



TRANSONIQ HACKER

The Independent News Magazine for Ensoniq Users

VFX Modulation Operandi

by Clark Salisbury

Modulation is a beautiful thing. Without modulation there would be no waves at the seashore, no twinkling of stars, and you'd always have to play on the white keys. How boring.

The first of you to use electronic synthesizers realized it right off the bat. Without modulation, the sounds produced by the new electronic instruments were pretty dull and static. But just detune a couple of oscillators a bit, add a little sweep to the filter cutoff, and suddenly you had an honest to god musical sound.

As a matter of fact, one of the big problems with early all-digital instruments was that they were a bit too perfect. With the analog instruments, you see, it was nearly impossible to create a sound without at least some distortion, some drifting of pitch, some idiosyncrasy that helped to animate the sound and liven it up a bit. But with the new digital machines it became easy to produce a perfect, pure, stark, boring tone. How many DX-7 players do you know, for example, who don't own a chorus pedal? The trick, you see, is to add the subtle imperfections back into the sound. When you play a piano, there are all sorts of complex interactions that take place. The various components of the instrument interact with each other in complex ways, and the instrument will also interact with the room it's in. When a good instrument is played by a skilled player in a good room, the resulting deluge of phase cancellations, reverberations, and imperfections is what we think of as music. Musical sound is imperfection. Modulation is a way to simulate imperfection.

It is in the area of modulation that the VFX excels. Not only are there a lot of choices for things to modulate in the VFX, but there are a lot of things to modulate them with, and a lot of ways to control the modulation. So to get a handle on modulation, let's take a look at one of the

more basic applications for modulation on the VFX - vibrato.

Vibrato, as you no doubt know, is a smooth, more or less subtle shifting of pitch up and down around the root pitch being played. The right kind of vibrato can do much to add to the beauty of a sound, particularly where solo sounds are concerned.

Creating a vibrato effect, as with any of the modulation effect, we must take into consideration three things: what is being modulated, what it is being modulated with, and if and how the modulator itself is being controlled. In the case of vibrato, these things may seem fairly obvious (although this will not be the case with every form of modulation you may encounter). Most obvious would be what it is we need to modulate - we need to modulate the pitch. In the VFX pitch is a function of the wave, so it follows that our modulator will need to be applied to the wave. In fact, this is exactly what happens when you assign a modulator to a VFX wave using the PITCH MODS function in the programming section of the VFX.

Next we will need to determine what it is we will be using as a modulator. Since, theoretically, we are on the trail of a vibrato type of effect, we will select a Low Frequency Oscillator - or LFO - for this chore. LFO's are particularly suited to producing cycling, repetitive changes to some aspect or another of a sound.

Finally, we will need to determine if we wish to control some aspect of the modulation (such as vibrato depth or rate, for example) in real time, or perhaps from some other controller. The most common application for vibrato would have the depth of the vibrato effect controlled by the mod wheel, for example (although some might prefer to use pressure or a pedal to control the depth of the effect).

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So we might want to take into account some of the ways that an LFO itself can be controlled, and determine if any of them are applicable to our needs.

You can see that the basic approach to modulation is pretty straightforward. First, determine what it is you wish to modulate. Next, you'll need to decide what to use for a modulator, and finally, how (and if) you'll be controlling the modulator itself. But before we dive into our vibrato effect, let's take a quick overview of modulation and the VFX in general.

In most synthesizers, there are three basic areas where you might want to think about the application of a bit of modulation of some sort. These are pitch, timbre and volume. Pitch modulation is accomplished via the PITCH MODS section of the VFX, where you can choose which of the various modulators you might want to apply to whatever wave you might be working with. Timbre modulation is accomplished from the FILTERS section of the VFX. Since the VFX filters allow you to filter high frequencies, low frequencies, or a combination of high and low frequencies out of whatever wave you are working with, applying a modulator here gives you a way to control changes in frequency content over time, or in real time if you prefer. And, finally, affecting changes to a sound's volume over time (or in real time) is accomplished via the OUTPUT section of the VFX. Here you can use any of the modulators to control how a sound's volume might change over time.

The VFX also allows for modulation in some not so traditional ways. The start point of a wave can be modulated from the WAVES section. The start and end points of the TRANS-WAVES can be simultaneously modulated to create some beautiful effects, and adding a great deal of animation to the sound. Also, you can modulate LFO rate and depth from any of the modulators, allowing you to create some very expressive patches. And the possibilities for modulation in the effect section could provide enough material for another complete article.

For modulators, the VFX provides a wealth of choices. You have the standard LFO and envelopes to choose from. You can select NOISE, which provides a random, somewhat unpredictable modulation. Velocity can be used as a modulator, as can keyboard position, the TIMBRE CONTROL, an external pedal, and the pitch wheel. XCTRL (external controller) gives you a way to route in controllers from other master keyboards via MIDI. This is the control you might use if you wanted to control something in the VFX from the breath controller on your DX-7, for example. The other controllers provide are pressure, mod wheel, and a couple of combination controllers - PR+VL (pressure and velocity), and WL+PR (wheel and pressure).

As you may have guessed, we're not going to be able to get into a lot of depth about the use of each of the individual modulation controllers in this short article. What I would like to do, though, is provide a couple of examples that might help you to get started exploring the modulators on your own. So let's get back to our vibrato example.

First, we'll need to select a sound to work with. The ROM sound called DRAWBARS-1 in the first bank should provide us with a good basic starting point - no crazy envelopes to deal with, no wacky filter sweeps, and the sound sustains long enough for us to hear any changes we make without having to repeatedly strike the keys.

So select the DRAWBARS-1 sound. The first thing I want to do is turn off any of the effects that might be going on, so that we won't run the risk of becoming confused between any effect we might be working with and one that might be programmed into the machine already. So double-click the OUTPUT button located in the VFX programming section to get to the effects page, and select the DESTINATION BUSS= parameter by clicking the button located above it, and use the data entry

slider/buttons to change the setting from FX1 to DRY. Now we're set.

Click the SELECT VOICE button. This takes us to the voice select page. What we want to do is mute all but the voice that we're currently working on, so that we don't get confused by listening to voices that aren't currently being edited. So from the SELECT VOICE page, solo the ORGAN-V.3 wave by rapidly double-clicking on the button above the ORGAN-V.3 listing in the display. If all goes well, you should see parentheses around the other five waves listed in the display (indicating that these waves are muted), and ORGAN-V.3 should be underlined (indicating that it is currently selected) with asterisks (*) appearing at either side of the wave name (indicating that it is being soloed).

Now that we've selected the voice we'll be working with, we'll need to route the LFO to it via the PITCH MODS section. Click the PITCH MODS button, and then click the button above MODSRC= (actually, the LFO is already routed to pitch mod - the lower right-hand corner contains the legend LFO=+00 - but I want to manually route the LFO in so you can see exactly how it's done. You never know - someday you might want to try applying some other modulator to a wave's pitch). Now, use the data entry slider/buttons to scroll to LFO - the display should now show MODSRC=LFO. Congratulations - you've just routed the LFO to control pitch modulation!

Next, hit the button above MODAMT= (modulation amount), and use the data entry slider/buttons to select an amount between -99 and +99 (modulation can be either positive or negative). Let's try a value of +50 for now. If you listen, the effect should be quite subtle - this is because there is a level control located in the LFO section - it is used to control overall LFO depth - and it may not be set to a high enough value. Let's check it out.

Click the LFO button. Locate the LEVEL control, and select it (by clicking underneath it). Increase its value to 99, and try playing a note. You'll need to listen for a moment or two before you will hear the effect - the LFO is set to delay for a time of 66 before it fully kicks in. To change this, select DELAY= and experiment with different values. You'll find that lower values yield faster LFO rise times. For now, leave this set to 00 - the LFO should kick in as soon as you play a note.

The LFO effect at this point is probably sounding pretty seasick, so let's back off on the LFO LEVEL - maybe a value of 16 or so would sound better. Let's also speed the effect up a bit - select RATE=, and try a value of 42 perhaps. We should be getting something not unlike the effect of a Leslie speaker set to high speed. Now let's see if we can control the speed of the effect from the mod wheel.

