TRANSONIQ HACKER

The Independent News Magazine for Ensoniq Users

Using Stereo Panning to Control Effects Levels

David Zipse

The stereo panning capabilities of the ESQ-1, SQ-80, EPS, and late-model Mirages can be used to control the amount of outboard effects on different patches. The SQ-80 will be referred to in the following examples, but the technique can be applied to any electronic instrument with stereo outputs and is particularly useful with drum machines. It works with any effects from the analog reverb built into your mixer to the latest digital multi-effects processor.

First, connect your instrument's stereo outputs to separate channels in your mixer. Connect your effects unit to the mixer's effects loop and choose a digital reverb or use the mixer's internal analog reverb. Turn the left channel's effects off and set the right's to maximum. An alternative set-up would be to connect the effects in line between the instrument's right output and the mixer. Either way the left channel should be dry and the right channel wet.

Now load your favorite bank and edit the pan of each patch to give the amount of effect you deem appropriate. I generally prefer to pan basses left (dry) to keep them from getting lost in a mix; pianos. guitars or accompaniment parts mostly left (slightly wet); and solo lead patches all the way right (swimming in reverb or delay).

Some basic splits can now be created. First save this bank as "L/R FX MIX," then reinitialize your SQ-80 to load the instrument's default bank. Select BELPNO and raise all three oscillators one octave so that C2 (MIDI key 048) is middle C. Go to DCA4, set pan to 0 (left) and turn the modulator off. Now write this program into any location with a new name, I'll use BELPN*, to distinguish the slight variation. Next, select a lead patch such as MINI M. Go to DCA4, set pan to 15 (right), and turn the modulator off. Go to the split/layer page, set split to lower and split program to BELPN*. Set split key to 60 (or whatever) and write this program as MM+BP*. Now we have a split with a dry BELPN* on the lower part of the keyboard and a wet MINI M on the upper part.

This same technique can be applied to drum machines with stereo outputs. Again, run the left side dry and the right side wet. Pan the bass drum and cymbals left, the snare and rimshot right, and everything else somewhere in between. This way reverb can be added to the snare without making the bass drum muddy. Experiment and let your own tastes guide your decisions.

On the ESQ-1 and SQ-80 the pan modulator can be used to create some extra special effects. An LFO will modulate between more and less effects. For example, select LEZLIE. LFO1 is modulating the pan and is being modulated by pressure. Play the keyboard and apply pressure. This adds a fast rotating horn simulation. Many things are happening here. To hear only the subtle differences the pan modulation is adding, go to OSC1 and turn both LFO's off. Go to OSC2, turn both modulators off and set fine to 0. Go to DCA's 1 and 2 and turn all LFO's off. Now we have the basic organ sound without any vibrato, tremolo, or chorusing. Play, press and notice the subtle difference. Switch the pan modulator to LFO2 which is being modulated by the wheel. Play, add the wheel and listen. Try increasing the pan modulation to +63. The net effect of this pan modulation is a sound that moves cyclically closer and farther away.

An envelope applied as a pan modulator can sculpt the amount of effects over time. For example, let's create a Star Wars type

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phaser sound that moves from close to far away. Start with SQ-BRS and change the waveform of all three oscillators to NOISE2. Set Filter Freq=0, Res=31, MOD1= ENV1+63, and MOD2=ENV1+63. Set ENV1 L1=+63, L2=-63, and T2=29. Play the sound and notice the medium reverb. Change the pan modulation to 0 and play the dry sound. Set the pan modulator to ENV1+63 and notice how the sound starts dry and ends in a sea of reverb. Try using an envelope to make your favorite helicopter fly past by panning from right (wet) to left(dry) to right again.

Velocity can be used to vary the amount of effects by how fast you strike the keys. Select any patch. Set PAN=0, MOD=VEL+63. Now the faster you strike the keys, the more reverb the sound has. The opposite of this can be quite useful. Flurries of notes can get muddy with lots of reverb, but if the pan=13 and the Mod=VEL-63, the faster passages will have less reverb.

Using KBD or KBD2 as the pan modulator allows you to vary the amount of effect by position on the keyboard. Select SQ-STR and set pan=0, MOD=KBD+63. Now the violins are wet and the basses dry. Change pan to 15 and Mod to KBD2-63 to create a more subtle variation more like what a conductor might hear with the violins closer and the celli and basses farther away.

Some of the most exciting effects can be produced by using WHEEL or PRESS as the pan modulator. Call up MM+BP*, go to DCA4 and set pan=6, Mod=WHEEL+63. Now wail on the MINI M sound and experiment with the mod wheel. The sound should have a medium amount of reverb with the mod wheel adding a vibrato and maximizing the reverb at the same time. Nice, huh? Now change pan mod to PRESS. Go to LFO1 and set Mod=PRESS. Try wailing on the MINI M sound now experimenting with the pressure while comping chords with the left hand on the BELPN* sound. Awesome! Dynamic effects control at your fingertips!

With PEDAL used as the pan modulator the amount of reverb can be controlled with the foot. Let's create a wah-wah piano where the CV pedal also adds reverb. Start with BELPNO. Set Filter FREQ=006, RES=15, MOD1=PEDAL+63, and MOD2=OFF. Go to DCA4 and set Pan=04, Mod=PEDAL+63. If you don't have a CV pedal, substitute WHEEL as the FREQ and PAN modulators.

With the pan modulator set to XCTRL the effects can be added from another keyboard's mod wheel, breath controller, data entry slider, or whatever. Choose which controller is received on the MIDI page.

These are only a few of the many, many possibilities. Now save to disk any individual programs that you've just created and liked, and reload your "L/R FX MIX" bank. Reload the individual programs that you just saved. Now customize the stereo panning of the rest of the programs in this bank using the techniques discussed and any others brought to mind.

Save the bank to disk and back it up. Experiment with this "left=dry/right=wet" technique using other effects such as delays, flanging or chorusing. Get creative. Have fun. Make music. Express yourself. PLAY YOUR EFFECTS!

BIO: David Zipse is a composer, arranger, and free-lance keyboardist in the Atlantic City area. He has been musical director for several different casino acts and is a summa cum laude graduate of Shenandoah Conservatory of Music. ■

Q: If you own a Mirage, what's the cheapest way to get a system exclusive data librarian, a 20,000 note sequence player, a disk copier and formatter, a synthesizer, and an improved operating system?

A:

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Midicaster also now includes a 20,000 note sequencer download function that allows you to record 16 channel MIDI sequences from your master sequencer directly into the Mirage, making the Mirage a portable "jukebox" type of sequence player. And the new "wave draw" function can teach your Mirage a couple of new tricks - namely, how to be a synthesizer.

Midicaster noticably speeds up a number of normal Mirage functions, so you'll be saving time as well as money. Formatting diskettes with Midicaster is a breeze, and Midicaster is still one of the finest utilities available for backing up your important sound and operating system disks. As a matter of fact, Midicaster now includes so many new features that we have'nt got the space to tell you about all of them here. But we can tell you the price - $49.95 (by the way, we include a money-back guarantee). And it's easy enough to find out more. Simply ask us. We're the Midi Connection.

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Front Panel

RND (♪♫♪)

News from Ensoniq:

Ensoniq Corp has released the second cartridge of sounds in its *ENSONIQ INTERNATIONAL SOUND COLLECTION*, the Japanese Collection (model number IPC-2). This cartridge contains 60 sounds and 20 Performance Presets for the VFX Dynamic Component Synthesizer and the VFX-SD Music Production Synthesizer.

The sounds of the Japanese Collection were programmed by Noritaka Ubukata and Yasuhiko Fukuda, collectively known as "*SHOFUKU*," the #1 sound developers in Japan. After having been involved in the programming of many of Japan's finest synthesizers they now turn their talents for the first time to an American synthesizer, with great results. As well as containing a wide range of musical sounds and effects the IPC-2 contains a manual with sound descriptions and an explanation of the culture and music scene of Japan that was written by Mitsuru "Mitchi" Koshimizu, the chief editor of *Japan Keyboard Magazine*. Future releases for the VFX/VFXSD include sounds from England and Australia, and a new series of International sounds for Ensoniq's SQ-1 Personal Music Studio are also planned.

* * *

The first card of sounds (SC-1) for the SQ-1 Personal Music Studio is now available. This card contains 160 new sounds programmed by the SQ-1 voicing team, which includes Scott Frankfurt, John Greenland, MIDI Connection, Newman Sounds, Synthetic Productions, Sounds Your Way and Eye & I Productions. The SC-1 ROM card retails for $99.95. Also available for the SQ-1 is the MC-32 RAM card ($119.95) which can hold 160 sounds or 32k of sequencer data.

* * *

TRANSONIQ-NET

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ALL ENSONIQ GEAR - Ensoniq Customer Service. 9:30AM to 6:30PM EST Monday to Friday. 215-647-3930.

EPS 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.

SEQUENCING - Larry Church, Danlar Music, 503-692-3663. Call anytime.

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

EPS QUESTIONS - Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 242-9220.

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

ESQ-1 QUESTIONS - Jim Johnson, (503) 684-0942. 8 a.m. to 5 p.m. Pacific Time (OR).

MIRAGE 24-HOUR HOTLINE - M.U.G. 212-465-3430.

ESQ-1 QUESTIONS - International, Brendon Sidebottom, (03) 689-5731 Australia. No calls between 4 a.m. and 10 a.m. Australian ES Time.

SAMPLING & MOVING SAMPLES - "Mr. Wavesample" - Jack Loesch, (201) 264-3512. Eastern Time (N.J.). Call after 6:00 P.M.

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.

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Ensoniq's Performance Tour 90 is in full swing!

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Essential EPS Accessories: The OEX-8

Pat Finnigan

As many as you faithful subscribers already know, the EPS is the only "workstation" that actually delivers its promise with a minimum of compromise. Sure, there are those other oriental wonders with megawords of ROM samples and 4400-note sequencers (WOW!). Some have built-in effects, some actually sample (in a fashion), one is FM, most are ROM-based read-only units; all are some compromise. The EPS compromises by giving you a sequencing sampling keyboard expandable to satiate any user within a moderate budget. None of this spending another grand for a disk drive for your M1, no spending $500 for a W30 SCSI card and $2000 for a CD ROM drive. We are talking affordable. We made the right choice, we just need some essential options.

The most powerful option for the EPS goes largely unnoticed since it doesn't appear active or dynamic (which it is). It's not an effect box like a digital reverb, yet it IS an effect box with which your digital reverb will work in a much more powerful manner. The OEX-8 output expander is undoubtedly the most misunderstood option for your EPS, yet is the single most powerful expansion you can add to it. This article deals with how to optimize its use. It is assumed that you have at least a 6 channel mixer, although the more inputs the merrier.

First of all, go out and buy one of these now! They list for some $250. BEFORE you power up the EPS, plug up the OEX-8. This IS an active component: plugging it in after the EPS is booted will either blow the output circuitry of the EPS, blow the multiplexing circuitry of the OEX-8, or both. The EPS will not tolerate loading down its outputs instantaneously (or unloading them, for that matter), so suffice to say just plug that DB-9 cable in both the EPS and the OEX-8 first and make sure that it's firmly attached (a more positive connector would be nice). Use the velcro to attach the expander to the front right panel of the EPS case (beside the yellow sequencer buttons). Connect left and right standard EPS outputs to Channels 5 and 6 of your mixer (you DO run your EPS stereo, don't you?). Connect outputs 1-4 of the OEX-8 to inputs 1-4. All set?

Boot the EPS and load the "Jambox Ex" demo from Volume 1 of the EPS Sound Library. Load instrument 7, "Drum," and press edit. Right cursor to select wavesample, and play the low C to select wavesample #3. Press the "AMP" button and right cursor to the "PAN" page. Up cursor till you get to the display that reads "PAN = SOLO OUT 1." Presto! You've just pulled the kick drum out of the stereo mix for separate processing and further equalization. Now adjust the settings of Channel 1 on your mixer to taste. Press "EDIT" and right cursor to underline "WAVESAMPLE" which will still read 3, and play middle C to select wavesample #1, the snare. Press "AMP" and right cursor to get to the "PAN" page again. This time, up cursor till you get to the "PAN = SOLO OUT 2" display. Now the snare is dedicated to Channel 2 of your mixer. Equalize and gate to taste. As always, save to disk after each operation, as these edits are Instrument edits. You have just performed the most complicated operations for any EPS instruments: at the wavesample level.

To assign whole instruments (all wavesamples of a given instrument), edits may be performed at the "TRACK" level of either a song or sequence. Remember that "SONG" tracks take command of the track assignment of a sequence and have priority over a "SEQUENCE" track. So while in SONG mode, select Instrument #8, "BASS + ORGAN," and then press "EDIT" and "TRACK." Underline "PAN =" and up cursor till you get to the "SOLO OUT 3" display. Bingo! Bass is now on channel 3 of your mixer, so add some bottom here, as it's kinda thin, right? Repeat the process for Track 2 and assign the "DIAN PIANO" to SOLO Out 4. Now press the "PLAY" sequence button to hear what you've been editing. Save these edits by using "SAVE SONG + ALL SEQS" command, since these are track assignments of the selected song or sequence.

If you only need a specific layer on a Solo Out, select the instrument, press "EDIT" and underline "LYR." Select the layer you want to isolate, then press "AMP" and cursor up to the desired solo out. Save to disk, as this is another Instrument edit. This type of edit allows different processing of an instrument that you may need for a solo. For example, a brighter mix with a different reverb wash for solo piano ala Hornsby, etc. Just create a Solo Out layer that can be patch button selected, record the solo using this particular patch select, and process to taste. Viola! Different mixes under a patch button! And you thought they only did that in LA? A different channel for the solo, and at the same time, the patch select pulls it out of the main mix, just like a solo buss. You CAN record patch selects in any sequence or song, too: animating the automation. Pretty deep stuff. . .

This box also has novel uses live. Got a drummer who can't follow your sequences? Assign the click to Solo Out 8 and group it in his mix. You CAN set the level of the click, so if you quantize cover tunes to the max, he'll still get an absolute metronome to cling to among all the reverse percussion samples you've sequenced. It may sound dumb, but trust me on this one. If you've tried drumming live to a sequenced drum track, gates and reverses make it a living nightmare without a click track, not to mention the mix hassles with main and monitor effects. When I use the expander live, I isolate kick and snare to a pair of separate outs, all other drums sounds to the EPS's internal left and right outputs, bass all by itself, pads and piano to a stereo pair of solo outs, vocal pads and synth sounds to a stereo pair, and the click to the final Solo out to the drummer's monitor mix. Sure, it's 10 sends, but any engineer worth his salt is gonna want separate direct sends for the house mix (have you ever mixed an entire band on only two input channels?). I've seen a band where the drummer plays an electronic kit MIDI'ed to an EPS. It's ironic: the closer the band gets together (accessing the same multitimbral tone generator), the further apart its outputs must be in order to preserve individual sound. And that's what individual outputs are all about, aren't they?

