. One single note of guitar INST consumes 8 of the 20 voices. If so, how about a new EPS 32+ with, yes, 32 voices minimum. For now, what about an EPS rack module player with 3-1/2 floppy, loads of RAM, 8 outputs, double F/X, 16 instruments, 8 slave tracks... for \$1000 max.

Yours,
Gabriel Diaz
Barcelona, Spain

[CS - There are a number of publications dealing with synthesis techniques, although I know of none that deal specifically with envelopes. Still, you should find a lot of good information floating around out there - you might check out Mix Bookshelf (6400

Hollis St. #12, Emeryville, CA 94608, (800) 233-9604). Or you might look no further than the April through August issues (#70 - #74) of TH. In those issues you'll find a detailed explanation of envelopes in the SQ series of synths - and most of that information will apply equally to the EPS and EPS-16 PLUS (not to mention the VFX and SD-1).

As far as the noise from your CD player, it's impossible to tell from what you say whether or not this will adversely affect your samples. But before you go looking for plans to build a brick-wall filter for your EPS-16 PLUS, you might want to try making a few samples of the same source material, and experimenting with the filter built into the EPS-16 PLUS. The input filter has a pretty steep rolloff, and you can easily set the filter for a number of different cutoff points, or bypass it completely. Making a few samples for your CD player with different filter settings should give you a pretty clear idea of what the filter's doing, and if it's providing any help.

As far as the click in the sound goes, I'm not really sure what the problem could be. The click could be the result of the envelope(s) resetting rather quickly - have you tried changing attack and/or release times? Some problems with clicks at the end of a sound can be resolved by setting the AMP envelope to a fairly long release time, and using the filter envelope to actually control the sound's final decay. The idea is that if the filter cutoff point is set pretty low, you can use an envelope to "close down" the filter to turn a voice off. Be careful not to set the amp envelope too long, though, or you might encounter some problems with voice stealing - the EPS might think that the voices you've filtered out are still sounding, since their AMP envelopes are still running through their release stage.

While I have had no personal experience with Synthia Pro, your EPS should not become "boggled" under normal conditions, whether you are using a computer-based editor or not. I'd recommend getting in touch with the Synthia people, and seeing if they can shed any light on your problems. You might also want to contact Ensoniq Customer Service at (215) 647-3930, but I'd recommend talking to Synthia first. There is no way to reset the EPS without powering off.

For information on disk formats for any Ensoniq products, the definitive source is Gary Giebler, who published a series of articles

on this topic in TH, issues #73, #74, and #75 (July through September 1991). I'd suggest checking the articles out, but you can also reach Gary at Giebler Enterprises, 8038 Morgan Road, Liverpool, New York, 13090-2009, through which he markets a program for the IBM PC that will read, write, and display information from Ensoniq diskettes - see his ad in the Hacker Booteeq toward the end of this issue.

And by the way - for some time now, Ensoniq has been hard at work trying to get the legendary "Load Sound While the Sequencer Plays" function. Considering what this feature will mean to those who want to have things like sampled sax solos and background vocals that play along with their sequences, let's hope they can finish it up pretty soon.

And the answer to your last question is yes.]

[TH - Synthia Professional was reviewed in Issue #66 (December, 1990).]

Dear Sir/Madam,

I recently bought an SD-1 Ensoniq keyboard. Can you please help me with the following information:

- 1) Where can I get more sounds for my SD-1?
- 2) Where can I get some house, dance, and hiphop drum sequences for my SD-1?
- 3) Where can I get some sequences (i.e., pop/rock, '60s, '70s, '80s, etc.) for my SD-1?

I also run my SD-1 with an Atari using C-Lab's "Creator" sequencing. Which is the best way to set up the machine?

I look forward to your reply.

Thank you,
Brian Holding
Sydney, Australia

[CS - The first place to go for new sounds is your local dealer. And if he doesn't stock a collection of sounds, shame on him! Ensoniq has put a lot of time and effort into producing large, professional libraries of sounds for their instruments. The fact that many dealers see maintaining sound libraries for the instruments they sell as more trouble than it's worth is unfortunate and short sighted.

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Still, if you want to contact Ensoniq directly, they will be happy to send you a catalog chock full of new sounds and other accessories for any of their products. And if you find something that interests you, they'll be happy to sell it to you direct (accessories and sounds, that is. Sorry, no instrument sales).

Since sequences created on the VFX-sd are compatible with the newer SD-1, you shouldn't have too much trouble locating a source for this type of material - just check the ads in TH! L. B. Music Sequences, Triviatons, and Music Magic all spring to mind as regular TH advertisers - but many other sequence-marketing companies offer VFX-sd and SD-1 sequences.