Select MODSRC= from the upper row of the display, and use the data entry slider/buttons to set it to WHEEL. This selects the mod wheel as a controller for LFO rate (the lower MODSRC= selection allows LFO depth to be controlled from one of the modulators). If you push forward on the wheel now, you'll hear the vibrato speed up. The depth of this effect is controlled from the MODAMT= parameter. You might want to try this with a few different values, just to get a feel for what the control does. When you're finished, though, set it back to its original value of +21. Now let's try controlling LFO level from something - how about pressure, eh? It's simple enough. Select MODSRC= from the lower row, and use the data entry slider/buttons to set it to PRESSURE. You will also need to make sure that pressure is enabled for this sound. Do this by clicking the PATCH SELECT button (located in the PERFORMANCE section) twice. If you are using the same version of DRAWBARS-1 that I am, you'll find that pressure is not enabled for this program - the selection under the heading DRAWBARS-1 in the display reads NONE. Select this and use

(Continued on page 6.)

Front Panel

RND (🎵🎵🎵)

Vendor tidbits: Minotaur Studios has joined the EPS crowd with a whole new batch of samples from ancient acoustic instruments (see their classified ad). Jeffrey Richter has drastically cut the price of his MSC1 program - from \$40 to \$25 (also in the Classifieds).

* * *

Better-Late-Than-Never Dept.: Resident Patch Hacker, Sam Mims has been doing a bunch of Mirage sampling lately and got tired of having to dig up info on all the various MASOS parameters, so he put together a "MASOS Parameter Reference." It's free if you want one. Contact: Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602, (818) 769-4395.

* * *

Ensoniq news: the VFX OS version is now up to 1.72.

* * *

Call for papers... Our pile of ESQ-1 & SQ-80 articles is getting a little skinny. Good time to try your hand.

* * *

Transoniq Hacker is typically on a 4-week, 4-week, 5-week schedule. You should receive the next issue (#53) in approximately 4 weeks.

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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.

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

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HYPERSONIQ NEW PRODUCT RELEASES

MIDI Notes has announced a nationwide music scoring service for owners of Ensoniq ESQ-1s, SQ-80s, or EPSs. Using their own proprietary computer system, MIDI Notes promises fast and accurate MIDI sequence-to-notation conversions. Extras, such as copyright application help, special formats, and Federal Express shipping are also available. Contact: MIDI Notes, 55 West 16th St., Studio 3, New York, NY 10011, (212) 807-9608.

Thoughtprocessors announces *The Note Processor, Version 2* - music notation software for IBM-PCs and compatibles. Entering music is done either via the keyboard or MIDI (port or files). Output includes dot matrix, laser, and PostScript. Earlier versions of The Note Processor have been used to provide printed music to the music publishing industry (Schirmer Books, Boosey & Hawkes, and others). With Version 2, the price has been cut from \$595 to \$295. Contact: Thoughtprocess, 584 Bergen St., Brooklyn, NY 11238. (718) 857-2860.

BACK ISSUES

Back issues are \$2.50 each. (Overseas: \$3 each.) Issues 1-9, 11, 13-23, 27, 29, 30, 36, and 38 are no longer available. Subscriptions will be extended an equal number of issues for any issues ordered that are not available at the time we receive your order. ESQ-1 coverage started with Issue Number 13. SQ-80 coverage started with Number 29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage started with Number 30. (But didn't really get going till Number 35.) VFX coverage got started in Number 48. Permission has been given to photocopy issues that we no longer have available - check the classifieds for people offering them. Reprints in our "Quick and Dirty Reprint Series" are available: MIRAGE OPERATIONS, for \$5, and MIRAGE SAMPLE REVIEWS for \$4. Each contains material from the first 17 issues.

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VFX Modulation Operandi (Continued from page 3.)

the data entry slider/buttons to set it to KEY, or better yet, CHAN, thus enabling pressure for this program.

Now we can control LFO depth from pressure, and LFO rate from the mod wheel, so let's tweak our values in the LFO section to give a more usable range of effects. Try setting LEVEL in the LFO section to 00 - this way, you'll have no vibrato at all unless you are pressing on the keys. And you might try setting RATE= (also on the LFO page) to some lower value - perhaps 30 or so. That way, when you use the mod wheel to speed up the LFO rate, you won't necessarily be heading into hyper-speed right off the bat.

Of course there are a million variations on this basic theme. You might find it more to your liking to control LFO level from the wheel, and rate from pressure; if so, simply assign PRESS to MODSRC= on the upper row in the display, and WHEEL to the lower MODSRC= setting. Or you could use any of the modulators (keyboard, velocity, envelope, etc.) to control LFO rate, LFO level, or both. And don't forget - the LFO itself can control things besides pitch - you might try using this same LFO setup to control one of the transwaves, rather than wave pitch, or to control the filters, for timbre-sweep effects. The idea, really, is just to try to get a bunch of ideas. Try things out. There's so much stuff that this instrument can do - especially when it comes to modulation. Because modulation is beautiful. Go ahead - try playing on some of the black keys. ■

Using The Rackmount ESQ-M PART 2

by Chris Barth

Last time, we discussed the use of Baby M as a nine-channel, eight-voice expansion module for an ESQ-1. With the sequencer built into this synth, it's also possible to gain quite a bit of control over the live mix when you want to solo over sequenced tracks. If you don't have a rackmount but like to improvise by playing different sounds over your favorite sequences, you've probably experienced the same trouble I had using the master volume control on the ESQ-1 to adjust the volume of the straight synth patch - this action also changes the overall volume of the sequence playing the backing tracks. AARGGH!

Let's say you have a sequence with a bass sound on track 1, and some percussion on track 2, both set to LOCAL status. Now you want to audition some new sounds, which will have different volume levels, while the sequence loops at a consistent volume. One way to accomplish this is to do all of your auditioning from another track on the sequencer, using the MIDI volume page to adjust the volume of the new sound, and the MIDI program number page to select the sounds.

I don't like this approach, although with only one synth I was stuck with it for over a year. I wanted to see patch names instead of numbers, and even worse, the volume of the audition patch would change every time the sequence looped around to start over. I wanted to select sounds directly from the keyboard voice bank display, using the master keyboard volume control, instead of working from a sequencer track using the increment (up-down) keys while the sequence is looping. Baby M to the rescue!

After much experimentation with this new addition to the family, I found that changing the bass and percussion tracks from LOCAL to SEQ status did the trick. These tracks will not be played by the ESQ, but instead will be sent to the ESQ-M and played by that unit. The relative volume of these SEQ tracks will be established by the settings on the volume page of the ESQ-1 sequencer; their combined volume levels can then be set by using the master volume control on the rackmount.

With this set-up, you can use the master volume control on the ESQ-M to set the overall level of the sequencer backing tracks, and then use the ESQ-1 to solo over the backing tracks. Regardless of what's happening with the sequence, you can solo over those tracks independently. You can change the volume of the patch being played on the straight synth of the ESQ without affecting the playback level of the backing tracks.

And that's not all! What if the sounds you're auditioning on the

ESQ-1 are note-stealers? Try sustaining string sounds, and as the eight-voice limit of the ESQ-1 is reached, notes will cutoff abruptly as you play new ones. It can get even worse using the sustain pedal while playing two-fisted piano chords.

The solution? Back to OVERFLOW mode! Just because you're using the rackmount as an independent synth playing a few of your sequencer tracks, doesn't mean that it still won't respond on its base channel to OVERFLOW messages coming from your ESQ-1. Turn on OVERFLOW on the ESQ-1, and the rackmount will give you the few extra voices when you need them, while still playing the backing tracks which are being sent by the two ESQ-1 tracks which we sent to SEQ status earlier. If it doesn't seem to work the first time, double check the MIDI channel assignments for each track as described in Part 1 or in the factory manual.

Of course, since the rackmount is still playing the backing tracks, you can't expect true 16-voice operation while in OVERFLOW mode for the audition patch on the ESQ-1 straight synth. You'll be short by the number of voices playing the SEQ tracks. Big deal! Most of the time, only a few voices are needed to supplement the missing voices on the ESQ-1; I've discovered that if I keep the SEQ tracks simple, as described above, there are more than enough voices left in the rackmount at any one moment to practically eliminate any voice stealing.