So don't forget that when you add an OEX-8, you're getting a total of TEN outputs from your EPS! So forget about writing the perfect patch: edit your samples carefully, send them down ten pipes, mix accordingly, and who knows? In this configuration the identity of the EPS changes from a "Workstation" to a hit factory! And who knows; maybe we'll be sequencing YOUR cover tunes tomorrow. . . ▬

The Sound of No Hands Playing

Alan Goldberg

I would like to spend a moment discussing something every one of us has done as a musician. It is something unavoidable in our craft and something that we must deal with on an almost daily basis. I would like to discuss the art of NOT playing our instruments. NOT playing occurs when we have to deal with everything else in our lives EXCEPT music. I think this is referred to as every-day living. The consequences of not playing vary depending upon what kind of musician we are. For a professional musician, not playing can mean not eating. For semi-pro performers, not playing can mean a few embarrassing moments on stage. For the home studio enthusiast, not playing can mean losing the creative edge that we try so hard to cultivate and maintain.

Now most people have a certain percentage of time that they allow for their music—daily, weekly, or whatever, depending upon their goals. When I spend more time on musical endeavors than my usual percentage, I feel good (as long as I'm really getting something DONE). When I spend less time, I might feel a little depressed or irritable.

I think that it is important that the transition from not playing to playing be as smooth as possible every time it happens. There should be a sense of continuity that allows for growth and progress no matter how long a hiatus we may have had between musical sessions, and no matter what else is going on in our lives. This was brought home to me very clearly recently when I had the privilege of spending some 50+ days in the hospital (a story for a different time). While I was in the hospital, a friend brought me one of those little Yamaha sampling keyboards, but the little tiny keys and cheesy sounds did little to fire me up. In fact it depressed me. When I finally was able to play my own setup, I felt like a stranger in a strange land. By this time, it had been almost three months since I last played seriously. I was lost. I had disk Sys-Ex saves labelled "SAVE 3/1/89 #2" and the like which were fine when I was playing every day, but were totally mysterious after a three-month layoff. All those hot ideas that were in the sequencer or on disk SOMEWHERE had long since cooled off, and I wanted to pick up the pieces as quickly as possible. I was mad at myself for having to spend so much time figuring out what I had and where it was. I decided to get organized.

I use the SQ-80 disk drive to save all of my Sys-Ex files, sequencer data, sound banks, etc. I am now in the process of moving that chore to the PC where I can have greater control and flexibility. I went back and sequentially numbered every SQ-80 disk I had. I reviewed the saves on the disk and wrote extended comments down ON PAPER under the appropriate disk number. I now keep a pen and notebook handy to take notes during sessions as needed.

I deleted saves that were experimental or incomplete versions of the final product, and I wrote down where these open file areas were.

I renamed drum machine (HR-16) saves to more closely match the synthesizer saves and put them on the matching sequencer disk, whenever possible. And I gave each sequencer save a VERY meaningful name (DUH!). I also diligently logged the number of the reverb or effect program(s) being used.

I had to listen to several unlabeled (shudder) cassettes and reel tapes that I somehow had lost track of. I labeled them (gee, what an idea...).

I rediscovered those wonderful "track sheets" that every synth/sequencer manufacturer includes in their user manuals, but I can't force myself to use them. That is just a little too much discipline for me right now...maybe later.

I began to feel organized—I was clicking like a well-healed [sic] machine. That took care of the technical side of not playing, but what about the creative side? One of our beloved classical masters once said, "If you don't practice for a day, you will notice it. After two days, your friends will notice it, and after three days, everyone will." There is no doubt that I lose some technical proficiency if I don't practice for a while. It is frustrating to play boners, especially when you know that you can play better. So the first step was to get the fingers to pay attention to my brain. So practice, practice, practice. But the musical brain had also been out to pasture and had been dealing with some pretty heady stuff. What I learned from my forced dry spell was that the groove is not a luxury. If I get an inspiration I must realize it onto tape (or disk) as quickly as possible. So how did I regain my groove? I turned off the synthesizers and sequencers and went back to the piano and just played. I played until I WAS BACK. I played until I felt I was in control of the groove. I played until I almost forgot that I hadn't been playing. I played away my remaining pains.

It is important to be in control of music technology when you want to be. Sometimes the state-of-the-art music technology is just too powerful. It can pull me in directions that my wife describes a "diddling, noodling, or pishing"—(that's "sh"). There is so much to explore that if I don't keep on in a firm direction, I do end up pishing (I'm sorry, but I consider a lot of New Age music to be pishing). So I went back to the basics. Just me and the piano—and it worked. Maybe it was because I started on the piano, or maybe it was because there was not quantization, copying, looping, layering, splitting, assigning, chaining, controlling getting in the way. But either way, the piano helped me to regain my direction and be able to return to the synths after my long absence from playing.

I know that this little story doesn't give you a tip on how to find that next killer sound, but hey, that's what Mims & Co. are for. It's all right to take a breather from playing, to reenergize the creative juices and take a vacation when it's by your own choice. But if you ever find yourself having NOT played for three or four months, try returning to the basics, your roots, whatever you want to call them, to regain your edge. ▬

Alternative Scales for Mirage and EPS

Part 2: So What's New?

by Gary R. Morrison

In the last installment of Alternative Scales for Mirage and EPS (Issue #54), I mentioned that I've got something new to tell you folks about. Specifically, all about new alternatives of how to tune the notes of your EPS—or Mirage—keyboard. I'll lay a little groundwork, then give you a really wild scale to try on your own machine.

First, I need to clarify what I mean by an "alternative scale." Music is one field which, unfortunately, is riddled with words with more than one meaning. "Scale" is one of them. C-major, and G-major, for instance, can be called different scales. So can A-major and A-minor. F-minor scales built on A=440Hz and on A=435Hz can also be called different scales. Alternative scales, collectively addressed under the heading of "Xenharmonics," form yet another idea of "different" scales. Two xenharmonic scales can be based on the same pitch name (A, or C#, or whatever), on the same absolute pitch (A=440Hz, or whatever), and have the same mode (major, minor, dorian, or whatever), and still be different tunings. Xenharmonics addresses differences in the pitches of the notes of the scale relative to each other.

Instruments are traditionally tuned to a scale called "12-tone-per-octave equal-temperament." That is, 12 equally-spaced steps within each octave's span. Three aspects of this scale that make it what it is: "12," "octave," and "equal." If you change any or all of these aspects, you get an alternative tuning. You could, for instance, produce a 19-tone-per-octave equal-temperament, or a 12-tone-per-fifth equal-temperament, or a 12-tone-per-octave just-intonation.

Well, now that I've told you the basic idea of how to create these new scales, now I'll tell you that they're not even new! Well, that's not quite true—some of them date back to virtual prehistory, yet new ones are also being discovered every day, such as the one below.

I was planning, at first, to avoid alienating the more conventionally-oriented musicians by presenting a more conventional scale first. There are lots of scales for the more conventionally-minded, but for now, let's go totally hog-wild crazy!

In this scale, the gap between adjacent steps in the scale is 88% of the traditional half-step. On top of that, the A-flat key is not used—the pitch it plays is just a duplicate of A-key's pitch. Now the killer: the scale doesn't repeat itself in octaves. Once you locate a pitch somewhere on the keyboard, you won't find another that is an octave away from it! The pitch difference between any key and what would appear to be an octave higher is actually a somewhat flat minor seventh higher.

Here's the pitch table for you EPS owners (see the Command:Pitch section in the Advanced Applications Guide for information on how to enter pitch tables):

C4 = B3 @ 62¢
D4 = C4+ @ 39¢
E4 = D4+ @ 15¢
F4+ = E4 @ 90¢
G4+ = F4+ @ 67¢
A4+ = G4 @ 54¢
C5 = A4 @ 31¢
Extrapolate from C4 to C5.

C4+ = C4 @ 50¢
D4+ = D4 @ 26¢
F4 = E4 @ 3¢
G4 = F4 @ 78¢
A4 = F4+ @ 67¢
B4 = G4+ @ 42¢

For you Mirage owners running Upward Concepts' Microtonal Scales Disk, unfortunately the list of parameters would be very lengthy. If you'd like a copy of the scale, send me a disk and a self-addressed, stamped (45 cents) envelope, and I'll run you off a copy. Please be sure to mention that you want the scale from Part 2 of the series.

You EPSers who have typed in this table and tried it, are probably about ready for a double-dose of Tylenol. An extensive description of how to use this scale would take many pages, so let me just suggest the following:

1. Approach the scale melodically at first; trying to play full chords will only freak you out. Traditional melodies are possible, but very unnatural—just improvise a bit.

2. After you get a feel for it melodically, add drone notes and experiment with the harmonic intervals available. The intervals from C to A, and C to B are traditional fifth and major sixths, respectively. C to D, and C to G sound somewhat like traditional major seconds and tritones, respectively.

3. Experiment with the neutral third (C to E)—in some contexts it sounds major, and others it sounds minor. The intervals from C to, Eb, F, or to Bb, are also completely unlike anything available in our traditional tuning.

Keep out of tune for the next installment. I shall then present to you a much more traditional-sounding scale called 19-tone-per-octave equal-temperament. ■

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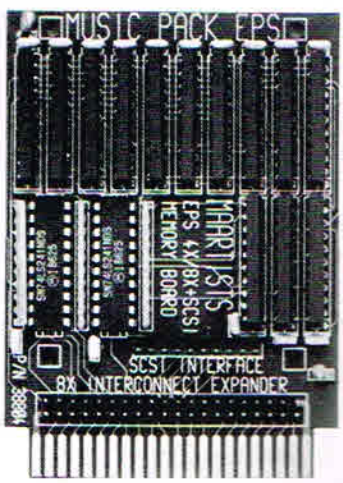

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Soundset 3 Patch Review

The Hidden Waveforms

Chris Barth

For: ESQ-1 using OS 3.5.
Product: Soundset 3, 22-page booklet.
Price: $17.95 data cassette or Mirage-format disk; $59.95, 80-voice EEPROM (40 voices blank).
From: Syntaur Productions, 11116 Aqua Vista, #2, N. Hollywood, CA 91602. (818) 769-4395.

Shortly after the introduction of the SQ-80, ESQ-1 owners started to clamor for more waveforms. There was even an attempt by a European company to install more waveforms through a hardware modification; that effort never really got off the ground as frequent operating system changes got in their way. As for the SQ-80, third-party patch programmers never really seemed to support it as much as it could have been, so those extra waveforms were never exploited to their fullest potential anyway. Now, four years later, the Hacker's own Sam Mims has done what they said couldn't be done—he's selling 40 patches which use "hidden" waveforms in the ESQ.

The catch is that you need operating system 3.5 in your ESQ to hear these patches; ESQ-Ms, SQ-80s, and ESQ-1s with earlier releases of the operating system won't read all of the patch data correctly. So if you've got O.S. 3.5 in your ESQ-1 (and the upgrade is worth it if you don't), read on.

The first 10 patches are bell-like sounds and, yes, it is kind of odd to look at the oscillator page and see WAV033 and WAV192 instead of the usual waveforms like SINE and BELL. A few of these sounds do include a regular ESQ waveform; most are exclusively made up from the new ones. The bell sounds are programmed similar to others you've heard; they're different in that they're much thinner than what you're used to hearing. The old ESQ bell waveform has a lot of presence; these new bell patches are more ethereal, more spacey. They are also very high-pitched; many of the oscillator octave settings are at +3 and +6 (at least one of the reasons you need O.S. 3.5 to hear them properly).

The next bank includes patches programmed to sound like they are being played on a Roland D-50 synthesizer. Voice choirs include WAVCHR, VOICES, OOOHHS, and SPIRIT. Again, they are more airy and lighter than the usual ESQ vocal patches. However, they really need to be processed through a large room reverb setting; on their own, they didn't sound very convincing to me. Routing them through an Alesis Microverb, 50% wet/dry mix, made all the difference in the world. The string sounds require the same treatment.

The two bass patches are not really usable as bass patches. Likewise the sax makes the ESQ sound like a $50 toy. The two pianos and many synth pads also pale behind the usual ESQ fare. The set closes with two telephone patches providing a dial tone, ring back, busy signal, and phone ring. There is also a terrific simulation of satellite telemetry (TLMTRY) which makes your ESQ sound like a shortwave radio trying to pick up Radio Moscow.

Sam includes some well-played sequences to demonstrate this collection, and I didn't really make up my mind on this package until I played them (after a week of playing with the sounds). While it may be a disappointing thought to some, the reality is that these hidden waveforms are simply not up to par with the 32 which came with the ESQ, no big surprise. Frankly, most of them could have stayed hidden with no great loss. They're distressingly similar, and when heard in the context of Sam's sequences, the ESQ starts to sound like it's being played over the radio and someone's adjusted the equalization to remove any frequencies below middle C. It took me a while to realize this because Sam is really a very talented programmer; he's done an awful lot with what I consider to be very limited and mostly uninteresting source material. If you've got a strong collection of the basic sounds already, there are a lot of thin, high-end sounds which can provide some unusual contrast to what you've got. But for my money, go for Soundset 2, which covers the same ground much more effectively. After all, not only do you get Sam with Soundset 2, you get waveforms no one had to look for. ▬

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Creative Synthesis on the EPS

Earle Peach

In case you've always wondered how you can make any waveform turn into any other waveform over any length of time (limited, of course, by the amount of memory in the EPS), read on. In theory, at least, you should be able to do this without any external software, although I've found the use of a second-hand oscilloscope and a calculator to be helpful.

Pick a sample, any sample...preferably something with a changing harmonic content. Isolate it in a new instrument. Create two new layers. Go to layer 2.

Create WS 2, an empty sample of about 50-100K blocks. The best way to do this is to "force" a sample by cursoring the threshold star to the far left. COPY this sample, data and all, to layer 3. These are the vessels, so to speak, into which you'll pour your new sounds. Now return to WS 1.

In WS 1, create a single-cycle loop. Change the loop's position until you have a timbre you like. If possible, try to make the loopend a whole number (i.e., the "fine" loopend adjustment should be .00.). Now press COMMAND:LFO:COPY DATA and copy just the data in your loop to WS 2, destination block 2 or 3 (sometimes the data seems to get cut off a little bit at the start, unless you give it this extra bit of space.). Loop this new data and listen to it to make sure of start and end points. It should have the same pitch and timbre as the loop in WS 1.

Now press COMMAND:LFO:REPLICATE and reproduce that loop throughout the wavesample. You should turn LOOP OFF before you do this, so that you can hear the entire sample. If it sounds like the loop (it should), keep it. Go back to WS 1.

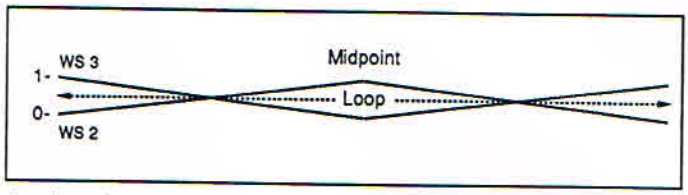
Repeat the whole process with a different loop from WS 1, copied this time to WS 3. Now you have three wavesamples, all of them sounding quite different. What's next? Let's start simple.

Turn off WS 1. Go to LFO:SCALE DATA. Scale WS 2 from start to finish, the starting ratio being 0 and the ending ratio being 1. This is equivalent to a FADE IN, but SCALE DATA has advantages which will become clear. Do the opposite with WS 3: reverse the ratios. If you now strike a key, WS 3 will seem to change into WS 2. Now press EDIT:AMP and turn down the volume of WS 3. Next, COMMAND:AMP:MIX WAVESAMPLES, and mix WS 3 to WS 2, adjusting relative volumes as you see fit. You now have a single wavesample which changes from one waveform to another. You can single-cycle loop it at the end with ease. It gives you a lovely attack.