Insofar as setting up your SD-1 with an out-board sequencer, there are a number of possible ways to use this configuration. I'd assume, though, that you wish to use the SD-1's multi-timbral potential, so you might want to try something like this: Plug the SD-1's MIDI out to the MIDI in of your computer, and plug the MIDI out of the computer back to the MIDI in of your SD-1. Set up a multi-channel sequence in the SD-1, with bass on one track, piano on another, drums on another, and so on. Each of these tracks should have a unique MIDI channel number, and each should have its track MIDI status set to either "LOCAL" or "BOTH." Oh - make sure the SD-1 is in "Multi" mode.

Now set one of the SD-1 sequencer tracks to EXT mode on the track MIDI status page - this will be your control track. When a track is in EXT mode, it will send MIDI data, but not respond to incoming MIDI. Select this track when you want to play into your computer sequencer, and make any track and MIDI channel assignments from the computer itself. To hear what you're playing, you'll need to have the computer "echo" the incoming MIDI information on the correct MIDI channel - you should find this explained in the owner's manual for "Creator."

[Ensoniq - We should point out that we don't sell sounds direct to customers outside of the US. For help with getting sounds you should contact our distributor Electric Factory, at 613-480-5988. The current sounds available are as follows: VPC-102, 103, 104, 105, IPC-1,2 (all cartridges w/60 Sound Programs each), VSD-1000, 1001, 1002, 1003, 1004, ISD-3, ISD-4 (all disks with 120 Sound Programs each - VSD-1000 actually has over 300 sounds!), and many demo sequences which should be available

at your local dealer.]

Q & A Department:

1) On the SQ-R+, how does the filter frequency cutoff code (000 - 127) translate to Hz and kHz? To know would help a great deal in visualizing sounds.

2) It seems like I could fry an egg on the SQ-R+ after it's been on for a few hours. Is this normal? Frying an egg is an exaggeration, but keeping my palm on it for more than three seconds is painful. Pleasurable effects can be obtained by sitting on it, but I can't help but wonder if it will all blow up one day.

Desperately seeking to be published,
Pascal Jasmin
Toronto, Ontario

[TH - Even in Toronto, there's got to be a easier way to grow a palm.]

[CS - I've passed your request along to Ensoniq. They're checking to see if anyone back there has a readable chart that translates SQ filter parameter numbers into actual cutoff frequency. And as for your SQ-R PLUS, it will get hot at times, and it's nothing to be overly concerned about. If you have the unit in a rack, make sure that there's a little space around it so that it can ventilate properly. And if you have a lot of heat-producing stuff in your rack, it might not be a bad idea to investigate the possibility of adding a small fan to your system - all your rack gear will thank you, not just your SQ-R PLUS.]

[Ensoniq - 1) We don't have that information readily available at this time. We'll see about getting it together for a possible future article for the Hacker.]

Dear Hacker,

I am very pleased to renew my subscription for the 4th year to your excellent magazine. Your authors are top notch - the best I've seen in magazines like yours.

I have a couple of questions I hope you can answer.

1) Why do some sounds I've copied from EPS-16 disks sound "flat" on the original EPS?

2) I have the SOUND BLASTER MIDI adapter in my PC. Is there any sample edit-

ing software that works with this board?

3) Being more of an implementor than a creator, I would like to see some program listings in the Hacker that would allow me to read EPS disks and display the data on them.

4) I'm not complaining, and I'm sure the response has been overwhelming for the Basement Tapes section, BUT my brother and I sent a tape one week after we saw the article requesting them and we have not seen anything yet. Is there some way you could possibly print a list of tapes you've received and are planning to review so we can stop holding our breath??? We think the reviews are fair and we like to see what you guys think of it.

Thanks for a great publication, keep it up.

Mitch Germaine
EPS (and only an EPS) owner and believer,
Northbrook, IL

[CS - There can be some problems encountered when trying to play back EPS-16+ sounds on a standard EPS. The first thing to check out is filter cutoff. On the EPS-16+, filter cutoff goes from 0 to

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[Jim Aikin, Keyboard, Oct. '91]

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150, whereas on the EPS it ranges from 0 to 127. Consequently, if filter cutoff is set higher than 127, the EPS may have trouble interpreting the numbers. On the EPS classic, try moving the filter cutoff point all the way to 0, then back up to a setting that sounds good.

The other problem has to do with the fact that the EPS-16+ has a new gain boost parameter. If a programmer uses this parameter to get a bit more volume out of a sound, you may have trouble getting the sound to play back at the correct volume on the EPS classic. The solution is simply to check and make sure that the volume for any wavetable that seems to quiet is turned up.

Of course, the fact that you may not be listening to the sound played back through the EPS-16 PLUS's digital effects might have something to do with it too.