You can apply these same techniques using a second ESQ-1 or SQ-80 instead of a rackmount ESQ-M. Since used ones are starting to show up in the second-hand market for about half of their original selling price, now is the time to stock up.



Bio: Chris Barth is a producer and musician specializing in MIDI, synthesizers, and computer sequencing software. Chris owns and operates the Silicon Chip MIDI Studio, where he records and produces jazz and progressive rock for some of Philadelphia's finest musicians and the occasional pinhead.

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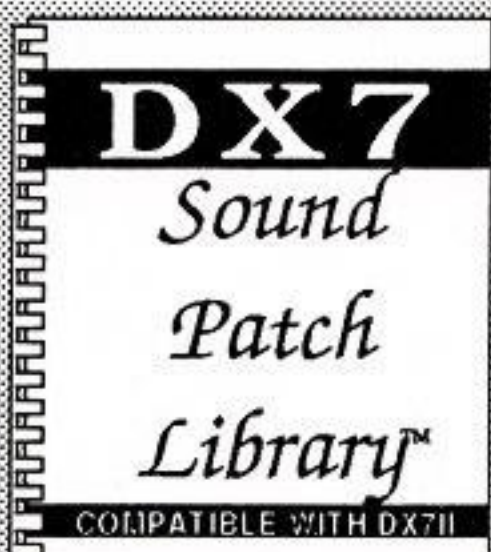
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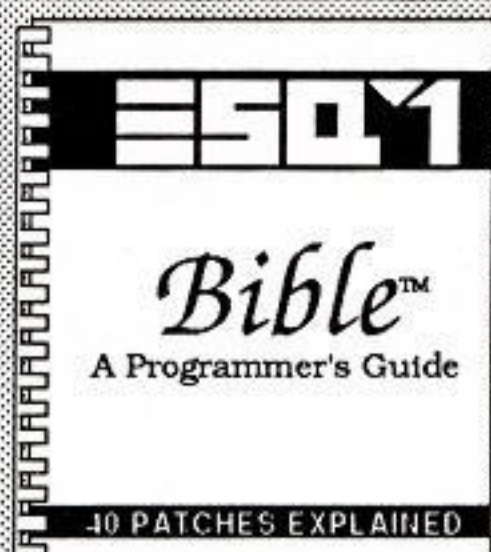
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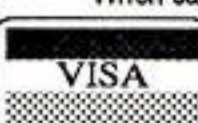
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Using the EPS as a Composer's or Arranger's Workstation

Part 1: Tips on Instruments

by Gary Morrison

Ever since I can remember, I've always wanted to be a composer, but not until recently could I confidently say that I am one. Buying my EPS has helped enormously. The EPS can do it all - at last, for around \$2200. I've tested ideas for ensembles of strings, winds, and brasses. We can now produce demos of quality rivaling a performance on the actual instruments on a home budget.

The market for orchestral/small-ensemble compositions and arrangements is larger than most realize. I remember the head of the Fine Arts department at the local community college pointing out that the one single most lucrative market for a composer today is not popular music or film scores, but writing for junior high school bands! Many school districts also hold "Solo and Ensemble Contests" and new music for those are always in demand. Granted, junior high school players don't always produce the most flattering music, but giving a child an appreciation for music at that age is one the most rewarding things a composer can do. Many local businesses have a need for music on training videos. If you're good at it, you can easily earn several hundred dollars on a half-day's work. Another vastly underestimated market is church orchestras. Even if you can't sell them your works, the results are especially rewarding.

In this two-article series, I would like to share with you some tips I've discovered for producing convincing instrumental ensembles. This first article will concentrate on tips about the instrument sounds you use. The second article will talk about tips on sequencing and performance.

Tips Regarding Instruments

Clearly you have to have convincing instrument sounds to produce convincing ensemble sounds. I have sampled quite a few from the McGill University Master Samples ("MUMS") CDs with pretty good results. Certainly, what you sample from is only part of the story; how you use the wavesamples is every bit as important.

1. Take full advantage of monophonic layers, especially using the "legato layer" capability. It's hard for keyboard players to understand how critical articulation is to solo instrument playing. Slurs on keyboard music are really more like phrase markings, whereas on a solo instrument they indicate that the note is not to be reattacked. Next to aftertouch, this probably gives the biggest improvement in realism. The EPS Advanced Applications Guide describes the "legato layer" idea on page 46, but here's a brief summary of how it works: Using `EDIT:LAYER:LAYER GLIDEMODE=MONO`, you can make a layer be "monophonic" - it will play only one note at a time no matter how many keys you hold down. What good is this? First, it guarantees that only one note will sound at a time on an instrument that couldn't play more than one note if it tried. Second, and more importantly, it allows the overlap of the release of the previous note with the attack of the next note to indicate that you want a slur between the notes. The legato layer is another ingenious Ensoniq idea: if a given layer is playing when you overlap the attack of the next note, it will play the new note on the legato layer. If you edit the legato layer to have a very brief and soft attack, you will hear a very realistic slur effect.

2. Do as much enveloping functions in the actual wave-sample data as memory restrictions will permit. There is one hitch to the legato-layer approach above: the EPS' enveloping is not completely noiseless. The EPS accomplishes

enveloping effects by rapidly changing the instantaneous volume, filtration, and pitch of the sound. The result is that any fast enveloping will result in a subtle but annoying "crackling" sound. This is especially noticeable when you're using ENV3 to fade out one layer (from the previous key) and fade in another layer (from the next key). If you're clever and lucky, you may be able to pass this off as a key- or valve-click, or a fingerboard- hammering effect. If you can spare the memory however, the best approach is to use `EDIT:WAVE:LOOP AND RELEASE` and generate your own release transient with `COMMAND:AMP:FADE OUT`. Similarly, on the legato layer itself, you are better off with different wavesample data and use `COMMAND:AMP:FADE IN` to create a short slur-attack transient.

3. Use the MOD WHEEL to modulate volume. We shall see why in the next article when we get to the sequencer limitations. For orchestral strings, set `EDIT:AMP:VOLUME MOD=WHEEL*55`. You may be able to realistically get by with as high as 65 and as low as 40. Brasses can sit at around 45, and woodwinds probably ought not go any higher than about 35. As a bassoonist, I must sadly admit that woodwinds are not capable of quite the dynamic range of strings or brasses. Pianos are capable of huge dynamic variations. Also, you can use `EDIT:FILTER:F1 MOD=WL+PR * 10` for strings or woodwinds, and 30 or so for brasses or percussion. The timbre of strings and woodwinds really don't brighten up all that much with volume.

4. Avoid substituting instruments that you have for other instruments you don't have. This seems obvious, but consider the difficulties posed in this example: violin samples are fairly readily available, but when was the last time you saw a viola sample? Don't use this as an excuse to use the violin sample to play viola parts - it just doesn't work; the two instruments just sound far too different. Even though the viola is only a fifth below a violin and an entire octave above a cello, timbrally it sounds more like a cello than a violin.

5. Listen very carefully to what vibrato sounds like on each instrument. On strings, you can modulate the pitch a lot more than on winds. For a flute and many other woodwinds, you're best off modulating the amplitude most of all.

6. Learn to play your instrument samples like the instrument itself. One of the most bizarre effects I've ever encountered was when I sampled the open E string on a violin. That wavesample alone sounded great, but when I tried to play real music on the entire resultant patch, it sounded more like a harmonica! I've had a lot of luck with woodwinds and brasses, but strings are a totally different story. The reason is simple - you've got to play them like the real instrument or they won't sound right. It's hard to believe just how little teachers and colleges have dealt with the enormous changes in keyboard technique modern synthesizers have introduced. Don't be afraid to back to the fundamentals - get a monophonic violin patch with the capabilities I've described here and practice scales, arpeggios, and sight-reading with new articulations: slurs and/or portamento injected with the patch-select buttons, and use aftertouch to put in vibrato on the longer notes. Learn how and when to start notes quietly and swell them louder as you hold them.