What if you want a longer loop? OK, go back several steps to before your first SCALE DATA. Find the midpoints of the 2 wavesamples. Now you need 4 SCALE DATA commands:

1. 0 - 1 from start to midpoint (mp) of WS 2.
2. 1 - 0 from mp to end of WS 2.
3. 1 - 0 from start to mp of WS 3.
4. 0 - 1 from mp to end of WS 3.

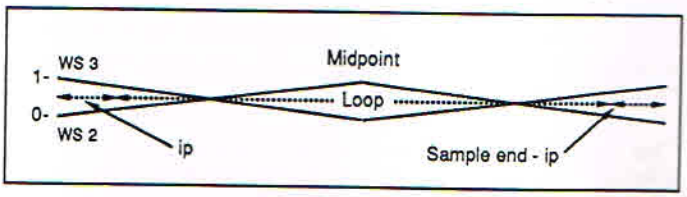
What you're doing looks like this:



Again, mix the two samples. Now your loop can run from the beginning to the end of the sample.

There are so many variations on this basic theme that it's hard to mention them all. Here are just a few:

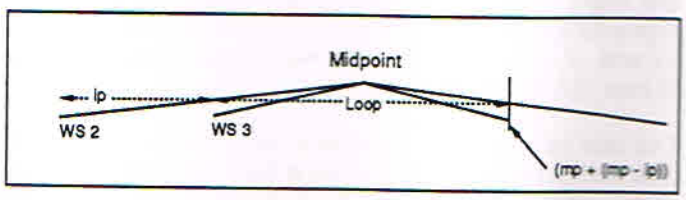
For a looped sample with an initial portion (ip), decide how long you want your ip to be. Now, simply, your loop begins at the end of the ip, and ends at the point (sample end - ip):



What if you want the loop to be the only area of timbral change? For this, again choose your ip (I'm assuming you're starting again from before the first SCALE DATA.), and follow these commands:

1. 0 - 1 from start to mp in WS 2.
2. 1 - 0 from mp to end in WS 2.
3. CLEAR DATA from start to end of ip in WS 3.
4. 0 - 1 from end of ip to mp in WS 3.
5. 1 - 0 from mp to (mp + (mp - ip)) in WS 3.

Mix the samples. The loop should run from the end of the ip to (mp + (mp - ip)):



Another even more exciting area is controlled phase loops. The basic idea is that before you REPLICATE your original data, you make one data set smaller than the other. Then one wavesample phases against the other, creating a rich dynamic texture which you can SCALE and then MIX and loop. Before you do this, be careful to listen to your shortened data set by looping it before you REPLICATE, so that you can reproduce a sound which won't buzz nastily. Of course, you can achieve phasing by simply detuning and mixing wavesamples. The advantage here is that after shortening one loop you can retune it to the other sample and still produce a single, phasing loop!

Overall, this process has completely changed the way in which I think about sampling, and hopefully it will for you, too.

Some unexplored possibilities include asymmetrical loops, mixing more than two waves (dividing in thirds or quarters instead of at midpoints?), shaping the SCALE commands to make them a little more smooth, mixing these synthetic loops with "acoustic" loops, etc, etc. Sampling has come to seem closer to what I believe it should be: a form of electronic synthesis.

[Last minute addition - After writing the above article, it's come to my attention that any two waveshapes which are perfectly in tune will not phase against one another, regardless of the number of blocks they occupy. However, in practice on the EPS, shortening one's loop slightly will put it out of tune so little that the EPS's tuning system can't compensate for it (as a result of the tuning inaccuracies noted in the excellent article by Carter Scholz in TH, issue #55)... so the two waveforms will always phase.]

Bio: Earle Peach makes most of his living as a working musician with a traveling folk band (with occasional gigs for theater and dance). ▬

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Sending Your Mirage to High (Frequency) School

Michael T. Castronovo

Many people equate "bits" with high frequency capability. This is only partly true. What is more important is the sampling rate (both for recording and playback). With the standard Mirage, up to 33k Sample rate (Parameter 73) is available which should yield some decent high end without too many problems. But if you're like me with a lot of slightly dull sounding factory disks...take heart, there's hope!

PARAMETER 36 to the rescue! This parameter controls cutoff frequency of the Low Pass Filter. By raising the value of this parameter, you can raise the brightness of a sound to taste, often with little or no side effects. Let me demonstrate...take your factory "Acoustic Piano." (Everybody has one of those.) Boot it up and listen to the brightness. Then punch up PARAMETER 36; it should read "12" for each keyboard half. While listening and striking a key, start adjusting the value up slowly. By 16 the change can be heard, and by 20 it's quite obvious. Adjust the value to taste, then save it to disk. You can replace your old dull sound or use an empty disk to allow you more quick varieties of pianos. Remember that both UPPER and LOWER Halves of the keyboard must be changed to keep tonal balance. This process should work with most sounds. Since Parameter 36 is stored in memory when a sound is saved to disk, the modification is (more or less) permanent. Remember not to overdo it with too much high end; this will tend to make a sound thin or brittle. I'm not sure why most factory sounds have "36" set so low, but keep in mind that taste and musical styles have changed with the advent of more digital keyboards. Taking the time to do some one on one homework with the Mirage's parameter 36 can help your samples sound more digital and compete better with newer synths and samplers that cost lots more!

Another alternate way you can get more brightness out of your Mirage (or almost any instrument) is to purchase and use an Exciter. These units will create or add high frequency harmonics to whatever is being processed. There are various brands—Aphex, BBE, etc.—and prices will range between $150-$450 or more. This can be applied to a MIDI rack system to help out when you've got a lot of keyboards that need some added brightness.

Hope you enjoy your brighter Mirage.

Bio: Mike Castronovo owns a 16-track recording studio and started playing keyboards back when a 2-note analog synth was considered state of the art. When he gets a new keyboard, he always reads the manual twice, then tries to figure out what it said. ▬

Bonehead Hacking with the ESQ-1's Phantom Waveforms

Steve Vincent

In TH, Issue #54 (Dec. '89) Gary Sterling explained how to access 43 additional waveforms in the ESQ. When I read in the last issue (April '90) that Sam Mims has a set of patches out (Syntaur Sounds' Soundset 3) that takes advantage of these "new" waveforms (if you have O.S. 3.4 or 3.5, that is), I grabbed my ESQ, a $20 bill that came in a birthday card, and rushed down to give my board a brain transplant (upgrade to O.S. 3.5). As I was pacing the floor in the waiting room, I wracked my brain trying to think of where I could find an SQ-80 and an EEPROM with which to hypnotize my ESQ into spewing the elusive waveforms from its unconscious. Then I realized: "I don't *need* an SQ-80 and an EEPROM, I've got my CSR Remote Control-ESQ Editor/Librarian program!" So I rushed my ESQ home from Ron's Organ, booted up RC-ESQ on my PC, edited a patch so that all three OSC's had WAVE=DRUMS5 (the highest numbered SQ-80 waveform, #74), dumped the patch over to my newly-conscious ESQ, and VOILA! There in front of my eyes on the OSC1 page was WAVE=WAV074! I scrolled down through the 43 virgin waveforms, amazing myself that I was getting so excited about being able to access a cacophony of strange pulsing sounds reminiscent of high-rise construction in downtown Seattle. To be fair, as Gary Sterling said, some of the phantom waveforms are actually musical.

If you have an Editor/Librarian that can edit either ESQ or SQ-80 patches, you can probably do the same as I did and access the 43 hidden ESQ waveforms. I know it works on RC-ESQ, so I tried to use Dr. T's ESQape program, but couldn't find it on my hard drive (I know it's here somewhere). Ah—I just remembered: Dr. T is copy-protected, so I must boot it from a floppy! Yes, I remember floppy-disks. Okay—I have now checked out Dr. T, and sorry, it won't allow WAVE parameters above 31. However, interestingly, it will *receive* a patch with WAVE parameters above 31, and transmit it back to the ESQ unmolested. This means that you can have a template patch resident in your ESQ such as the one Gary Sterling suggested in his article, in which all three waveforms are set to the highest number (WAV074), and port it over to Dr. T. Heck, you could create a whole *bank* of WAV074 template patches in Dr. T, and decrement the WAVE parameters to your heart's content. Just don't try to *increment* this parameter in Dr. T's program if you're above waveform #31. You'll just get beeped. (Note that I am talking about Dr. T's ESQape program, which is an archaic, out-of-print program. I believe that the Dr. has other, newer ESQ/SQ-80 librarians out too.)

But, you may be asking, are these new waveforms useful? I say, yes, they are. But don't just take my word for it, check them out for yourself with some low-learning-curve wave-swapping. Call up the PIPEOR patch from Factory Cart B and send it over to your computer patch editor. Now change the WAVE of OSC1 to the SQ-80 waveform REED3 (=WAV035), OSC2 to CLAV (=WAV042), and OSC3 to BRASS (=WAV043). Send the patch back over the MIDI cable to your ESQ, name it something meaningful like ORGAN, and you've got a new pipe organ patch based on the elusive, secret ESQ waveforms! I actually like the new patch better than the factory pipe organ. It sounds better on Pachelbel's *Canon in D Major.*

If you don't have a patch editing program that allows you to access SQ-80WAVE parameters, or at least fool it into giving you WAVEs above #31, then you're stuck with Mr. Sterling's method of milking the higher WAVE parameters from a host SQ-80 using an EEPROM cartridge. Here is a brief review of that operation: Assuming you have O.C. 3.4 or 3.5 in your ESQ, plug an ESQ-1 EEPROM cartridge into an available SQ-80, call up any internal patch, and edit all three OSC's so that WAVE=DRUMS5 for each OSC. Copy this patch to the EEPROM. Plug the EEPROM into your ESQ, call up the new patch, and you should be able to access the new waveforms, beginning with WAV074. Write this patch to your ESQ internal bank as a template patch, working only with *copies* of the original patch, just to be safe. If you succeed in getting the precious parameters safely inside your ESQ in the form of a template patch, then you can create the above "new-wave" variation of PIPEOR, but it will be a lot more work for you. First, make a copy of your template patch, then go to the OSC pages on your edit program. Next, *carefully* decrement the WAVE parameters from WAV074 down to WAV035, WAV042 and WAV043 respectively for OSC1, OSC2 and OSC3. The reason I said *carefully* is because, as Gary Sterling observed, you can go down, but you can't go up. If you scroll down past your target WAVE parameter, I'm sorry, but you have to start all over again. After you plug in the new waves, you'll have to enter the rest of the parameters from the PIPEOR patch into your new patch on the ESQ's front panel. If this doesn't convince you that you need an editor/librarian program, you're hopeless (or broke).

Did that get you excited to do some more programming with the ESQ's phantom waveforms? Then try the MKTREE patch accompanying this article. As I scrolled through the new ESQ waveforms, I heard a mark tree lurking about in WAV044 and WAV041. Not being much of an ESQ programmer, I quickly aborted my attempts at creating a mark tree from scratch (my best effort sounded like a one-measure ESQ sequence set on loop, consisting of nothing but "stolen" notes), and instead made some modifications to the ESQ's factory TRIBEL patch, since that one already had the action of the chimes knocking against each other. The waveforms for OSC's 1, 2 and 3 are, respectively, WAV044 (SQ-80 name = STRING), WAV041 (SQ-80 name = GLINT3), and WAV041 (also GLINT3). Hint: use the TRIBEL patch as a starting point, since a number of the parameters are the same. The MKTREE patch utilizes KBD2 to modulate both the pitch of the OSC's (making a more realistic effect, since real mark trees do not follow a chromatic scale) and the stereo panning. It should be played by "glissing" across the keyboard.

ESQ-1 PROG: MKTREE **BY: STEVE VINCENT**
(modified TRiBEL)

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+4	0	0	STRING	LFO2	-1	KBD2	-63
OSC 2	+3	5	0	GLINT3	LFO1	+2	KBD2	-51
OSC 3	+3	5	0	GLINT3	LFO2	-1	KBD2	-46

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV1	+55	OFF	-
DCA 2	0	ON	ENV2	+56	LFO3	+36
DCA 3	0	ON	ENV3	+57	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	118	15	21	ENV4	+63	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	32	8	KBD2	-63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	18	ON	ON	TRI	18	0	0	OFF
LFO 2	19	OFF	ON	TRI	0	1	18	OFF
LFO 3	25	OFF	ON	TRI	0	3	63	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+0	+48	+0	0	4	17	0	44	32	0
ENV 2	+0	+47	+48	0	4	24	0	32	36	0
ENV 3	+63	+54	+50	0	0	0	28	32	32	0
ENV 4	+63	+58	+0	32	0	0	19	48	47	0

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	0	OFF	ON	ON	ON

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	-	OFF	-	OFF	-	-

If you gliss down the entire keyboard right to left, you'll notice that the lower third of the keyboard introduces some new pitches. This appears to be an artifact of the waveforms used. As Gary Sterling pointed out, many of the phantom ESQ waveforms produce different sounds in different ranges of the keyboard. In the case of the MKTREE patch, it adds a human element to the sound.

We are all aware of the stratospheric MIDI divorce rate in this country. Why, scarcely a month goes by where we don't read a letter in the Interface from some Hacker who has dumped his or her ESQ for the latest MIDI seduction. If your marriage with your ESQ is getting stale, breathe some new life into it by discovering a whole new side of its personality: 43 new waveforms! And this relationship enrichment workshop doesn't really require much: just O.S. 3.4 or 3.5, and access to an SQ-80 or an Editor/Librarian program that lets you play with SQ-80 WAVE parameters.

Well, I've got to go; my wife is calling. Happy hacking! ▬

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Dynamic Component Synthesis: Beyond the Buzzword

Jim Johnson

Some days I think that the worst affliction in the MIDI industry, surpassing even MTV (MIDI Techno-Virus) in its insidious destruction of the brains of unwitting musicians, is the Buzzword Syndrome. You've heard of it—it's that nasty tendency among manufacturers to attach a new and fancy label to any idea they have that is the least bit different than someone else's. Or to someone else's idea when they want to present it as their own. I really think that R*l*n* takes the prize in this category. How many of you remember the Alpha Dial? Biometrics? My favorite is Linear Arithmetic Synthesis, which is a fancy way of saying 1+1=2. Still, I guess that L/A sounds better that WOSS (Warmed-Over Subtractive Synthesis), which is what that system really is.

Still, every once in a while, someone hits the nail right on the head when they create a buzzword. Yamaha did it with FM, and now Ensoniq has done it with Dynamic Component Synthesis, which is their name for the system used in the VFX. Not only is this name accurate, if you keep it in mind as you are building a sound, it can actually help you with your programming. Dissecting the name from its end to its beginning, we find:

Synthesis—Because sounds are built from the ground up, instead of by simply modifying sampled sounds.

Component—Because sounds are assembled out of up to six separate components, each of which can be a simple as a damped sine wave, or as complex as a full sampled sound.

Dynamic—Because components can be added or dropped from the sound at will, using the patch select buttons, and because they can be dynamically blended using performance nuances such as velocity, aftertouch, or several external controllers.

So you can see that, even though understanding the name won't guarantee the creation of killer sounds, at least it will help keep you on track by emphasizing what the VFX is good at. This month, we'll look at a couple of sounds I've created, and see how Dynamic Component Synthesis contributes to their special characters.

First of all, a simple example. Suppose that you want a steel drum sound, and you like the basic steel drum sample in the VFX, but you'd like something that's a little nastier at times. This description makes the approach obvious: start with the original steel drum sound, and add an extra component with a bit more edge that can be added when needed.