As far as the SOUND BLASTER thing goes, I'm afraid I know of nothing that supports it, but maybe one of our readers has heard of something. In the meantime, there is a program that will run on your PC that will provide the data display functions you're interested in — it can be ordered from Gary

Giebler — see Gabriel Diaz's letter above, and check the Hacker Booteeq.]

[TH — Well, as luck would have it, your tape is the one being reviewed in this very issue. There was a flood of tapes received when that announcement first came out. Our expectation is to get to them ALL. But at the rate of one or two per issue, it's going to be a while before we catch up. Things have calmed down a little since the initial surge, but we'll probably still have to adjust our review rate to match the steady-state inflow or we'll just get behind and behind. We're looking into publishing an (occasional) listing of what's pending.]

Dear Transoniq,

I currently use the SD-1 for my sequence and song construction, and I really like its ease of operation. However, it would be nice if there were a few additional features that maybe an OS update or an overlay kit could fix. My suggestions are as follows:

1) Loop Start and Markers — where you could define a location in a sequence or song to do a loop style recording anywhere within a sequence or song.

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— Jim Johnson, Transoniq Hacker, Oct. 1991

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2) Song Bar/MIDI Counter – useful when copy, append, deleting and inserting events within a song. For example, when copying tracks within a song, the display asks you to define the bars. With the counter you wouldn't have to use a calculator.

3) Improved Song Insert – after constructing a sequence to be a song and you're doing the song recording and you decide you want to insert a new sequence at the intro, the song tracks should continue to play at the original location and not offset to make the step edits.

And for a new product – a "sample player with resample effects feature." One to two megs standard, expandable to 64 meg using standard memory chips. 16 bits, 8 outputs (or 4 stereo), samples recorded on an EPS and linked via SCSI, 32 note polyphonic, and pitch vs. time compression/expansion for more natural key scaling.

And while we're at it, time compression/expansion per wave, 32 voice polyphony, and direct read/write to the hard disk would be nice for the EPS-16 Plus too.

Within my production setup I also have an Amiga 500 that I'm using with an 8-bit

stereo digitizer and sound editor designed by Aegis and called Audio Master IV. It has some outstanding specs for a \$99 unit such as 56k sampling rate, 4x oversampling, pitch vs. time compression/expansion, zoom and other DSP functions. Well, I gave the company a call to see if they had a 16-bit digitizer for Ensoniq samplers, and I was told that the market for a 16-bit digitizer and software was not there. I told them that Ensoniq owners would love to get their hands on such a system for under \$500. Well, if others in the EPS community are interested, give a call or write: Oxxi/Aegis, 1339 E 28th St., Long Beach, CA 90806, phone: 213-427-1227. Support 16-bit sound editing!

Sincerely,
William A Dean
Dayton, OH

[TH – Now that we've all gotten our assignments...]

[CS – We'll be passing your wish-list on to Ensoniq. In the meantime, you might want to check out Gabriel Diaz's letter above. I think he may have stolen some of your ideas...]



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[Ensoniq - Thanks for the suggestions, but these ideas are not easily implemented as an OS update, as they are not part of our current sequencer structure. We'll definitely keep them in mind for the future.]

New product ideas - and of course you'd want this all as an update for your current EPS-16 PLUS (just kidding)? It all sounds great to us, now how do we get it to be affordable enough for you Hackers to enjoy? We'll keep working on it.]

Dear Hacker Interface,

I'll get straight to my point. In regard to *Transoniq Hacker* not being included with new products - it sucks. It stinks. Including an issue with new products is by far the best advertising your magazine, your advertisers, and Ensoniq could ever ask for.

Sincerely,
Mark Schaefer
Pico Rivera, CA

[TH - We appreciate your springing to our defense (and we *were* more than a little concerned at first), but actually, from the business end of things, it's starting to look more and more like it really hasn't affected things all that much. Not to worry.]

[Ensoniq - We still support the Hacker (that's why you're getting a response), and as loyal Ensoniq owners and Hacker readers you still have a chance to be heard by us, get your questions answered and

learn new tips, tricks and support products for the instrument you purchased. Sounds like a good thing to us, and we want to keep it that way. Whether we pack an issue or a flyer, the support goes on, and the Hacker goes on.]

Hello TH,

I just wanted to mention two things that have been a constant source of problems in my three to four years of working with the EPS and EPS-16 PLUS.

First, when working on a sequence the GO TO locator always resets itself to 1 after you have started recording/overdubbing. This doesn't help, especially when you are punching in and trying several times to get a part right. You make your attempt and then reject what you played and want to try again. You hit CANCEL=OLD, and then you have to start again (which is usually deep in the sequence). Big pain. Why not just leave the GO TO where it is, until you leave that sequence and move to another? Ensoniq software engineers - how about it?