7. Use `EDIT:PITCH:RANDOM FREQ=20 AMT=+1` (or possibly +2) on winds. Real players aren't as perfect as computers.

Bio: Gary Morrison's day gig is computer design engineering. His main fascination in music is xen-harmonics (unusual tunings). He aspires to become a recognized composer in that field.

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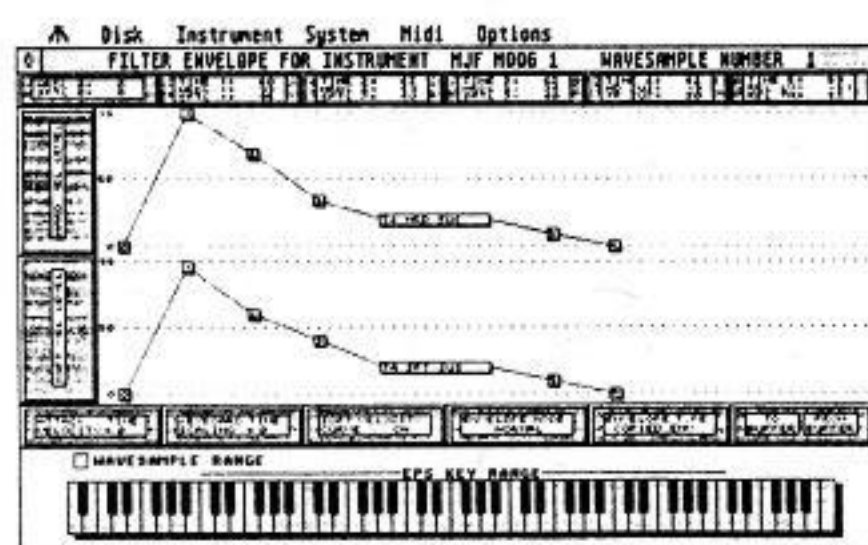
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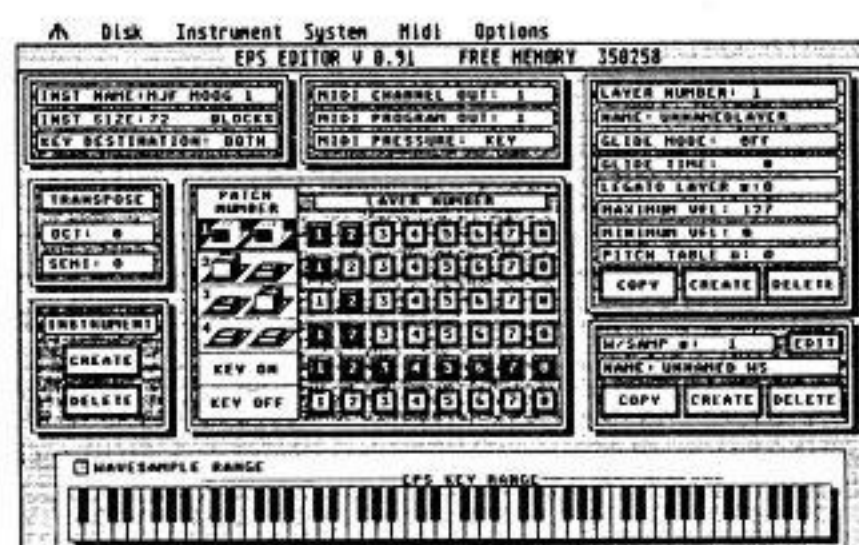
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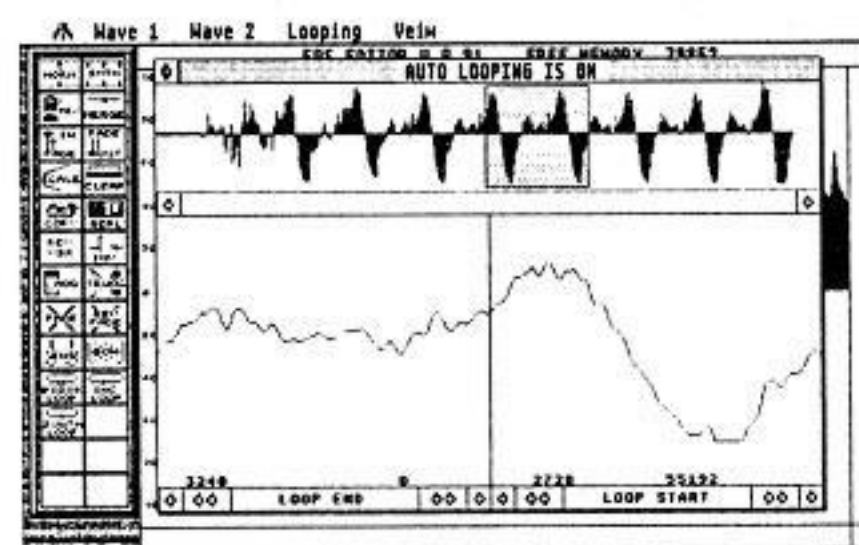
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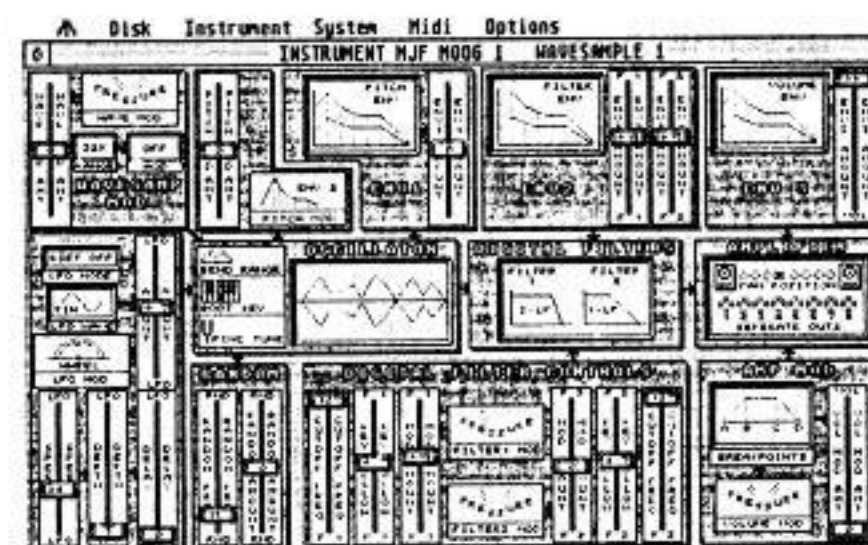
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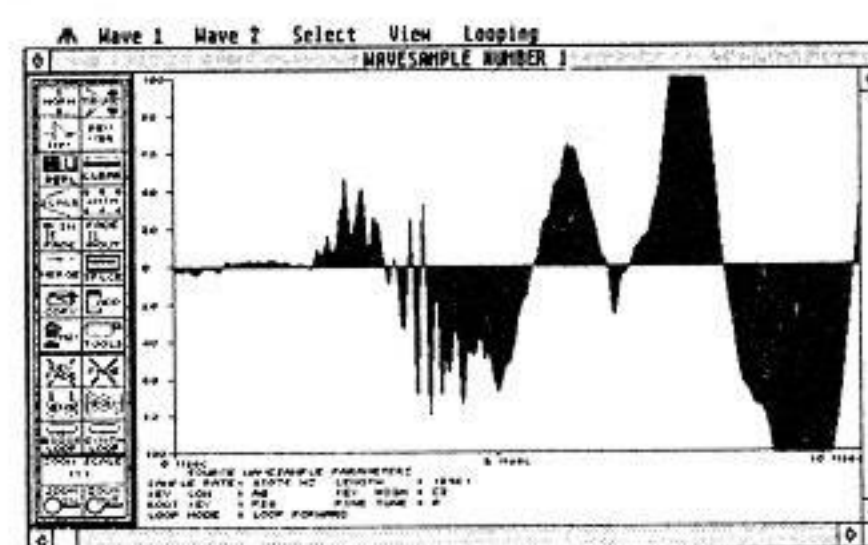
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Soundset 2 Patch Review

by Chris Barth

For: ESQ-1, SQ-80.
Product: Soundset #2 - 40 patches.
Price: \$17.95 postpaid for data cassette or Mirage disk. (\$29.95 for Soundset #1 and #2.)
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Now that the first two Ensoniq synthesizers are approaching "dinosaur status," some of us may start to long for new synths to play with. Unfortunately, new synths require new money, and that's always in short supply. Yet didn't we all hear stuff like, "This thing will make a million different sounds," when we bought the last toy? Before you drop a couple of thousand dollars on the next one, why not spend thirty dollars or so on eighty new sounds for what you have? That's less than the sales tax on the new toy!