Patch 1 shows a no-frills patch that does what we've specified in the preceding paragraph. (Like all Hacker patch sheets, this one shows only the relevant parameters; anything left blank can be set to whatever value you like, or ignored. One additional wrinkle here is that the few settings in voices 3 and 4 represent alternate values for voice 2; we'll get to them in a minute.) Voice 1 provides the basic STEELDRUM waveform, with no filtering or detuning, and a plausible amplitude envelope. (The ENV 1 modulation of PITCH provides a little subliminal interest to the attack.) Voice 2 is set to produce a very short INHARMONIC wave, which produces a sort of buzzy, metallic click. (Words fail me here. Solo the voice and judge for yourself.) The high pass filter (FILTER 2) removes the fundamental of the TUBULAR-L sound, making it less bell-like. The result is something that sounds a bit like the metal buzz in a lower-quality steel drum, and which blends well with the straight sample.

As this patch is listed here, the buzz only comes in when the right patch select button is pressed. The alternate settings for voice 2, which I've listed in the column for voice 3, put the volume of the buzz under the control of the TIMBRE slider. Of course, you'd also need to turn voice 2 on in the VOICE SELECT section in order for this to work properly. A third option is listed under voice 4. This setting causes the buzz to come in only at very high velocities.

Now let's look at how components would be used to create a more original sound. The program in Patch 2 makes use of three components (or voices, if you prefer). The first uses the DOCTOR-X transwave to provide the meat of the sound, and the second uses KAGONG to provide a short chiff on the attack. The third component brings in a rather pure tone tuned to the third harmonic, a few seconds after the initial attack.

This is obviously synthesis, and we just discussed the three components, but why dynamic? Even though this program does not make use of the patch select buttons, it still fits the definition of dynamic component synthesis because of the way the envelopes are used to vary the levels of the three components as the note evolves. The settings of ENV 3 for the first two components are designed to bring the chiff component's level down as the transwave is brought up. (Note that the volume of the chiff voice is brought back up a little later, after ENV 2 has closed its filter down, to help thicken the sound.) Finding a good balance between the decay times on the chiff component and the attack time of the sustain sound is the toughest part of putting a sound like this together. The third voice, which provides a sort of shimmering gloss on top of the sound, has another dynamic wrinkle thrown in: leaning on the keyboard (that is, applying pressure to the

keys) will increase its volume. This is a really nice effect, if executed properly.

There are several programming tricks tucked away in this sound's modulation settings that are worth mentioning as well. Note how the NOISE source is used to randomize the LFO frequency for voice 1; this prevents the transwave modulation from becoming stupefyingly repetitive. The same trick is used on the vibrato LFO in voice 2. NOISE is also used to modulate the panning of the third harmonic component, after being smoothed by the mod mixer. Keyboard scaling (which is also a form of modulation) is used to prevent the third harmonic from overpowering the rest of the sound in the upper regions of the keyboard. And although this listing doesn't show it, this sound is also a good candidate for the use of dynamic ef-

VFX Patch 1: Steelbite

WAVES

	1	2	3	4	5	6
Wave	Steeldrum	Tubular-L				
Wave Class	Tund-perc	Inharmonic				
Delay	0	0				
Start	0	0				
VSM	0	0				
Dir	0	0				

MOD MIXER

	1	2	3	4	5	6
SRC-1			Off			
SRC-2			Timbre			
SRC-2 Scale			1.0			
Shape			Convex-1			

PITCH

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

PITCH MODS

	1	2	3	4	5	6
MODSRC	Off	Off				
MODAMT						
Glide	None	None				
ENV1	+01	0				
LFO1	0	0				

FILTER 1

	1	2	3	4	5	6
Mode	LP2	LP2				
Cutoff	127	127				
KBD	0	0				
MODSCR	Off	Off				
MODAMT						
ENV2	0	0				

FILTER 2

	1	2	3	4	5	6
Mode	HP2	HP2				
Cutoff	0	67				
KBD	0	+35				
MODSCR	Off	Off				
MODAMT						
ENV2	0	0				

OUTPUT

	1	2	3	4	5	6
VOL	99	67	88			
MODSRC	Off	Off	Mixer			
MODAMT			+30			
KBD Scale	0	0	0			
LO/HI Key						
Dest Bus	FX1	FX1	FX1			
Pan	50	50	50			
MODSRC	Off	Off	Off			
MODAMT						
Pre-Gain	Off	On				
Voice Prior	MED	MED				
Vel Thresh	0	0		+80		

LFO

	1	2	3	4	5	6
Rate						
MODSRC						
MODAMT						
Level						
MODSRC						
Delay						
Waveshape						
Restart						
Noise SRC RT						

SELECT VOICE

	1	2	3	4	5	6
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	99					
Peak	0					
Break 1	0					
Break 2	0					
Sustain	0					
Attack	8					
Decay 1						
Decay 2						
Decay 3						
Release						
KBD Track	0					
Vel Curve						
Mode	Normal					
Vel-Level	0					
Vel-Attack	0					

ENV2

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

ENV3

	1	2	3	4	5	6
Initial	99	99				
Peak	58	99				
Break 1	41	0				
Break 2	31	0				
Sustain	20	0				
Attack	35	2				
Decay 1	24	29				
Decay 2	16	0				
Decay 3	28	0				
Release	47	30				
KBD Track	+21	0				
Vel Curve	Linear	Convex-2				
Mode	Finish	Normal				
Vel-Level	46	46				
Vel-Attack	0	0				

PGM CONTROL

Pitch Table	Off
Bend Range	
Delay	
Restrike	10
Glide Time	0

EFFECTS (1)

Effect	To suit
FX1	
FX2	

EFFECTS (2)

EFFECTS (3)

PERFORMANCE

Timbre
Release

fects, especially a flanging effect in which the rate and depth change ever so slightly as pressure is increased. I've just shown the default 8-VOICE CHORUS effect in this listing, so this might be a good place to start fooling around.

Next time, we'll talk about some unusual things you can do with modulation. Or perhaps we'll look into applications of the pitch tables. Maybe I'll take on the challenge of maximizing the VFX's polyphony by creating some good programs that only use one voice. The VFX is so deep, I'm honestly not sure where to turn sometimes. Here's a thought—if there's some aspect of the VFX that you'd like to learn more about, drop me a line, in care of the Hacker, and I'll put that letter on my stack of unfinished work. Who knows? Maybe I'll even read it! ■

VFX Patch 2: BIG THICK

WAVES

	1	2	3	4	5	6
Wave	Doctor-x	Kagong	Triangle			
Wave Class	Transwave	Tuned-per	Waveform			
Delay	0	0	0			
Start	47	0				
VSM	LFO	0				
Dir	+42	Forward				

MOD MIXER

	1	2	3	4	5	6
SRC-1			Off			
SRC-2			Noise			
SRC-2 Scale			1.0			
Shape			Smoother			

PITCH

	1	2	3	4	5	6
Octave	0	0	+1			
Semitone	0	0	+7			
Fine	0	+2	-2			
Pitch Table	System	System	System			

PITCH MODS

	1	2	3	4	5	6
MODSRC	Off	Off	Off			
MODAMT						
Glide	None	None	None			
ENV1	0	0	0			
LFO1	0	+10	+6			

FILTER 1

	1	2	3	4	5	6
Mode	LP3	LP2	LP2			
Cutoff	27	45	127			
KBD	+23	+25	0			
MODSCR	Off	Off	Off			
MODAMT						
ENV2	+58	+54	0			

FILTER 2

	1	2	3	4	5	6
Mode	HP1	HP2	HP2			
Cutoff	0	0	0			
KBD	0	0	0			
MODSCR	Off	Off	Off			
MODAMT						
ENV2	0	0	0			

OUTPUT

	1	2	3	4	5	6
VOL	74	99	80			
MODSRC	Off	Off	Press			
MODAMT			+21			
KBD Scale	0	0	-15			
LO/HI Key			C2/C7			
Dest Bus	FX1	FX1	Dry			
Pan	50	50	50			
MODSRC	Off	Off	Mixer			
MODAMT			+36			
Pre-Gain	Off	Off	On			
Voice Prior	Med	Med	Med			
Vel Thresh	+0	+0	+0			

LFO

	1	2	3	4	5	6
Rate						
MODSRC						
MODAMT						
Level						
MODSRC						
Delay						
Waveshape						
Restart						
Noise SRC RT						

SELECT VOICE

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

ENV1

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

ENV2

	1	2	3	4	5	6
Initial	0	99				
Peak	75	99				
Break 1	99	21				
Break 2	99	25				
Sustain	99	26				
Attack	25	49				
Decay 1	26	27				
Decay 2	50	50				
Decay 3	50	50				
Release	50	50				
KBD Track	+0	0				
Vel Curve	Cnvx2	Cnvx2				
Mode	Nrml	Nrml				
Vel-Level	50	66				
Vel-Attack	0	0				

ENV3

	1	2	3	4	5	6
Initial	0	74	0			
Peak	99	99	99			
Break 1	99	75	79			
Break 2	99	61	79			
Sustain	99	88	87			
Attack	14	28	61			
Decay 1	50	42	59			
Decay 2	50	33	11			
Decay 3	50	37	31			
Release	30	30	30			
KBD Track	0	+28	0			
Vel Curve	Cnvx2	Cnvx1	Cnvx2			
Mode	Nrml	Nrml	Nrml			
Vel-Level	0	18	26			
Vel-Attack	0	64	0			

PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	X1
Restrike	10
Glide Time	0

EFFECTS (1)

Effect	8-voice Chorus
FX1	
FX2	

EFFECTS (2)

EFFECTS (3)

PERFORMANCE

Timbre	0
Release	0

Classifieds

USER GROUPS

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EPS-ME1A, SCSI able, 2X expander: $100. OEX expander (8-out): $100. SQ-80 synth, all sounds in the known universe, latest software: $1000. (719) 471-7193.

EPS 2X Memory Expander. 6 mo. old. $100. Free shipping & box of formatted 3M disks. First cashiers check gets it. Mitch Marhanka, 3877 S US 35, LaPorte, IN 46350.

CASIO CZ-101, 4-bank memory expansion. Poly-timbrel through MIDI. $175. **TRIGGER-TO-MIDI** converter; DZ-1, new, warranty. Nine channels, programmable. Converts trigger to velocity, patch, note. $210. (619) 943-9936.

ESQ-1 perfect, with RAM cartridge and hundreds of sound patches. $850. Alec, 716-359-9047, 716-359-6016.

Mirage rackmount with IVM Megabank expander. Includes Midicaster, other extras. $650/obo. 402-334-5673.

SAVE ON MAARTIST 4X EXPANDERS - USER GROUP PRICES - ENSONIQ approved, user installable. **PROGRAMMABLE RAMS** with GREAT SOUNDS. VFX - D50 cards - DX7/DX7II - K1 - ESQ/160 - also S1000/S950 - TX16W - FZ1 - expanders. **CALL and SAVE**. MC/VISA. Free shipping. Wildwood Sounds, 4726 Pebble Creek, Pensacola, FL 32506. 904-944-6012, Tony, after 6 pm.

TRADE: ESQ-1 (case, many sounds) for ESQ-M. Straight up. Phil, anytime, 212-795-5366.

Ensoniq (**factory**) expanders, 4x - $400, 2x - $150, OEX - $150. o.b.o. (719) 471-7193.

IF YOU HAVE AN IBM this is what you need: Roland MPU interface (card & box), $100; CAKEWALK V.2 Sequencer, $95; PERSONAL COMPOSER (OS2) sequencer, editor, librarian, and PROLIB universal librarian, $50. NOT copies - with docs. Jim Darby, 3750 Colonial Blvd., Ft. Myers, FL 33912. Day: 813-936-1754. Night: 813-481-1812.

DISKS! DISKS! DISKS! 3 1/2 in double sided, double density disks with labels. 10-49 disks at $0.89 a piece! 50+ disks at $0.84 a piece! Plus $3.00 P/H (MO residents add 6% sales tax). 100% guaranteed! (U.S. orders only, please.) Send check or money order to: Patmos Productions, Inc., 12121V Blue Ridge Blvd., Grandview, MO 64030.

EXPANDERS: 4X EPS, $389.00. **VFXSD**, $279. **AKAI; YAMAHA, KORG**. 44MB removable **SCSI** drive, $995. **RAM CARTRIDGES: VFX**, $99.95; **ESQ/SQ80**, $39.95 (80-Voice); **K1**, $49.95; **KORG; YAMAHA**. FREE shipping. Complete stock!! **SOUND LOGIC**, 1125 Eleventh Street, Ramona, CA 92065. (619) 789-6558 (Info); (800) 753-6558 (Orders).

WANTED

ALCHEMY 1.2 or any version that will run on a MAC 512E (new or used). Contact Jason Neumann, 2429 Turnagain Parkway, Anchorage, Alaska 99517. (907) 248-0490.

Wanted: Original copy of Emerson, Lake, and Palmer "Anthology" music book. Includes "Pirates," "Fugue," Memoirs of an Officer and a Gentleman." Cash paid. Help! I'm desperate. Kyle Jarger, 255 North Rd., #72, Chelmsford, MA 01824. Days: (508) 486-3514.

SOFTWARE

Soundesigner Universal $125. Turbosynth $150. Good as new for Atari ST. Don, (517) 752-3084. Mich.

For sale - Sonus Super Sequencer for C64/128, program, manuals, interface. Includes sys-ex load/save, 4 banks D50 patches, some top 40 sequences. Nearly new - $80, or trade for something musical? Grant, 305-928-3309 (days, Fla.).

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120 NEW VFX SOUNDS V1/V2 $35 ea, both $60, Disc. 60-V programmable cartridge: $89. **2000+ DIGITAL SAMPLES** 2 Maxell XLII-100 cassettes direct from PROTEUS - T1/M1 - D50 - DX - K1/K5 - VFXsd - STEINWAY - MOOG - DMP3 - $25 dbx/dolby b/c. **100 DRUM PATTERNS** HR16 - VFXsd - EPS - $12. MC/VISA. Free shipping. Wildwood Sounds, 4726 Pebble Creek, Pensacola, FL 32506. 904-944-6012, Tony, after 6 pm.

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NEW WAVEFORMS for the ESQ-1! Soundset 3, programmed by Sam Mims, brings a host of new waves - and 40 amazing new sounds - to the ESQ-1 using operating system 3.5 (not compatible with ESQ-Ms, SQ-80s, or earlier operating systems). Many D-50-type ambient sounds, all outlined in accompanying 22-page booklet. Available on data cassette or Mirage-format disk for $17.95, or on 80-voice EEPROM (40 voices blank) for $59.95. Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602. Phone: 818-769-4395.

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DOCUMENTATION

EPS OWNERS! FREE READER'S TIPS!!! Send SASE. We feel your EPS should be an extension of yourself! Don't you?!! **QUANTUM ACOUSTICAL RESEARCH AND DESIGN**, 115 N Chicago Ave, Rockford, IL 61107.

The EPS Users Guide. Don't delay! 70 copies left. Companion for Ensoniq's manuals. Price: $20 US. Shipping & handling: $2 US, $6 Canada, $15 Europe, $18 Australia, etc. Send check or MO to Gary Dinsmore, 6509 20th St. East, #1, Fife, WA 98424.

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Hackerpatch

By Sam Mims

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.

ESQ Patch: HANBL3

By Cyrus Dinshah, Malaga, NJ

This is a handbell patch that is not derived from one of the factory bell patches.