Second, (and the biggest pain for me), why isn't the SONG LOOP = ON or OFF programmable as part of the stored SONG information? I'm sure this was an oversight in OS design. I should mention that it is not programmable on the 16 PLUS at all, and on the original EPS you can do it via a trick (program the last sequence in the SONG to LOOP = OFF, turn SONG LOOP = OFF, and save to disk).

The funny thing about this seemingly minor oversight is how much it affects a touring musician using the EPS-16 PLUS to play SONGS every night. Every time I boot up, I go over to the SONG page, and turn the LOOP = OFF. Sometimes I forget, or I have to reboot later or during the show (cause it crashed - grrr...), and it defaults to LOOP = ON. Suddenly my SONGS start over, and I have to embarrassingly stride over and turn the sequencer off. I can't tell you how many times this happens. It's a constant pain. Can anyone relate?

Now, Ensoniq, why is this so hard to fix? Why is it that we have to wait one and a half to two years for an OS update that fixes everything, instead of an update that fixes at least some of the problems while you work on the understandably harder problems? You left all the people who wanted to use the original EPS with a computer sequencer controlling the patch selects out in the cold for two years after the EPS came out, just because of an extremely minor OS glitch, where you represented the 00 patch as 1 instead of 0. Is it not true that only a very few people work on the EPS OS, so that the software language is made consistent? Seems like a 1 to 0 type of fix would take maybe a day or so.

I know you are working on future products. Great! I'll probably buy some. But *please, please!* don't forget us owners! Please support us - we have a hard enough time making dough and being temperamental musicians/artists who work only with the left sides of our brains. Let's see some OS

Current Ensoniq O.S.

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

BACK ISSUES

Back issues are \$2.50 each. (Overseas: \$3 each.) Issues 1-9, 11, 13 - 23, 27, 29, 30, 35 - 38, 68, 69, and 70 are no longer available. Subscriptions will be extended an equal number of issues for any issues ordered that are not available at the time we receive your order. ESQ-1 coverage started with Issue Number 13. SQ-80 coverage started with Number 29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage started with Number 30. (But didn't really get going till Number 35.) VFX coverage got started in Number 48. Permission has been given to photocopy issues that we no longer have available - check the classifieds for people offering them. Reprints in our "Quick and Dirty Reprint Series" are available: *Mirage Operations*, for \$5, and *Mirage Sample Reviews* for \$4. Each contains material from the first 17 issues.

Tested and Approved Hard Drives for the EPSs

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

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

Drives Reported to Work by Readers

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

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

updates. Your machine doesn't work correctly yet. I am dying for the LOAD FILE EVENT option, too!

Happy Hacking!
Garth Hjelte
Rubber Chicken Software
On the road in Chicago, IL

[CS - As far as the GO TO thing goes, refer to Ensoniq's response below.]

And you're right about the Song loop function not being programmable. I use the EPS-16 PLUS for live performance, with many songs stored as individual sequences to a hard drive, so I've never used the song loop function in the same way you do. But I can see where you'd like to be able to save its status along with the song, or at least to save its default status when saving global parameters. Oh well - maybe next rev.]

[Ensoniq - On units we've tested it on, the Go To function works fine, it stays at the last selected Bar no matter how many times we re-tried a recording pass (either Replace or Add mode). Have you used the Go To, hit Stop/Continue to start playing at that selected bar, and then entered overdub by pressing Record? We can't find a problem, give us a call to go over it if this problem persists for you. Maybe you're doing something different than we are.]

As far as updates are concerned, what may seem like a simple fix in software code can have an effect on other functions that you never imagined. That's why we must test every change we make thoroughly. You just go in to switch that 0 to a 1 and find that a disk doesn't load anymore (this is just a hypothetical example, please don't write in!) so we don't rush OS changes to market without being sure they are as bug free as possible. OS 1.2 for the EPS-16 PLUS will be out shortly. We know you want it now, but we must be sure it's right.]

TH,

Can any of you guys tell me what "Error 144" means on my EPS-16 PLUS rack? How about "Error 056"? My MIDI leads are okay and there is no loop.

Kervin Joseph
Denmark

[Ensoniq - Error 144 means that too much data was sent to the unit - in your situation, probably too much MIDI data. You might try taming your controllers, or thinning out the MIDI data stream wherever possible.]

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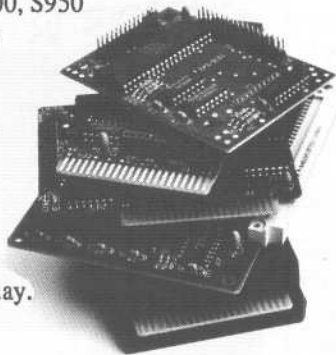
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