And three years after the introduction of the ESQ-1, I've been blown away by how much I like the Soundset 2 collection of patches from resident Hackerpatch maven Sam Mims. Just like Mike Peake from TECHNOSIS, Sam has not only produced a dynamite collection of fresh new sounds; he's given them "the Hackerpatch treatment" by thoroughly explaining how he did everything. Along with a data cassette, your money gets you over 20 pages of programming tips and techniques, along with a patch sheet for each sound. Considering the wealth of new and inventive programming techniques displayed in this Soundset collection, I think there's more value in here for the novice programmers among us than in most the aftermarket programming books.

Like the rest of you, I've noticed the proliferation of Roland's D-50 synthesizers, which typically feature lush, rich sounds heavy on a spacey ambience. I guess the word "spacey" is the key here, seeing how Sam has a degree in physics/astronomy and spent seven years as director of the planetarium in Baton Rouge, LA. Since then, realizing the error of his ways, Sam migrated west to make his living scoring commercials, films, and playing sessions. In Soundset 2, Sam has successfully emulated the New Age sounds which characterize most of Roland's keyboards. It's not that he copied specific Roland patches; instead, he figured out what makes those sounds so distinctive, and then ported over his discoveries to the ESQ-1. Along the way, he's developed some programming techniques which I've never heard on this equipment before. By ignoring some of the standard ways of doing things, he's come up with some odd alternatives that work unexpectedly well.

The collection starts off with ten bell-like patches, all of different varieties. There's no duplication, and the tones are really pleasing to these ears. No distortion, no digital noise all over the top end. I've got hundreds of bell-like patches, and most of them all sound the same, a little dull and dry. Here, lots of different waveforms are used in place of the bell, and while the results are decidedly bell-like, the patches sing out louder and cleaner than most others I've heard. CLRBEL (the handbell simulation) starts everything off, and I was impressed with how good this patch sounds on every note of the keyboard. Proceed to TINKLE (I should read this stuff aloud before I send it in), MELBEL, MUTEBL, and VOXBEL, and together these first five bell patches contain only 2 bell waveforms among the fifteen which make them up.

Even though there's no onboard signal processing on the ESQ

like the built-in reverb on the VFX (they should fire whoever is naming these things and rehire the guy who named the Mirage), that doesn't mean that you can't imitate a lot of the same effects if you know what you're doing on the ESQ. Most of these patches sound like they're being played through a reverb, and I think that's a big part of their appeal. There is some really sophisticated stuff going on here.

Ten voice and keyboard sounds make up the second bank, and the D-50 influence is all over the place. Patches like AMBHIS and SERENE sound like they fell right off the Roland truck. The best pianos are REVPNO and PHSPNO. The former uses two bass waveforms to create a Rhodes electric piano, with a sole SYNTH3 waveform to imitate the tine/bell sound. Believe me, boys and girls, this is one useful piano patch. PHSPNO is patterned after Billy Joel's phase-shifted electric piano in "*Just the Way You Are*," another sound that no one has sent me since I started doing this column. And for you Deep Purple fans, DSTORG sounds just like Jon Lord cranking his Hammond C-3 as loud as it will go - and that's LOUD!

The third bank consists of acoustic simulations of some orchestral instruments, and overall they suffer from comparison to the other three banks. It's not that the bassoon, oboe, flute, cello, etc. aren't usable, but they almost seem out of place given the spacey, D-50 flavor of most of this collection. Really, by now you've probably already got the first VOICE CRYSTAL or the MUSIC BANK (if not, you've got a lot of catching up to do - what did you buy this synth for anyway?), and as good as they are when it comes to imitating acoustic instruments, they sure as heck don't have any of the spacey, new-age stuff Sam has nailed down.

Soundset 2 closes with some great gated drum sounds and PIKBAS, a super punchy bass sound like what you hear on Pet Shop Boys' records. There are a few special effects, including an old prop airplane, some whistling, and a bonus patch which simulates the sweeping collage of frequencies heard in the movie theater when it is announced on screen that the theater is equipped with stereo sound.

Soundset 1 was reviewed by another reviewer in Hacker #35. While I won't get into it in any detail here, the set includes some additional acoustic imitations like a tuba and trombone, with varying degrees of success (we did both like the banjo a lot). Not mentioned in the review were some really great Oberheim/Moog-like synth pads and more D-50-styled sounds, including another super digital piano. Overall, I think Sam is so good at breaking new ground that he should leave the acoustic simulations alone, since they've all been done by now anyway, and continue breathing new life into an old synth.

Applying the Barth Law of Buying Patches (Price x 1/Keepers = \$2.00 or less, or, "I'd pay \$2 for a patch I'd keep."), Soundset 2 is a "Best Buy" if you're looking for the stuff described in this review. For the few extra bucks involved, you really should spring for the first set, too. Excellent digital pianos, organs, and basses, brand-new spacey stuff, clever programming all around, dynamite teaching aids - if you're still bored it's not Sam's fault! ■

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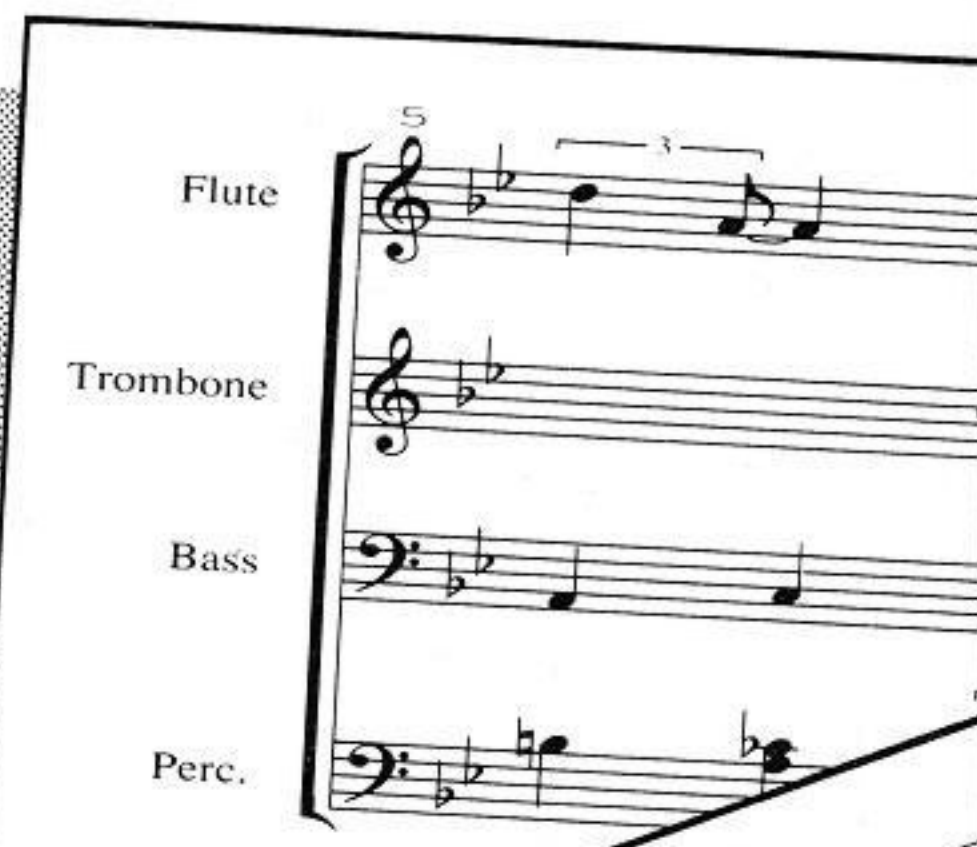


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Mirage Double-Sided Drive Conversion

Part I

By Arthur N. Entlich

Be forewarned, the following conversion involves opening your Mirage, some minor understanding of electronics, and some soldering. If you, or someone you know well, does not feel comfortable with these concepts, this article is NOT for you. Opening your Mirage, and this conversion (although reversible) will likely void any warranty you have on your instrument. Although every effort has been made to supply accurate, exacting information, due to the fact that there are several models of Mirage available, the possibility of typographical error, or errors in comprehension by the reader, neither Transoniq Hacker nor the author can take any responsibility for damages or injury as the result of attempting the project outlined in this article.