The Hack. This bell has a lot of punch to it. Because of heavy detuning (FINE of OSC 3 set to 10), the patch is fat, but noticeably sharp. Setting OSC 3 flat of the pitch center corrects the tuning problem, yet retains the same degree of detuning (sort of a contradiction in terms there...). Set OCT=0, SEMI=11, and FINE=27 to accomplish this. You may also opt for a tighter tuning, and hence a clearer bell peal; in this case, pull FINE of OSC 3 back up a couple of notches, and pull FINE of OSC 2 down a couple.

The other problem I had with this patch was that a sustained note suddenly drops in volume to almost nothing. Setting T3 to 45 on ENV 3 (which controls the filter) and ENV 4 (which controls the overall volume) fixed this nicely. Finally, since ENV 3 also controls the panning, the sound seemed to hang in the right speaker too much, moving to center only at the end of the sustain. Setting PAN to 5 on the DCA 4 page lets the sound move from the right, through the center, and to the left side—a bit more balanced.

ESQ Patch: SQUNCH

by Glen Gafter, Amherst, NY

This is a synth sound tuned to fifths.

The Hack. Glen's got a neat sound cookin' here, but there was one thing that bothered me. In the lower register, the bright PULSE wave of OSC 3, tuned to the fifth, was much more prominent that the other two oscillators, which form the tuning base of the sound. The result was that bass notes sounded like they were being played a fifth higher than they really were. Thanks to the versatile modulation routing of the ESQ, this was a simple thing to solve. On the DCA 3 page, I assigned KBD2 as MODulator 2, with a Depth of +53, and—presto—the real bass notes came through nicely.

A final tweak I did was speeding up the vibrato from LFO 1 a bit. Changing its FREQuency to 22 did the job.

ESQ Patch: HAMOND

by Bill Seath, Minneapolis, MN

This is my favorite organ patch for the ESQ-1; I use it a lot. Detuning Oscillators 1 and 2 wasn't enough to give me both a gentle detuned high keyboard while keeping that growling low keyboard, so I used LFOs 2 and 3 to scale down the keyboard parameter enough to achieve this. Also, check out the Leslie effect controlled by the CV pedal.

The Hack. There are about a squillion ESQ organ sounds around, but this is one of the closest ones to a B3 that I've heard. Treat the DCA LEVELS as drawbar settings, and you can make your own variations of this patch. (Note that to turn down DCA 3, you must decrease the MOD 1 DEPTH.) Bill did some neat tricks with the LFOs; the Leslie effect is quite nice, and the detuning with KBD, LFO 2, and LFO 3 is nothing short of pretty darned clever.

If you run your synth through a Leslie, try switching SYNC on, for a straight in-your-face organ sound.

SQ-80 Patch: PNORES

by Trey Yancy

Here's a patch that adds a little spice on top of a piano patch. Played softly, it predominates with a reedy sitar-like flavor, but with a harder staccato strike, the piano takes over. A bit of pressure will pull in the resonance, adding some complexity to your piano sound. Its most natural sounding area is in the bass range.

Using this patch as your base layer, adjust the volume and sustain to match your piano patch through the MOD amount of DCA 4 and through T4 of ENV 4.

The Hack. This does add an unusual character to a layered piano patch (you'll also need to match the OCT settings of the piano), but it's also an interesting patch to use on its own. I found the bottom octave to be not very usable, so I raised each OCT setting up a notch. The higher range then takes on a vocal quality. To emphasize the resonance, try raising the DEPTH of the LFO 2 MOD on the filter page to +40 or so; this gives an interesting sweeping motion to the sound, which you can control with key pressure. Or try turning AM on (MODES page) for more of a sitar-like sound.

This one is easy to convert to ESQ use; just change the WAVE of OSC 3 to REED, and disregard the L's and R's of the envelopes. Finally, change the PRESS settings to WHEEL, so that the mod wheel controls the filter sweeps.

Hackerpatch Requests

I have yet to hear any good steel guitar patches for the ESQ-1/SQ-80. I own an SQ-80. I'd especially like to obtain a steel patch oriented for country music with performance controls set up to take advantage of the special capabilities of the sustain pedal that allow a single note in a chord to be bent.
—Scott Crafton, Richmond, VA

*Bio: Sam Mims is a studio session player in Los Angeles, and a member of the band **THE NEWKS**. He owns Syntaur Productions—a company that produces music for television, radio, and film. In addition, Syntaur markets synth patches for the ESQ-1 and SQ-80.*

ESQ-1 PROG: HANBL3

BY: CYRUS DINSHAH

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+1	0	0	BELL	OFF	-	OFF	-
OSC 2	+1	0	5	BELL	LFO1	+2	OFF	-
OSC 3	+1	0	10	BELL	LFO2	+2	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	-	OFF	-
DCA 2	63	ON	OFF	-	OFF	-
DCA 3	63	ON	OFF	-	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	32	0	32	ENV3	+63	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	ENV3	+55

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	14	OFF	ON	TRI	30	0	0	OFF
LFO 2	16	OFF	ON	TRI	30	0	0	OFF
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	+63	+50	0	0	0	0	32	32	32	0
ENV 4	+63	+50	+5	0	0	0	32	32	32	0

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	0	OFF	OFF	OFF	OFF

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	-	OFF	-	OFF	-	-

ESQ-1 PROG: SQUNCH

BY: GLEN GAFTER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	EPNO2	LFO1	+4	OFF	-
OSC 2	-1	0	1	EPNO2	LFO1	+5	OFF	-
OSC 3	-1	7	0	PULSE	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	-	OFF	-
DCA 2	63	ON	OFF	-	OFF	-
DCA 3	63	ON	ENV1	+63	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	17	6	27	ENV3	+43	ENV2	+15

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	58	8	LFO2	+13

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	ON	TRI	0	1	0	WHEEL
LFO 2	17	OFF	OFF	TRI	63	0	20	OFF
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	0	0	63	0	0	8	0	0	1
ENV 2	+63	0	0	0	0	0	0	0	0	0
ENV 3	+63	+30	+1	41	22	0	28	47	37	15
ENV 4	+63	+47	0	36	63	0	41	63	19	9

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	0	OFF	OFF	ON	OFF

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	-	OFF	-	OFF	-	-

ESQ-1 PROG: HAMOND

BY: BILL SEATH

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	11	24	OCT+5	LFO3	+3	OFF	-
OSC 2	-1	0	8	OCT+5	LFO3	-3	LFO1	+2
OSC 3	+1	7	0	SINE	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	58	ON	OFF	-	OFF	-
DCA 2	57	ON	OFF	-	OFF	-
DCA 3	0	ON	ENV1	+63	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	0	0	51	KYBD	+63	WHEEL	-40

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	50	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	17	OFF	OFF	TRI	0	0	0	PEDAL
LFO 2	0	ON	OFF	SQR	0	0	0	KYBD
LFO 3	0	ON	OFF	SQR	0	0	0	LFO2

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	0	0	31	0	0	32	0	0	9
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	+63	+63	+63	0	0	0	29	52	3	9

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	0	ON	OFF	OFF	OFF

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	-	OFF	-	OFF	-	-

SQ-80 PROG: PNORES

BY: TREY YANCY

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	0	2	BASS	LFO1	+1	ENV1	+1
OSC 2	-3	11	30	BASS2	LFO1	+3	OFF	-
OSC 3	-2	0	0	REED3	LFO1	+1	ENV1	+1

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV3	+63	OFF	-
DCA 2	28	ON	ENV3	+63	OFF	-
DCA 3	26	ON	ENV3	+63	VEL	+16

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	23	23	52	LFO2	+8	ENV3	-5

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	39	8	LFO3	+63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	OFF	TRI	0	1	5	OFF
LFO 2	8	OFF	ON	TRI	28	8	63	PRESS
LFO 3	8	OFF	ON	TRI	55	1	20	PRESS

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-12	0	0	30L	0	0	19	3	20	9
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	+63	+63	+34	0	0	0	34	61	63R	0
ENV 4	+63	+61	+24	13L	0	0	29	42	36	0

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	0	OFF	OFF	OFF	OFF

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	-	ON	-	OFF	-	-

The Interface

Letters for The Interface may be sent to any of the following addresses:
U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221
Electronic mail - GEnie Network: TRANSONIQ, CompuServe: 73260,3353, or PAN: TRANSONIQ.
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).

Dear Transoniq Hacker,

As a songwriter, I find my **EPS** invaluable in creating professional quality song demos. I do have several problems, however, on which I would like Ensoniq to comment. Since my unit (#16319-F) was examined at a warranty service center a few months ago and no solutions were discovered, I assume that these problems are bugs in the software.

First of all, most of the song sequence chains that I create should use a maximum of 150 memory blocks, but many end up using around 450. I can rid myself of the wasted memory by saving each individual sequence back to disk, reentering them one by one into the EPS, and recreating the song. Of course, if I've recorded anything on a song track, it would be destroyed in the process.

Secondly, after being out of the sequencer performing another task (such as editing a sound), I often have difficulty getting the sequencer to play again. Sometimes when I hit "play," nothing happens. Other times, the sequencer starts somewhere other than beat one. Then if I press "play" and "stop" repeatedly, the sequencer will eventually lock in.

Finally, because of the random "E's" I got using the 2.4 O.S., I'm back to using 2.35. I realize that Ensoniq is very busy creating new synths, and I'll probably want to buy one of each. But I think it is past time that we EPS owners get an operating system that is virtually problem-free.

Sincerely,
J. D. Martin
Nashville, TN

[CS - 1) Regarding your first question, the "blocks from hell" problem is a known bug. As a matter of fact, Ensoniq has been trying to track the problem down for quite a while now, but with no success. The problem is particularly infuriating for Ensoniq in that they don't seem to be able to replicate it from scratch (although users have sent them disks with sequences on them that exhibit the problem). If anyone out there can reproduce this bug predictably, and from scratch, please contact Ensoniq. They'd love to get this one solved.

The other two problems you mention sound like malfunctions, not bugs. I would contact your nearest service center or Ensoniq customer service at 215-647-3930.]

Dear Hacker,

1. In response to Daryl Jefford's problem with quantization: Yes, I also use **EPS** 2.4, and when quantizing, the last note in the last bar of the sequence always gets set to **.4.47. I'm surprised that Ensoniq is not aware of this bug; it predictably happens every time I quantize. I routinely go into "event edit track" after quantizing and manually fix the wrong note. And it doesn't just happen to drum notes, either.

2. Often, when in "event edit track," it is not possible to set a note to coincide directly with the quarter note pulse, but only to .47 of the previous, or .1 of the next beat. When quantizing the same track, the notes have no problem with getting set to the perfect .0 time. Why is that?

3. I have encountered very odd behavior from the EPS when sending it volume commands from my drum controller (DrumKAT). The MIX display will not change in response to the new volume, although the audible volume changes. After sending the command it is impossible to affect the EPS's volume on that track by manually moving the data slider until another volume change is sent, restoring the original volume on the EPS. If instead of sending this second volume change, I start playing a sequence on the EPS which has a volume change on that track, it will have a rather peculiar effect. It now sets the track volume according to the command in the track, but taking the volume ceiling as the value which has previously been sent by the DrumKAT, and applying the new volume as a percentage of the ceiling. For example, if the volume has been set to 50 by the DrumKAT's command, and the track volume in the sequence was 60, the new EPS volume will be 60% of 50 (=30). Then, after the sequence goes into its second cycle, it will go to its programmed volume, in this case 60. In case you're wondering how I got these exact numbers, it's because I also have the EPS controlling an E-MU Proteus, which displays the volume changes it's being sent by the EPS. I doubt that this problem is being caused by a peculiarity of the DrumKAT, since the Proteus always reacts normally to volume changes sent from the DrumKAT.2

4. When you press the "track" button when in "load" mode without pressing "edit" first, all "MIX" values get instantly set to 99, and all panning assignments to "WAVE-SAMPLE." Why? I've done a lot of redundant work before I figured out what to avoid doing.

5. For a lot of my sequences, I use more sounds than fit on one disk, so that I have to use two, sometimes three separate banks. This is quite a hassle. If the system could be changed such that one multiple disk bank could be loaded like an instrument using more than one disk, it would make my life easier. Often my multiple banks get completely scrambled, and I'm not sure how it happens. I think tha load two banks, and then try to resave the first one, after deleting all instruments from the second bank from memory, it somehow uses the file numbers on the bank loaded second, and so saves bank one in a wrong way. In any case, my multiple banks often load in incorrectly, even though I know that I saved them according to the procedure that works without problem for single disk banks. If you could tell me what I'm doing wrong; I'd be most appreciative.

6. When I get a stuck note on the EPS it can usually be shut off by sending "all notes off for all notes on all channels and sustain off" from my DrumKAT. Sometimes, however, the EPS will not respond to that, and only the elbow on an attached keyboard will shut off the notes. Why does this happen? I'm not a keyboard player and don't want to take the keyboard around with me to performances.

Barbara Ockel
San Francisco, CA

[Ensoniq - Points 1,2) We were not aware of these "bugs" but we will look into them. Since it had not come to our attention until now please don't expect it to be fixed in the upcoming O.S. upgrade, as looking into these occurrences and dealing with them could delay the release of the upgrade until the end of the summer. Thanks for pointing them out to us.

3) The behavior you describe is not a "bug" - it is the way the EPS was designed to operate. The MIX value displayed by the EPS does not change in response to incoming MIDI volume. The MIX volume is a parameter that adjusts the volume from MIDI or volume pedal by a specified percentage. As an analogy, the MIX acts as a Master Volume control on a mixing board, and the incoming volume commands are the individual faders. The range of the fader is controlled or limited by the Master volume, so your MIX level can be looked upon as a percentage of the incoming volume. With MIX set at 99 you get the full amount of the volume that's coming in (if incoming volume is 100 then it will remain at 100, if it is 64 it will remain at 64). If the MIX is set to 50 then the incoming volume of 100 will be reduced to 50, and incoming volume of 64 will be reduced to 32. It is not a directly-related or translated value, but a scaling percentage.

5) Here's your scenario as we understand it: A) You load in your Bank from disk #1. B) You load in your Bank from disk #2. C) You do your work. D) When it comes time to save your work it's important to understand that the EPS now thinks that there is only one (1) Bank in memory, the Bank from Disk #2. So to effectively save the first Bank you must first delete the instruments in the EPS that came from the second disk, then resave the remaining Instruments to the first disk, then

save the remaining Bank to first disk. This reestablishes the connection between the Bank in memory and the information on Disk #1.

We know this sounds confusing, but it works. Again, remember that the EPS only recognizes one Bank in memory at a time, the last one that was loaded. If you need more help call our Customer Service department.

6) The EPS does not respond to "ALL NOTES OFF" so if your hang-up is caused by something other than a sustain event (which the EPS can respond to), your method is as good as any.]

Dear TH,

Sam Mims says in "Test Driving the **VFX-SD**" in the March 1990 issue No. 57 of the Hacker, "The VFX-SD's sequencer is, first of all, as easy to use as the ESQ-1's."

This is not true. You can not step enter notes into the VFX-SD like you can on the ESQ-1. For those who may not be familiar with this most important feature of the ESQ-1 sequencer, go to pages 150-154 of the ESQ-1's Musicians Manual.

I consider this step edit feature to be the most important feature of the ESQ-1 because I am not a virtuoso piano player. Years ago I started recording my Cordovox and harmonica playing on my Tascam 38 eight track tape recorder, and it was always a struggle to get everything just right.