Back in the early days of disk drives most of us had computers which used single sided 5.25" floppy disk drives. It didn't take long for people with these drives to figure out that if they punched an extra write-protect notch opposite the one the manufacturers put in the diskette jacket, that they could flip the diskette over and use the other side to store double the information on the diskette. This not only cut the cost of diskettes in half, but also made it possible to use half the space storing your diskettes, and halve the weight when sending diskettes in the mail.

Well, technology marched on, and soon the 3.5" floppy diskette format was developed. There were plenty of advantages to this format. The disk drive was considerably smaller and lighter, the diskettes were smaller, stored much more data, and were much less prone to damage due to their rigid plastic jacket and metal shutter. When the Mirage was first designed, Ensoniq was able to incorporate this relatively new smaller drive into it. Unfortunately, at that time double-sided versions of these drives were larger and much more expensive.

Although 3.5" floppy diskettes have come down somewhat in price over the years, they are still expensive and bulky to store, so it would be nice if the other side of the diskette could be taken advantage of. This would allow for six sound banks and 16 sequences to be stored on one diskette. The bad news however is that, unlike 5.25" diskettes, 3.5" floppies can't just be flipped over to take advantage of the other side. The only way to do that is to use a double-sided disk drive. The good news is that double-sided 3.5" disk drives are now as small or smaller than the single-sided versions of years ago, and can be purchased for under \$90 new. The author acquired a used double-sided drive at a computer-fest for \$35. Even better, some Mirage owners may actually already have double-sided disk drives in their Mirages. An informed source at Ensoniq told the author that toward the end of Mirage production the company could no longer get single-sided drives and therefore installed double-sided drives in the later production units (likely candidates are the Mirage DSK-1 models).

What's the difference between a single- and double-sided drive anyway??

O.K. In order to figure out which type of drive you have in your Mirage you will first need to understand a bit about how disk drives operate. Disk drives work similarly to tape recorders in that they have a head which can either write (record) or read (play) a diskette. The floppy diskette has inside its plastic case a thin round piece of plastic film which is coated on both sides with an iron oxide mixture similar to that found on audio or video tape. As the diskette spins (driven by a motor in the disk drive) the head, which is mounted on a movable arm, puts

down the digital data onto the diskette in concentric circles. When the diskette is originally "formatted" magnetic markers are laid down by the head so it knows where to go on the diskette to put down the data. These magnetic markers are also used so the disk drive can later find data already laid down on the diskette. The noise you hear the disk drive make during formatting is the sound of the head being moved from track to track as it records and reads these markers. The magnetic field the head uses to write(record) on the diskette is very weak, so it only records information on the surface of the magnetic layer it is in contact with. The magnetic field cannot penetrate the plastic film separating the two oxide surfaces. A single-sided disk drive, like the one most Mirages come with, has only one read/write head which writes (records) on only one surface (the bottom surface) of the diskette. A double-sided drive has two heads, one for the upper diskette surface and one for the lower.

Opening your Mirage

In order to tell which type of disk drive is in your Mirage you will need to open up your Mirage and probably your disk drive as well. Since the author owns a DSK-8, the following instructions are based upon it, although the earlier model use similar construction. The newest Mirage, the DSK-1 (the Mirage without the expander slot) has a slightly different construction, so you will need to adapt the instructions somewhat. You will need a medium small Phillips head screwdriver, and a 3/32nd inch allen wrench (hex key) or hex head screwdriver. A small box to place the small screws and hardware you will be removing during the disassembly is also suggested.

UNPLUG your Mirage from the wall socket. Unplug all MIDI, input, output, foot switch or other cables, and the line cord from the rear of the Mirage. Place the Mirage on a table long enough to accommodate it and about twice its width, as you will need this space when you open the cabinet. First, using the Phillips head screwdriver you will need to remove two screws on the underside of the Mirage. Probably the easiest way to get at these screws is to slide the disk drive end of the Mirage off the table end just to the point where the keyboard starts, and work underneath the instrument. One could turn the instrument over to access these screws. If you do slide the keyboard partially off the table be aware of the weight balance, or have an assistant hold the Mirage down, so it can't fall. FIGURE 1 shows the Mirage from the top, as if it were transparent. The screws and legs on the underside of the Mirage are marked. Take out the two screws marked "REMOVE." O.K. The awkward part is now over; slide the Mirage back onto the table.

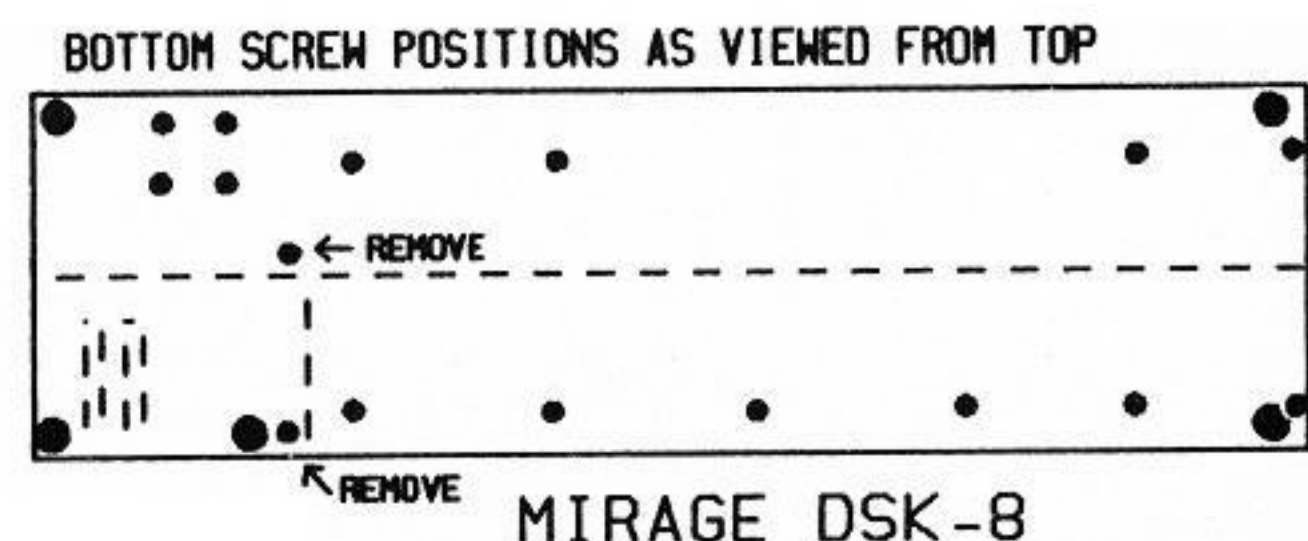


Figure 1.

Next, using the 3/32nd inch hex key, remove each of the seven hexhead screws from the top of the Mirage (indicated as black dots in FIGURE 2).