Then one day my son, Warren Burt, brought home a Casio SK-1. This excellent little keyboard has a step edit feature called "one key play." In this system you enter the notes of the song first, then on the second time through you tap in the correct timing for the notes. This was my introduction to the world of synthesizers.

My curiosity aroused I went to my local music store and made inquiries about full-size keyboards that might have this same type of step enter feature and was told the ESQ-1 would do the job — only in an easier manner. So now instead of spending hours and hours of time practicing to get every note just right, I just sit down at my trusty ESQ-1, push the right buttons, and in about an hour and a half have eight tracks of a 32 bar song in memory. This gives me professional sounding background for my harmonica playing.

As long as I'm this far, I might as well get another gripe off my chest. In addition to the ESQ-1, the MIDI'D SK-1 (I installed the kit from DATASTREAM.), I also have the EPS. Before I bought the EPS I attended a local seminar where the EPS was demonstrated. I asked the Ensoniq representative if the EPS had the same step editing feature as the ESQ-1 and he said yes. I also talked on the phone to someone at Ensoniq and was told the same thing. But when I got the keyboard home what did I find? The EPS does not step edit the same as the ESQ-1. The EPS serves me very well as a sampler, a MIDI storage device and slave to the ESQ-1 sequencer, but it does not step edit the same as the ESQ-1.

When I first heard about the VFX-SD I called Ensoniq on the phone and asked if the VFX-SD would sequence like the ESQ-1. I was told, yes you can step edit the VFX-SD the same as the ESQ-1.

Well as the saying goes, "Once stung, twice warned," so before putting up my money for the VFX-SD, I thoroughly checked out the keyboard at my local dealer.

What do you know! Wrong again and Ensoniq tells me they have no intention of putting this feature in future O.S. updates of the EPS and VFX-SD.

I think this is a very shortsighted attitude on the part of Ensoniq. It appears their whole concept of sequencer design at this time is aimed at the virtuoso piano player.

If you think about it, people like me who love music and play other instruments must far outnumber good piano players, and if they were told about what the ESQ-1 can do with the easy sequencing, and if this step editing feature was built into all Ensoniq keyboards, I'll bet Ensoniq couldn't keep up with the demand. I for one will never buy the VFX-SD until this step editing feature is put into a future operating system. If there are others out there who feel the same as I do about this, write or call Ensoniq and tell them, and maybe if the demand is great enough they will do something.

Sincerely,
Raymond Burt
Waterford, NY

[Ensoniq - There is often some confusion between step-editing (which allows you to go in and edit sequencer track events on a microscopic level) and step-entry (which is a form of recording notes in non-real time). We suspect that this is the root of the seeming misinformation you got.

The EPS and VFX-SD both have extensive step-editing functions which allow notes to be moved, copied, inserted etc. anywhere within the sequence. Both are generally more full-featured than the ESQ-1 sequencer, representing a continued evolution based upon improved technology and input from our customers. Our current SQ-1 Personal Music Studio does have step-entry as a recording mode, as well as extensive step-editing, giving you the best of both worlds. We are also working on adding step-entry recording to the VFX-SD sequencer in an upcoming release.]

Hello there,

Perhaps you could clear up something that I have been wondering about. When I listen to an **ESQ** or **SQ-80** filter, it has a typical low-pass filter sound that seems to be pretty much like most brands. But the low-pass filter on a Moog synthesizer has a noticeably different sound to it, especially when it is a bit resonant and does sweeps. I have been told that Oberheim filters have the same sort of sound as Moog. I heard from Ensoniq customer service that the ESQ uses digital filters, but they still have the usual 4-pole sound to them. What is it that gives the Moog filter its unusual sound? I read that they also use 4-pole filters, but they must have some kind of electronic idiosyncrasy that changes their frequency response.

I can appreciate the need for Ensoniq to keep future products secret, but can you tell us if the general trend in the future will be towards simpler or more complex synthesis? (I vote for more complex.) For me, it is the modulation capabilities that make Ensoniq the superior brand. Although, it is difficult for me to imagine a more complex synthesizer then the VFX-SD. Keep up the good work.

Your subscriber,
Kirk Slinkard
Lakewood, CO

[CS - Your letter takes me back to the days when we spent hours arguing about whether Moog or ARP filters sounded better. The subject of what made one sound different than the other provided grist for many hours of spirited debate. And I'm not sure that we ever really came to any conclusions.

The fact is, different electronic equipment sounds different. Moog used analog oscillators running through analog filters and into analog amplifiers to create the legendary "Moog sound." Yes, the filters are of a typical 4-pole type. But it is the combination of those particular filters and oscillators and amplifiers that Moog used, and in that particular configuration, that gave Moog instruments their unique sound.]

Dear TH,

1. While reading letters in TH from other **VFX-SD** users, I nodded my head in recognition and said to myself, "That's what it's like." I was familiar with many of the problems reported including crashes and having only the word "Calibrating" appear on the screen when turning it back on. I purchased mine in mid-January with the current O.S. of 1.37. Ensoniq service suggested that I have the unit checked out at an authorized shop. The diagnosis: a defective main board. After nineteen days I had the unit back, but new bugs appeared. Third party programs from a cartridge mysteriously appeared on sequencer tracks. Two carefully laid song tracks disappeared with the rest of the song remaining intact.

My chief concern at the moment is that sequence material not be lost. It is not enough to save the contents of the sequencer to disk at the end of the day. If you delete the previous day's contents, when you do so you may find later that some sequences or songs had evaporated while you were working on new ones. My suggestion is to save the current sequencer contents to disk

under two different names. One name could include the day's date, such as SQ 3 27 90. When making revisions or additions, at least one earlier version can always be saved.

2. Concerning the problem a reader had with an ESQ on a boat (TH, 3/90, p. 26), Ensoniq responded that "there is no earth ground on a boat, and the ESQ is designed for operation with a properly grounded 3-wire system. In this situation it is important to ensure that all equipment is properly polarized..." How can this polarization be achieved? There is much sophisticated computer equipment in use all over the world on ships and planes. I don't want to think that I can never use my VFX-SD on a cruise ship.

Norman Curtis
New York, NY

[CS - Norman, the "bugs" you describe sound more like bonafide problems to me. I'd suggest you get directly into contact with Ensoniq customer service (215-647-3930) - I'm sure they'll do all they can to resolve the problems.

As far as the polarity question goes - Bill McCutcheon of Ensoniq recommends using an inexpensive polarity checker (available at Radio Shack or any of a number of electronics supply stores) to check polarity of AC outlets on ships (and any other unfamiliar power sources for that matter) before plugging in. And as long as we're on the subject, it might not hurt to check voltage levels as well - particularly on cruise ships. Inexpensive voltage checkers are also readily available.]

Dear Hackers,

The Interface seems to have become a public forum for a very sensitive issue, namely public domain distribution. Although much has been said about the responsibility of the vendor, very little responsibility has been attributed to the consumer. This is usually the level where sounds enter the public domain, unbeknownst to their programmers. It usually goes something like this: consumer buys quality third party sounds. Likes them so much, he copies them to two friends, who in turn, copy them to two friends, and so on, and so on...Pretty soon, the sound has been passed on so many times, nobody even remembers where it came from.

Usually, a tremendous amount of time, money, and skillful work goes into making quality sounds available at a reasonable price to the public. The majority of it isn't copy-protected, which makes it very difficult to trace where these thing start. Aside from being illegal, it's really not fair for sound companies to have to figure a loss from unavoidable piracy into the price of your software. So consumers, we place a lot of trust in you. Please, don't copy sounds out to your friends. The whole hacker gang seems like one very large extended family; let's keep it that way. Mutual respect goes a long way.

On that matter of mutual respect, thanks to Erick Hailstone for an accurate review of Maestro disks one thru five. From now on, our motto will be "Maestro sounds - we survived MIDI HELL!"

One last note: having Clark Salisbury help field technical questions was a great idea! Keep up the good work.

Erech Swanston
Maestro Sounds
New Yawk, NY

Dear Hacker:

Well, I must say that I am surprised! But then again, I guess that I really shouldn't be, since I've learned once again, though financially very painfully, that you REALLY can't believe everything that you read. Like the fact that the **EPS** is being marketed as a MASTER keyboard CONTROLLER. Roland has got one. Kawai too. And Kurzweil's controller does just about everything except your taxes (that's in the next update!).

So, after waiting two years for the bugs to be worked out, I finally decided to buy the "ultimate keyboard controller/sampler/sequencer," as Ensoniq made the EPS seem. But alas, I can't believe that I don't even have the simple ability to define MIDI controller numbers sent out per instrument created!! (MIDI and/or local instruments!!)

Yes folks, if you want to sustain your MIDI piano module instrument, but NOT your local bass internal sample instrument, (or your local/MIDI brass instrument, for that matter), ALL simultaneously as part of a "Performance Preset," forget it!!! You can't do it!!

This is a 1990 MIDI master controller? How on earth can Ensoniq say that, especially when you DO have instruments like the A-50, the MIDIboard, etc. in the marketplace that really are what they say they are...?!

So come on, you other EPS owners!! What do YOU think about the fact that you paid good money for this machine (which sounds DAMN good, by the way!!), only to find yourself unable to control which individual instruments can be sustained (or not) with the sustain pedal?! Korg seemed to "squeeze it into" their software on the M1, why can't Ensoniq...?

Well. Could it be because they're so busy with the VFX that they've forgotten about those of us who bought the EPS and that are desperately trying to make it grow with us without having to go out and buy yet another "little black box" that will magically solve our problems! OR COULD IT BE SATAN?!?! But seriously folks, it seems that they really don't care enough to do anything about it ...(When was the last real software update...?)

So come on Ensoniq, I appeal to you once

maestro understands...

That somefimes making decisions can be hard for musicians. Last year, it was either buy your mother-in-law's anniversary present, or your EPS. Well, eventually Mom forgave you, but now it's either buy new sounds or pay your rent.

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again!! Is this a MASTER keyboard controller in every sense of the word (like you advertise!!)?!?!

P.S. "Special thanks to Garth Hjelte of the Rubber Chicken Software Company for his expert counseling and advice on the EPS, along with his wonderful sample library!!!! Highly recommended!!!"

Thanks for the thought,
John-Paul
Long Beach, California

[Ensoniq - The EPS combines sampling, sequencing and MIDI control capabilities in one affordable product. To expect it to be all things in all areas is desirable but not always possible. We feel it has many fine qualities as a master controller but we have never marketed it as you speak, as the ultimate keyboard controller. We have listened to comments about this feature and have been able to add it to our VFX, VFX-SD and SQ-1 products but could not fit it into the already developed EPS. All we can suggest is that if a feature is that important to a customer they owe it to themselves to investigate the product they wish to purchase fully to be sure it can perform the given function. We're sorry to have disappointed you.]

Dear Hacker:

Luke O'Malley's idea of a "request patch" column (TH #58) is super! I would like to see more bass patches for my **ESQ**!

After reading Chris Barth's review of the Proselect Series (TH #43), I tried to reach Mike Peake several times (around Nov. '89) only to get his answering machine. I left several messages to send me his current price list and info but never received them. His machine mentions Technosis, so I assume he's still in business. What do you suggest I do?

Say, my **VFX** voice uses all 6 waveforms. Can I play 21 notes at once without voice stealing?

Finally, did you know that the Soundpage winner of *Keyboard Magazine* (Feb. '90) (oops can I mention them?) sequenced his winning piece on an ESQ-1? Keep up the good work!

Jesse James
New London, Connecticut

[CS - Regarding Technosis, my feeling is that if the company has your name, address, and phone number and has made no attempt to contact you, there's not much you can do. I'd think about looking for another patch vendor.

As to your second question, no, you won't be able to play 21 notes. Each layer in the VFX counts as a voice; so if you are using six layers, you've tied up six voices. This will give you three note polyphony (3 x 6 = 18 voices).]

Dear Haquer,

I am an amateur musician and a big fan of Ensoniq gear. My first real synth was an **SQ-80**, and soon after buying the "squid," I also bought an **EPS**. I am impressed, not only by the sound quality and expressiveness of these instruments, but also by the wonderfully intuitive Ensoniq user-interface, which has made my introduction to electronic music both relatively simple and quite exciting. But I have a few suggestions and questions I've been storing up over the past year-and-a-half which I'd like to pass along to you folks in Malvern. I recently sold my SQ-80, planning to buy a **VFX-SD** (which is, without a doubt, a mind-blowing machine). I looked around at the other machines on the market—just to make sure that the VFX-SD was unmatched for features and price (which it is). But my research also told me that many synths and sample-playback units available today provide the means for adding to their sample-memory. The Korg M-series, the Roland U-series, and the Yamaha TG55 have slots for PCM cards to add samples to the RAM memory. The Korg T-series can be modified so that SDS samples can be introduced via the internal disk drive. Cannon Research's Frontal Lobe now has the ability to load SDS samples into Korg's M-series 'boards, and they claim to be working on software to make this system compatible with Roland and Yamaha gear.

It seems that music technology is moving in the direction of providing truly open-ended synthesizer architecture. Yet Ensoniq seems notably absent from this industry trend. I know that Ensoniq has never been a pack-follower with its product development; innovation has made Ensoniq both well-respected and successful. But providing the facility for introducing samples into RAM memory would make the VFX-SD truly incomparable. I know that Korg has developed a RAM board option which allows the T-synths to play user-samples. Could something similar be added to the VFX's options?

The SD has such a great sequencer, great drum sounds, great multi-effects. Have you thought about offering a stand-alone sequencer, a drum machine, or a stand-alone multi-effects unit? These items are on my and several of my friends' wish lists.

I hear that you have a number of top-secret new products in the works right now. I must admit that it's a bit maddening to know that something's up in Malvern, something that I'd wager is pretty cool, but that I won't know what it is until it hits the market. How was I to know that only a few months after I bought the SQ-80 that the VFX-SD—what I REALLY wanted in the first place— would come out? You might be working on a rack-version of the SD - (oh, PLEEEEASE?). You might be working on the stand-alone sequencer, or a single rack-space sample-playback unit, or. . . The mind boggles. So what do I do? Wait, if I don't want to spend

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the dough on an SD and then see that you've introduced a VFXsdNLQse2000, complete with hard drive, monitor, mouse, ribbon controller, printer, modem and special PCM-ports?

Oh, I almost forgot to mention a bug I've encountered with the EPS sequencer. I'm using OS version 2.4, and sometimes when I audition tracks I've recorded, it sounds as if the EPS were input-quantizing at will, dropping out or time-shifting notes I played. Usually, but not always, this problem disappears on playback. It's pretty unnerving, especially to one with as mediocre keyboard chops as me. "Wow! Was I THAT off?" So it is both a relief and a distress to find that, no, it was the sequencer after all. Has anyone else encountered this problem?

Thanks for listening.

Sincerely,
Adam Rugo [72701,1305]
705 Interdrive

[Ensoniq - When designing a product a lot of things must be taken into consideration, including desired price point. During the design of the VFX/VFX-SD (over two years ago) we decided not to include open wavetables due to our engineering resources and the inherent cost to the customer. We do make an excellent open-wavetable product - the EPS. We are certainly open to the concept of incorporating this feature in future products if possible.

As regards new product development, we have said time and time again that it is not a prudent business decision to expose our development process to the public. You should purchase a product based on what it does today and enjoy its features and functions. They don't cease being valid simply because a newer product is developed.

Regarding your sequencing phenomenon - contact our Customer Service department so we can better understand what you are experiencing.]

Dear TH,

I have a quick question. Has anyone addressed the issue of noise on mic'd samples? Also, mixing waves seems to add noise incrementally. Any way around this?

Sincerely,
Earle Peach
Vancouver, BC
Canada

[CS - While the EPS will accept a microphone directly, the best quality samples are done at line level. The recommended procedure for professional quality sampling, then, is to use some sort of mixer or mic preamp between the EPS and the mic, and do your sampling at line level. For this application I'm particularly fond of a product made by Symmetrix, the model 528 voice processor. It includes, in a single rack space, a high quality mic preamp, compressor/limiter, noise gate, de-esser, and three-band parametric equalizer. Pretty much everything you need to process a mic signal prior to sampling.

Insofar as mixing wavesamples goes, some noise can be introduced through mathematical error on the part of the EPS, but you can minimize your chances for getting noise by taking a couple of precautions. First, be sure that your original samples are recorded at the highest possible volume without clipping. This will help to insure that your samples are as far above the EPS's noise floor as possible. Also, normalizing samples will generally help to keep the sample robust before mixing, but be aware that normalizing a sample originally done too quietly will bring up the volume not only of the sample itself, but of any attendant noise.]

Gentlepersons,

I'm glad to see some **VFX** hacks beginning to appear. I subscribe to the Hacker and have to wade through a sea of EPS, Mirage and other good stuff for the occasional item on VFX. I'm sure that more will appear, and since the VFX is so powerful, there will even by MUCH more as its place in the industry becomes more established.

I'm a novice to MIDI, but music and electronics have been hobbies of mine for decades. I've hacked a little in Assembler and C, and find the transition easy. It's like a new universe, though, and one could easily spend a lifetime with what Ensoniq has already given us and still not get bored, and surely more will come.

I have sent in a TYMPANY patch that fills a gap and that provides some weird sounds when played outside the tympany's range or when used with the wheel. You guys can hack around with it and get some more interesting effects. I submit it on one voice, but in my VFX it was copied to all six, with slight variations among them accessible by the patch select buttons. This is a first effort by a novice synth hacker, so if there's some howler among the figures I have turned in, please be kind.

By the way, after I bought the VFX my first impression was that it had the stability of a schizophrenic go-go dancer. Some of the weird things it would spontaneously do in the middle of a take left me breathless with surprise and awe. But this I must say: Ensoniq stood by me like a rock in the sea. I sent it back after about three weeks, free of charge, was given the latest software changes, and the V-FOX now performs as promised. The folks at Ensoniq were more than capable, courteous and understanding (Thank you again, Mr. Paschal), and insisted that the immense power of the VFX that I had seen by that time would be matched with the stability needed for an effective instrument. They were right on. I have no complaints of any kind about either Ensoniq or my fox. What a synth!

By the way, does anybody out there have a harp patch? A bassoon patch? Or maybe (hope against hope)... a SITAR patch?

Best of luck, and thank you for publishing Transoniq Hacker.

Judge H. Haywood Turner, III
Municipal Court of Columbus
Columbus, Georgia

[Ensoniq - Thank you very much for your kind commentary. Enjoy your music!]

Dear Hacker,

This is a follow-up to my letter reprinted in Issue #57 of TH.

1. First and foremost I would like to extend a personal thank you to Rob Bonnano at Ensoniq for helping me resolve the problems with my **EPS-M**. It was a pleasure to receive such friendly, courteous, personalized and genuinely good-natured service. I thank you again wholeheartedly for your extreme patience with my fussiness.

2. IN RESPONSE TO THE TH EDITOR'S NOTE: Had I not let Audio Electronics "off the hook" I would have really racked up a bill in "expediting fees." Also, there were other mitigating factors that contributed towards my decision to deal directly with Ensoniq. In other words, I respectfully request that you "walk a mile in my shoes" before you pass judgement.

3. I always get stuck notes as a result of changing MIDI channels from my master keyboard while playing/holding a note. I've tried sending an "all notes off" command from my sequencer (Performer 3.31/Mac). The EPS-M will not respond to this command. I also tried the system reset command with no luck. The only solution I've found so far is to reboot the EPS-M. DOES the EPS-M respond to the "all notes off" or "system reset" commands? If not, is there a controller message that could be substituted? (I've tried sending controller #7/main volume via the CVP-1 pedal and controller #64/damper on-off,) Or...could this be remedied in a future O.S. update? Or...should I just be very careful not to change MIDI channels while I'm playing?

P.S. Are there any EPS/EPS-M graphic editing programs available for the Macintosh? Not a sample editor like Alchemy of Sound Designer but just an EPS parameter editor, like what Opcode editors are to the synth world.

Sincerely,
Jim Piekarski
Wauwatosa, WI

[TH - We think that you may have misunderstood our comment about "letting Audio Electronics off the hook" - we were referring to your comment "I bear no ill will toward Audio Electronics..." We certainly were NOT referring to your decision to bypass them and deal directly with Ensoniq. We understand and completely agree with you (even though we haven't had the pleasure of walking that particular mile...).]

[CS - What happens when you change MIDI channels while holding a note on your controller is that the EPS receives the initial

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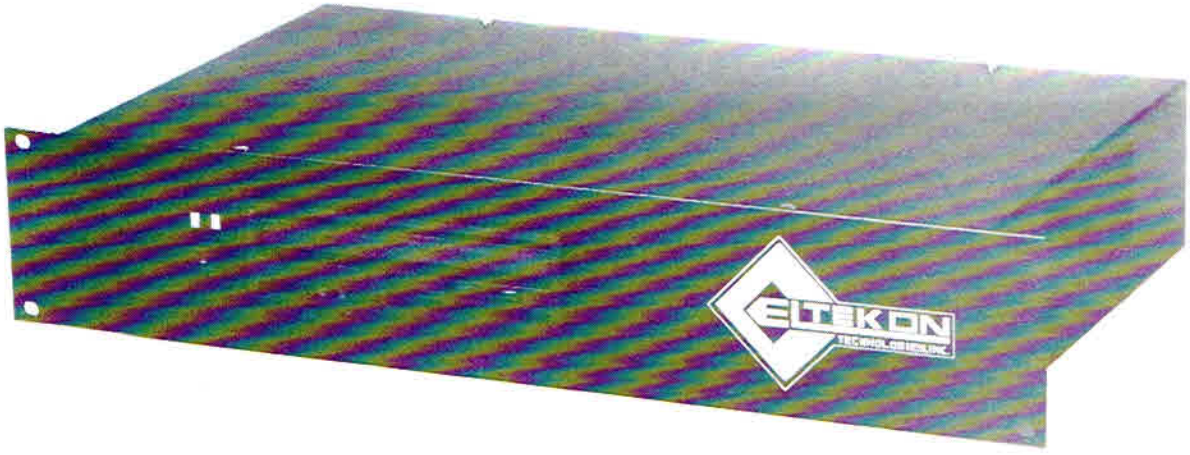

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note-on command on the first channel, but never receives the corresponding note-off (since it is transmitted on the second channel). The EPS does not respond to "all notes off" or "system reset" commands, but you should be able to clear the stuck note by selecting a MIDI channel on your master keyboard that is not being utilized for anything, holding down the note on your master keyboard that corresponds to the stuck EPS note, switching your master keyboard to the MIDI channel corresponding to the EPS instrument that's playing the stuck note, and then releasing the note on your master keyboard. The should send the EPS the note-off command it's been waiting for.

And regarding your p.s., I haven't yet seen any Macintosh EPS editors of the kind you describe. But if someone out there knows of one, I'd love to hear about it.]

[Ensoniq - 3) There is a "tricky" way to shut off all EPS voices in these situations. Just execute the "SET NUMBER OF VOICES" command (COMMAND/SYSTEM/7) and hit ENTER twice. This will invoke the command, set it without changing the number of voices, and will turn off all EPS voices.]

Dear Hacker:

This is letter #4 to you and contains my further experiences with my **VFX-SD** after installing O.S. 1.37.

To be brief: I too found my much adored new synth riddled with bugs. Frustration increased as no one, including Local Tech (250 miles away), the music store where I purchased VFX-SD (250 miles away) and yourselves or Ensoniq could or would help. I dare you to put this letter in the Hacker; it's long overdue (or do I have to have M.D. after my name to get my needs heard?).

The past annoyances aside, is O.S. 1.37 the saving grace that has prevented me from DEMANDING a refund? Yes for now. The sequencer no longer dumps out and everything seems to be working better, however, I've already found another monstrous BUG or so it seems.

Five times in three weeks notes have stuck while playing thick chords and using the sustain switch. This occurs while in program mode and sequencer mode, not yet in preset mode. On one occasion my monstrous beauty just started self playing and popping off notes at increasing velocity. Ah, the good old days. This occurred right after start up. I thought it might be due to bugs on disks made before I received the 1.37 upgrade, so I stopped using my old material and kept the memory "clean." Nope, she still sputters and sticks on occasion, albeit far less frequently than with O.S. 1.16.

In each case I have re-initialized the VFX-SD and started over. As I've stated before, I use a surge suppressor and Triplite 1200 voltage regulator as well as dust cover.

Maybe you've got some reasons for not printing my previous letters (there, I've given you the perfect out), but if you don't print this one your credibility as an impartial forum for meeting Ensoniq customer needs is finished.

Orion Engar
Sardis, B.C.
Canada

[TH - Actually, your last two letters were printed in #59. (Unless we combined a couple, this is the third we've received.) With the way the Interface has been going lately, we find it a little incredible that anyone would think that we're suppressing angry letters. Your letter wasn't even particularly harsh. What's the big deal? Please take into account a little lead time before hitting the paranoia button. (Sheesh.)]

[Ensoniq - This is a perfect example of what we have been saying for the last couple of issues. PLEASE contact Ensoniq Customer Service with problems of this sort, not the Hacker. There is such a delay in writing letters, getting them printed and finally reading the response. It sounds like you have a hardware problem which we will be glad to investigate and take care of. We want to help you.]

Dear Hacker:

I bought my **EPS** a year ago. The sound is great, but my problem is whenever I save my song to floppy disk, only the song title and pattern will be saved, and no sound of instruments appears. Do I need a separate sequencer to save songs and instruments? I cannot afford to buy a computer 'cause it's too expensive.

Musically yours:
Mario

[CS - In the EPS, sequences and sounds are saved separately. To hear your sequence play back, load the instruments you originally used when creating the sequence back into the EPS. Be sure to load them into the same instrument locations they occupied when you originally recorded the song - in other words, if you recorded the sequence using a piano sound located in instrument/track 1, load the piano back into instrument/track one when you wish to play the sequence back.

It is also possible to use the EPS bank function to organize sounds and sequences so that they can be loaded from disk together, but we don't really have the space here to go into that in detail. Refer to the section on EPS banks in your owner's manual, or get in touch with the dealer where you purchased the EPS. If all else fails, you might want to contact Ensoniq customer service at 215-647-3930.]

Dear Hacker,

I am a discontented (and frustrated) owner of an **EPS-M**. As a MIDI-guitarist, I chose the EPS-M partly because of the unique features the EPS-M offers, such as MONO

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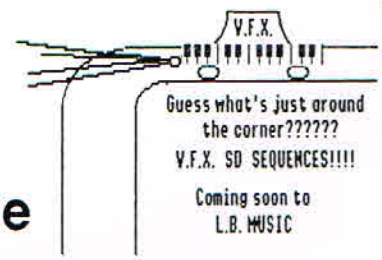

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A and MONO B modes. After a couple of weeks of getting to know the EPS, I noticed that when operating in MONO A mode, a number of important functions are inoperative:

1. The front panel patch select buttons and SW-5 footswitch (foot switch parameters set to patch select) are not recognized, although patch select can be effected via general controller no. 70.

2. The CV pedal input is not recognized, regardless of the setting, i.e., MOD, VOL, etc.

3. The sequencer only plays back in mono, which renders it totally useless!

I've also found that when MIDI base channel=1, some global controllers, such as volume from my guitar controller, are not recognized. It works OK when base channel=2 or greater. Assigning Multi-Controller=On does not change this, nor does using a different master controller, such as a Mirage DSK.

I purchased the EPS-M early in 1989 (S/no. 500035-03,02-01-89, O.S. Version 2.35) and originally contacted the retailer and the Ensoniq distributor for assistance. After six weeks of trying to get an answer, I called Ensoniq direct and spoke to a guy named Al, who only commented that they hadn't experienced this problem and that O.S. 2.4 was soon to be released and it may fix the problem. I sent Al a fax so that Ensoniq would have a record of the problem. It hasn't been answered and O.S. 2.4 didn't change a thing!

It's now been more than nine months since I sent the fax and I've been constantly hassling the retailer for a fix. Quite a few weeks ago one of Ensoniq's directors was in Australia on a promo tour. The owner of the shop where I bought the EPS-M explained these problems and was assured that this would get some attention, but a response has not been forthcoming.

In the meantime, I've managed to make the EPS-M usable by modifying a continuous controller on my PASSAC guitar converter (the only user-programmable controller available!) to send patch select signals. I've had to buy an in-line midi pedal adaptor to control modulation.

I have no choice but to transmit in MONO A and I need to free up the continuous controller for other purposes. I also desperately need to use the sequencer!

The ONLY other problem I've experienced is with the front panel buttons. I'm now up to front panel No. 2 and the buttons are still breaking, usually in the middle of a performance.

I'm impressed with the EPS-M's capabilities, but I sometimes wish I bought a Japanese instrument; they usually work as per published specifications and are reliable.

I'd appreciate any response TH (or Ensoniq) can provide. I've now owned the EPS-M for more than a year, and I still can't use it as I originally intended which is supposedly well within its capabilities and (published) specifications.

Yours sincerely,
Michael Mallia
Sydney, Australia

[Ensoniq - 1, 2) We are still looking into this problem, they work in every Mode but Mono A and we will try to fix that in the future. Your workarounds will have to suffice for now.

3) The EPS sequencer was designed to record only one track at a time, and our specification has never stated otherwise. Our implementation of MONO mode was designed for use as a sound source, not for recording purposes. We're sorry that you have experienced so much difficulty with that function.

Regarding your Base channel=1 comment, remember that when the Base Channel is set to 1 in Mono modes your Global controllers must be sent in on MIDI channel 16. Perhaps this is your problem.]

Dear Haqs:

I am **VFX-SD** guinea pig. Reported bugs are/were true. Sequencer O.S. 1.2 was so infested as to be unusable. Response from dealer was not satisfactory ("you need a hard reset"). Response from Ensoniq was a little better but I got different stories from different customer service reps.

Most of that is behind us now, though, with O.S. 1.37. Some bugs still inhabit but the sequencer and disk are now very usable. This letter is to share tips on tricking some of those bugs and accomplishing what you want.

BUG #1. When recording a dense sequence via MIDI (from ESQ-1 track-by-track) the later tracks won't record properly. Halfway through you get a "system error" message and nothing has been recorded. SOLUTION #1. Record those later tracks to a new empty sequence and, when successful, copy them to the other one you recorded first.

BUG #2. When attempting to merge tracks, sometimes nothing transfers to the destination track, even though the machine will take you to the play/keep audition page and pretend the merge has been accomplished. This deception by the machine can be devastating if you then erase your source track. SOLUTION #2. Merge your destination track to an empty track, then merge your source track into that new track. I don't know why this works but it usually does. You can then erase your source and destination tracks and copy the new merged track to one of those spaces.