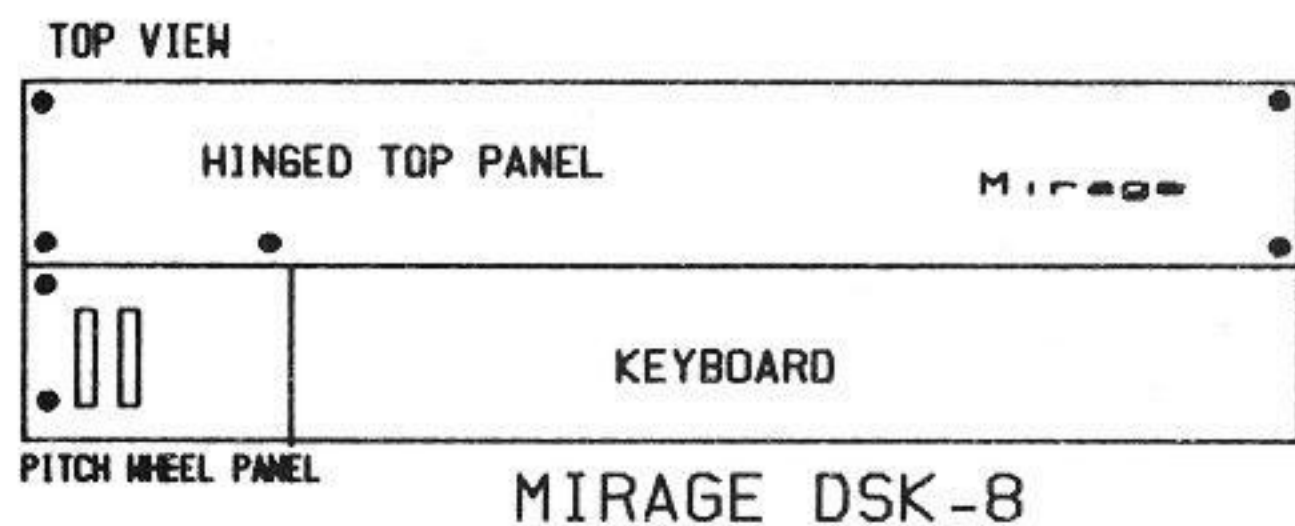


Figure 2.

You can now open the upper panel (the panel containing the volume slider and buttons). It is hinged in the back and just lifts from the front. However, the weight of the panel is enough to distort the hinge if the panel is left hanging, so it is best to either rest it on a wall or something a bit taller than the Mirage. You can now lift the panel containing the pitch and mod/mix wheels and disk drive out of the Mirage. If the unit does not easily come out, you have not removed the correct screws from under the Mirage. The disk drive is connected by both a wide ribbon cable and a set of four wires ending in a plug, but these should be long enough to allow you to turn the whole panel upside down (it might be a good idea to place this on something soft so nothing gets scratched). If you close the upper hinged panel, you can probably rest the panel containing the disk drive on the upper panel.

At this point you should be looking at the underside of the pitch and mod wheels and the underplate of the disk drive as in FIGURE 3. You will note on the DSK-8 there are four black Phillips head screws (with lock washers and metal spacer washers) on the perimeter of the black metal plate protecting the disk drive. There are also four more screws slightly inset from these. Remove the four outermost screws first, being careful not to lose the lock washers or metal spacers. The disk drive with its protective metal plate still attached can now be lifted off the mod/pitch panel. You can now flip the disk drive right side up, with the cables still connected.

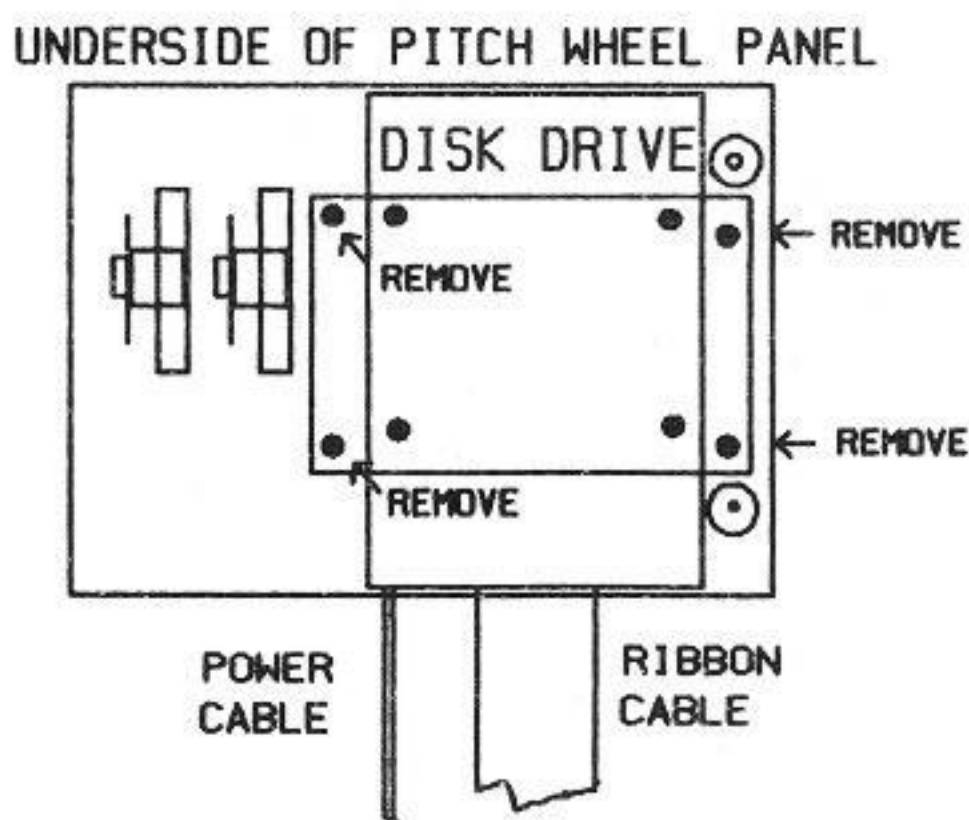


Figure 3.

Ensoniq used several different suppliers for the drives in the Mirage making them a little difficult to identify. However, there may be a sticker or other information somewhere on the drive or housing which may inform you if the drive is single or double-sided. The single-sided Matsushita drive the author

found in his Mirage was a model JU-324. If you find a label stating "single-sided", .5 meg, or 400K, you know you have a single-sided drive. With the help of your local computer store you might be able to determine if the drive is single or double-sided from the model number. If you are unable to tell from the outside of the drive which type it is, you will need to open it up. To do this, have the disk drive right side up. Most disk drives have a thin aluminum housing on top, which doesn't allow you to see the inside of the drive. This housing is usually connected by a few small screws. Using an appropriate screwdriver, remove these screws (typically found on the top or sides of the drive) and carefully remove the metal housing, trying not to bend it. You should now be looking at the inside of the drive. Just about in the middle of the drive you will see a small plastic or metal arm or platform. Under this platform or arm will be another platform with a small ceramic (usually polished white) rectangle about 1/4" in width, with a black line running through it. This white ceramic rectangle is a disk drive read/write head. Single-sided drives have only one of these (which faces upward) while the other arm or platform above it will only have a piece of felt on it (facing downward) which is used as a pressure pad. If however, both the upper and lower arms or platforms have small white ceramic rectangular pieces, then the drive is double-sided.

Once you have determined if your Mirage has a single or double-sided drive you can decide how you wish to proceed. If you have a single-sided drive you will probably wish to put your Mirage back together until you acquire a double-sided drive to replace it. Before doing so carefully measure the disk drive. In general, the width and length of 3.5" drives are standard, but the heights do vary considerably. You do not want to purchase a double-sided drive which is taller than the one you currently have, since you will not be able to fit it in the space available. A shorter drive will fit with a small gap, which may work out well since you will need to install an accessible switch with the new drive to make it operate properly with the Mirage. Take a good look at the cable connections on the back of the drive, so you can recognize the 34 pin and four pin connectors when you go to purchase your double-sided drive. Although these are fairly standard, some drives come with PC board edge connectors instead of the 34 pin plug, and these will not work with the Mirage. The exact position and relationship between these two plugs on the back of the drive is not critical, since Ensoniq provided enough extra cable to accommodate most drives. Once you have made notes of size and plug types, you can temporarily put your Mirage back together. If you do put the screws back, be careful not to over tighten them, since several parts are plastic.