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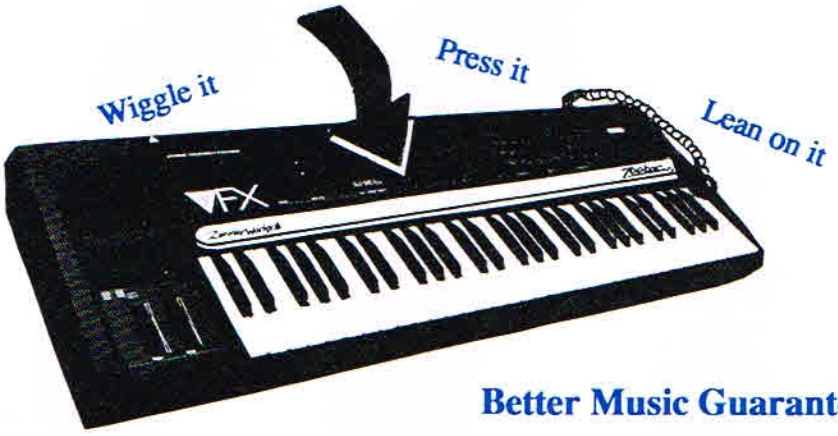

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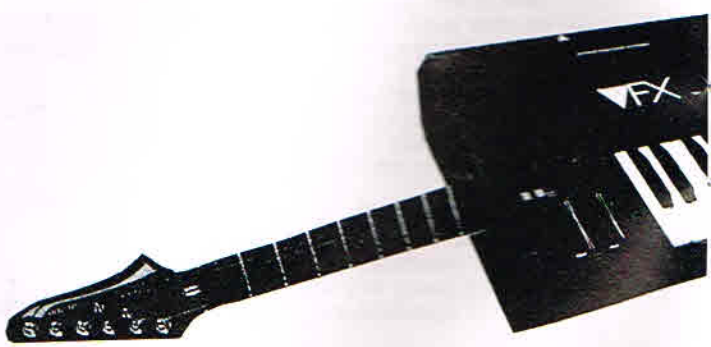

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BUG #3. Settings on the sequencer's "patch select" page for "key" or "channel" pressure or "none" do not stay set, especially if you select "none." The result is crippling to modules with low MIDI stream capacity like the Roland D-110. The memory of that device gets scrambled and all parameters are lost. SOLUTION #3. Just be aware that you may be recording aftertouch information on your tracks even though you have selected the "none" setting and be sure to filter out channel AND key pressure from those tracks where you do not need it. You may also have to place a MIDI filter between the VFX-SD and your Roland and other low IQ devices.

BUG #4. Settings on the sequencer's "timbre" page do not stay set, even if you save them with your sequence. Instead, they seem to revert to the default setting for the selected program. The result is that the piano you brightened is dull the next time you play your sequence. SOLUTION #4. Edit the program and save it with the desired level on that track at the beginning of the sequence. This may be just a software design decision rather than a bug per se.

BUG #5. When attempting to quantize a track, especially to a low resolution like 1/4 note, the sequence ignores you and won't take you to the play/keep page. This is a rare occurrence but it happens on occasion. SOLUTION #5. Try it again. Also try quantizing to the next higher resolution (i.e. 1/8 note).

BUG #6. The memory readout on the "seq control" page will show that you have very little memory left although you know your loaded sequence(s) is not that dense. You will be unable to load another sequence which your are SURE fit in there with the already-loaded sequence yesterday. Alternatively, the memory readout will show an incredible amount of available space, even though you have a twenty-four track opus loaded. SOLUTION #6. Save to disk and reinitialize. ESQ-1 OWNERS NOTE: The VFX-SD calculates and/or displays memory in a different way than the ESQ. Although the empty VFX-SD sequencer memory readout shows only 24,000+ units available and you are accustomed to seeing your empty ESQ memory (w/ 20k expander) display in excess of 55,000, fear not. There really is greater note capacity in the VFX. I believe the ESQ displays events and the VFX shows notes (on+off+note number).

There are other bugs, but they do not appear poisonous or insurmountable in my applications. Remember, as always, save to disk and back-up frequently.

I must admit to a great deal of frustration when I was first trying to function with O.S. 1.2 fresh out of the box. I had my doubts about Ensoniq, despite my years as a dedicated ESQaholic, and I even contemplated demanding a refund. However, like a woman who has given birth to a healthy baby, the memory of the pain and toil is greatly diminished when she holds the beautiful child, and I am now quite blissful

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and content. O.S. 1.37 is workable with a little ingenuity and the VFX-SD is indeed a beautiful Ensoniq offspring. Future O.S. upgrades will only enhance the depth of my electronically-induced nirvana.

Thank you Hacker, thank you Ensoniq, thanks to my mother and father, my wife, my partners, my producer, my writers, my engineer, my band, my dogs, my....

Aloha and keep it up,

Bill Ramos-Saunders
Haleiwa, Hawaii

[Ensoniq - Overall we expect that our upcoming release for the VFX-SD will solve all your problems. We admire your ingenuity in coming up with these "work-arounds" although we have not tried them ourselves and can't endorse them per se.

Bugs #3 and 4 - You should note that the Pressure, Release and Timbre setting "travel" with a Program and will be written into a Track whenever you change a Program using the "Replace Program" function. If you need need different values for these parameters you should create a new version of the Program with the desired values. You are correct, this was a design decision. Also, we understand that Roland has an update for the D-110 that will prevent its "untimely death" due to key pressure. Contact them for further information.]

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Dear Hacker,

You have added a great resource for us Hackers by introducing Clark Salisbury as the Hacker Answer Man. I've been waiting for this! I've got a question, and a couple of tips. First the tips:

(1) A couple of months ago, I asked Ensoniq in a letter if it would be possible to add an option to the **EPS** software allowing you to use the sustain pedal to start or stop the sequencer, like you can on the ESQ, toggling back and forth between sustain and sequencer on/off. This would allow those of us who don't want to shell out $40 for the double foot pedal to have some choices. Ensoniq's response was that they weren't planning to add this option. Since that time, the keyboard guru at a local music store told me about the following very simple modification: You can rig your own double foot pedal with two sustain pedals and a stereo Y-connector. We each got a nice Ensoniq sustain footswitch with our keyboards. If we have two Ensoniq keyboards, we have two footswitches (if not, they're pretty inexpensive—certainly a lot less than $40!). Go out and buy a stereo Y-adaptor, that is, a 1/4" stereo male plug on one end, branching to two mono jacks. It's important that each mono jack leads to a separate stereo channel; in other words, the stereo headphone adaptors you get at Radio Shack that allow two stereo headphones to branch off from one stereo output won't work—each line must be separate. (You probably won't find an adaptor with 1/4" female jacks on the separated leads; all I could find were the female RCA jacks. If so, you'll need to get a couple of mono 1/4"-female-to-RCA-male adaptors.) Plug your two footswitches into the adaptor, one per side, and you're in business! Your two lowly Ensoniq footswitches will accomplish everything the $40 model does, for less than two bucks. One pedal can act as a sustain pedal, the other as a sequencer on/off switch—the best of both worlds!

(2) This "tip" began as an EPS question for Clark, but in the process of writing down the steps I took, I discovered the solution. I pass it on to other Hackers who might have run into the same problem. Namely, I was unable to get the LOOP & RELEASE mode to work on the EDIT, WAVE, MODE page. I would enable LOOP & RELEASE, and the sample would play to the loop and sustain the loop, but cut out at key-up without playing out the rest of the sample after the loop. The answer was in the ENV3 (AMP) page: the ENVELOPE MODE needs to be set on CYCLE. So, the sequence is EDIT, WAVE, ENV3 (AMP), ENVELOPE MODE=CYCLE. You might also have to adjust TIME 5 of ENV3 (AMP) in order to catch your entire sample (as always, make sure you're just editing the wavesample).

(3) Here's the question: The Mysterious EPS Sequencer Memory Binge. Using EPS O.S. 2.4, I sequenced a song made up of five sequences of varying sizes (from 1 block to 9 blocks), totaling 29 blocks. Being reasonably paranoid, I saved this song to disk relatively often, which turned out to be my salvation, and it always took up 29 blocks of data on disk. No sweat. But after I used a Song Track to add volume overdubs to the string track, I saved the song to disk again, and this time it took up 214 BLOCKS! Now, I understand that volume overdubbing uses a continuous controller, which gobbles the memory, but I was not prepared for this kind of a glut. I erased the controllers from the Song Track; no change, still 214 blocks (this is how many blocks it took when I saved it to disk, not just on the SEQUENCER INFORMATION page). I even erased and undefined the Song Track; still no change. I couldn't find what was taking up all the memory! On the SEQUENCER INFORMATION page, each individual sequence still only took up its modest amount of space, 1 to 9 blocks, and the song took up only 3 blocks, so the memory malignancy was not showing up there—only when I saved it to disk (and in the EPS's memory, too—I checked the EDIT, SYSTEM, FREE SYSTEM BLOCKS page often). Well, I don't believe insight is always necessary for adaptive living, so I gave up the search and rebuilt the song by saving each individual sequence to disk, loading them all back into the EPS separately, and EDITing them back together into the song. The song now took up 25 blocks. I once again overdubbed volume changes on the Song Track, trying two different methods: data entry slider on the TRACK MIX page, and also the volume pedal. Neither method produced the previous inflated results; the song only used 29 blocks either way, so the volume overdubbing only added 4 blocks.

I've never really paid much attention to the size of my sequences in blocks, so I went back and looked at a bunch of sequences, and sure enough, most of them are around 20 to 30 blocks, but there are three or four which are in the 250 to 300 block range, and there is no obvious explanation for these ten- fold expansions. All of the sequences share similar instrumentation, "thickness" of rhythm tracks, and a ballpark smattering of controller overdubs. Why are some of them, like the one described above, so obese? Can you give some tips on where to look for memory-hogging?

Thanks again for a great Q & A forum.

Sincerely,
Steve Vincent
Tacoma, Washington

[TH - See Clark's answer to the letter from J. D. Martin regarding the "Blocks from hell" bug.]

Dear Hacker,

This is in response to our recent **VFX** review. Sound Source will no longer advertise in the Transoniq Hacker - we will spend those advertising dollars elsewhere. My reasons for this are as follows:

* The review was highly opinionated and biased.

* In the third paragraph Clark Salisbury, the reviewer, states "The sounds themselves

seem to be fairly meticulously programmed..." and in the last paragraph he states "the sounds are created in a fairly standard way." Which is it?

* He used a lengthy paragraph to give his opinion on the use of names. Excuse me, but what a waste of space! He would prefer standard names such as "Synth Bass" and "Muted Trumpet". Give me a break. If that were the case, every bank of sounds would have generic names and you would never know which "Synth Bass" you used last or liked best.

* He states that there is no advanced programming. We used a lot of advanced techniques that he overlooked. Programming sounds is not about esoteric approaches or advanced techniques. It is about providing useful sounds for the end user. If the end user has never heard an ARP 2600, your sound of the same name may give him/her a frame of reference and may actually capture the essence or spirit of the original ARP 2600 texture.

In closing I would like to point out that Jerry Kovarsky of Ensoniq told me last week that he has talked to many professional studio musicians (in LA and New York) and that he has gotten nothing but rave reviews about the sounds. Almost everyone that played the sounds at NAMM ordered them. Also, when *Keyboard Magazine* reviews a soundbank they send a FAX copy three weeks prior to submitting the actual review to allow for company response, which sometimes greatly changes the outcome of the review.

I could go on forever, but we are very busy here filling orders for thousands of dealers worldwide. At the end of this FAX there are three typical VFX Warranty Cards that we have received for your reference in regard to customer satisfaction.

Sincerely,
Vincent Bitetti
Sound Source Unlimited, Inc.
Agoura Hills, CA

[TH - Well, Readers, we'd like interrupt here for a moment and have everyone please turn to page 11 of TH #59 and read Clark's review. Maybe we're way off here, but to us Clark's review seems, if anything, sorta neutral to a little positive. He qualifies his opinions as just being his own personal taste, says what sounds he liked (and why), what sounds he didn't care for (and why), and finishes by recommending that you check out the sounds at your nearest dealer. We sometimes expect a response like this from a negative review (and actually, we very rarely receive one), but from this!!?? Sheesh. Take it easy.

We found your description of Keyboard Magazine's *policy of submitting reviews for (what appears to be) vendor approval intriguing (to say the least) so we decided to check it out. Keyboard does send out early copies of reviews - but it's for technical accuracy checks. It's not intended to turn a reviewer's opinion around 180 degrees. It's certainly in our readers' best interest (and, actually in our advertiser's long-range best interest, too) for us to not knuckle under for the sake of advertising dollars. Our policy requires that we trust our reviewers to be impartial, to have a good working knowledge of what the market offers, to be sensible, articulate, and, in Clark's case, to have twinkly blue eyes.*

And, by the way, "meticulous" (one of Clark's positive comments) and "standard" (one of his neutral comments) aren't opposites or mutually exclusive, and two out of three of your warranty returns are Hacker readers.]

[CS - Opinionated, yes. A review is an expression of an opinion. Biased? Perhaps. But I worked in the largest musical instrument retail store in Oregon for over nine years and I've had a lot of experience finding out what people - lots of people - do and don't like in instruments and sounds. So I believe I'm uniquely qualified to do this sort of review. And no, I do not now, nor will I ever market sounds for the VFX or VFX-SD.

As far as my aside on naming conventions: when I was first reading over the SSU sound list I kept running into references to Moog, Arp, Kurzweil, and so on. I have to admit that as I encountered more and more references to these and other venerable instruments, my expectations began to rise. But as I played through the sounds, I'm afraid I found myself a bit disappointed. The point I believe I made in the review was just that - that customers who are familiar with these instruments may also experience some disappointment with sounds so named. My guess (and your comments seem to bear this out) is that you are assuming that the typical VFX user is unfamiliar with these instruments' sounds. Maybe. As I said in the review, many developers do this. But I still don't like it. The Ensoniq library for the VFX avoids this and I don't seem to have any more problems remembering which sound is which with their sounds than with anyone else's.

I agree that programming techniques don't mean diddly if the sounds aren't any good. The VFX is funny, though. It's hard to make a bad sound on the machine, even with a minimum of programming chops. But it's equally hard to come up with interesting sounds that are not already part of the standard library. Where are the tough sounds, like nylon string guitar, fretless bass, and shahuhachi?

Finally, I truly did my best to review your library as fairly and impartially as possible. I have absolutely nothing to gain by giving SSU (or anyone) a good, bad or indifferent review. And, unfortunately, the Hacker has lost a source of advertising dollars. But, I must say, I think it's a testimony to their integrity that they stand by me in spite of the loss. Thanks, guys, for providing me with this forum.]

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EPS-M	2.4
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ESQ-M	1.2
SQ-80	1.8
VFX	2.1
VFX-SD	1.37

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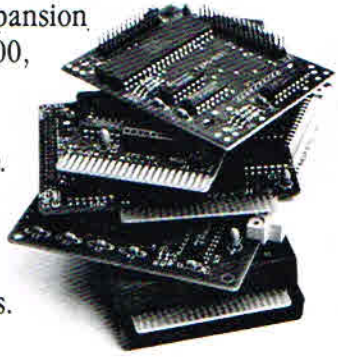

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