How to find the right drive

If you have determined your Mirage is fitted with a single-sided drive, you will need to locate a double-sided drive. What you are looking for is a standard one megabyte (often referred to as a 720K formatted) half-height internal double-sided 3.5" floppy disk drive, which is 1 and 1/4th inches or less tall (based on the Mirage DSK-8). You do NOT want an 800K Apple drive, such as the ones used for the Macintosh computer, as these use special variable speed motors. Most half-height internal 3.5" drives made for IBM computers will work as long as they have the right type of cable connectors on the back. Again, you do NOT want PC edge connectors. The only other requirement is that the drive either have an addressable device number (some drives have a movable jumper allowing you to change what device number the drive recognizes) or a drive which is defined as drive number 0 (zero). Almost all drives are either addressable or are factory set to drive 0. The author chose a Teac drive, which is only 1" tall, leaving a 1/4" gap between it and the Mirage cabinet. If you are ordering your drive by mail, Teac 3.5" half-height 720K (formatted) drives (Model # FD-135 FN-75 U or equivalent) are advertised for between \$70-\$90 by dozens of companies in the massive Computer Shopper magazine, a monthly publication available at most magazine

stores for \$2.95. When you order, indicate you need a drive with a face plate and a 34 pin connector on the back, NOT one with a PC board edge connector. You do not need a drive "kit" or special mounting brackets to fit the drive into the space of a 5.25" drive (these accessories cost extra). Although there are several other companies manufacturing drives that will work with the Mirage, the instructions given in this article as based upon the Teac model mentioned above. The wiring diagrams provided should work with any standard drive, however, some drives have unusual jumpers which need to be moved or removed, and you may need to experiment to get the drive to operate properly.

The concluding part of this article, Part II, to be published in next month's issue, will explain how to modify, install, test and use your new double-sided drive in the Mirage. ■

Bio: Arthur Entlich resides in Canada, where electronic keyboards cost twice as much, and is still trying to make his Mirage into a cheap EPS. He is a photo-video-grapher and painter who composes soundtrack material for "in-house" (literally) video productions. He has recently begun Artistic Communications, a desktop computer graphics company using the Amiga computer system.

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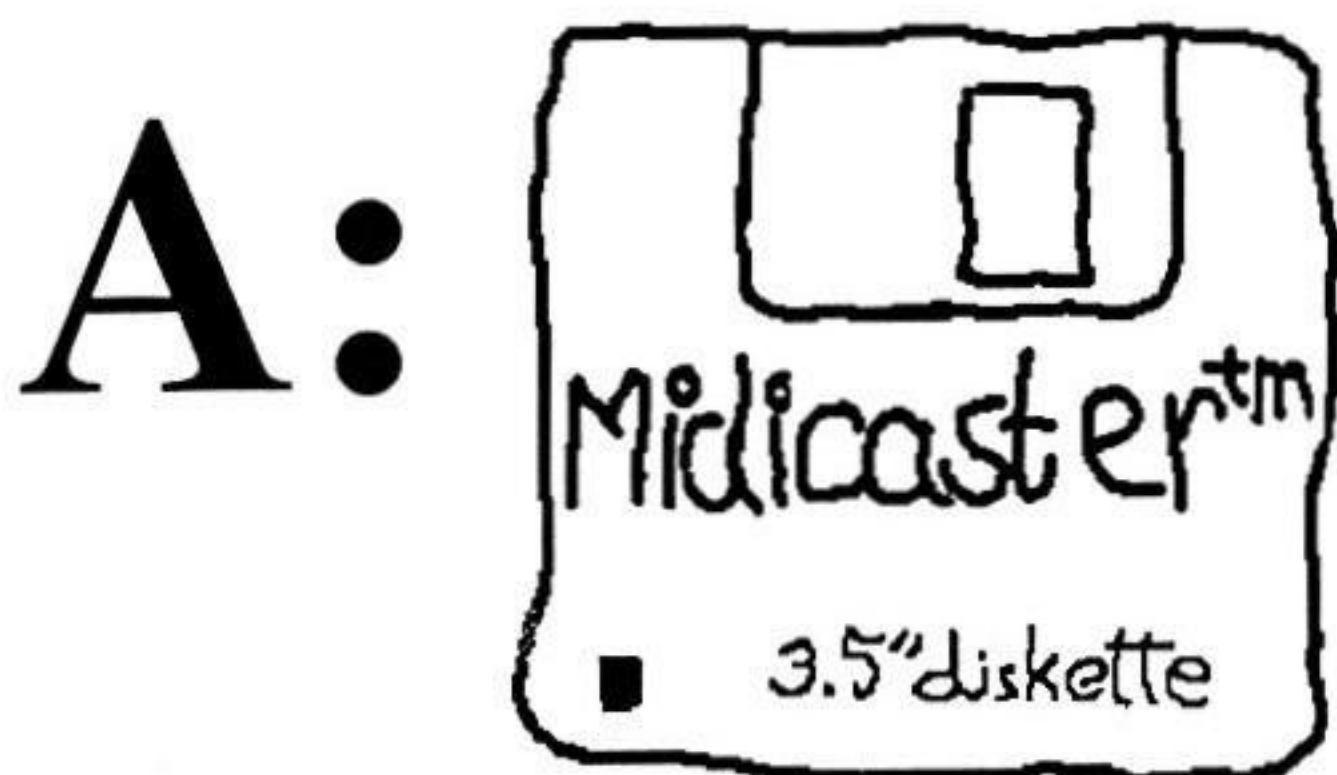
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Getting Those Swell Sounds

by Chip Burwell

How many times have you been in the middle of a phrase and thought "this should grow," but been unable to get a crescendo. Anyone who has played in bands or written a song knows that feeling of wanting a "swell" - of wanting to make their music more exciting with some dynamic changes. Fortunately, the EPS gives you all the tools you need to make that happen. The only problem is figuring out what settings to change in order to get the right response.

Whenever you start thinking of designing or modifying an instrument for your EPS you should first decide, "Will I play this instrument 'live' from the keyboard or will my computer (or other synth) play it with MIDI data?" Although some of the choices are the same there are some differences.

Let's start by looking at sounds played from the keyboard. There are two basic ways to cause dynamic changes on the EPS. The first is with volume modulation and the second is with envelope 3 parameters. Volume modulation is the way you will use most often. It can be thought of as turning the knob up or down on your amp but instead of you turning the knob other parameters will turn it for you. As a simple example load an instrument into your EPS and let's try some of the possibilities. To avoid problems, check to make sure that soft velocity curve is turned off under the ENV 3 settings. Then be sure you've selected the wavesample, layer or the whole instrument depending on what you want to edit. (I recommend selecting the whole instrument to save time, but if individual wavesamples already have various amp settings you may need to do it a layer or wave sample at a time, or you may only want one layer to swell. Whatever you want, just be sure you've chosen what you want and only what you want.)

Now go to Edit, Amp, and scroll to the page with A-B fade in and make sure it is set to 0 & 127. Then check to see that C-D fade out is set to 127 and 127. On the next page you should find the settings for Volume Modulation Source. Using your up and down buttons, select "WHEEL" and then set the percent to 99. Now your mod wheel should allow you to do some nice fat swells just like a volume knob on your amp. (Depending on the instrument you have loaded, you may also be getting other effects, most likely, lots of vibrato. That means the mod wheel is also modulating another parameter. Look under LFO, Pitch and Filter and adjust the settings so that the mod wheel doesn't affect other parameters.) Go back to the Amp Volume Mod page and experiment with different settings for the number value. Lower numbers will cause less change in volume but will also allow some sound to come through even with the mod wheel turned all the way down. (That way you can set a base volume level and just swell up from it when you need that extra punch.) Now experiment with other choices for the Vol Mod Source instead of the mod wheel. Try pitch, which turns your pitch wheel into the volume knob (again you may have pitch change which you will probably, but not necessarily, want to disable). If you have a volume pedal, the best choice is "pedal." (The foot switch that came with your EPS is just that, a foot switch, NOT a volume pedal. The volume pedal is a separate accessory.)

PR and VEL can work a little but generally doesn't give big fat swells - only smaller phrasing nuances. With PR and VEL the amount of modulation (the number to the right) is critical. Values between 60 to 90 seem to work best. Also, the keyboard touch setting can have an effect. (Select Edit, System and then scroll right or left till you reach touch =.)

If you want to try using the envelope parameters to cause swells, keep in mind that the envelopes can not be changed

once the note has started, so any swell will have to be preplanned and will happen every time that note is played.

When creating swells with MIDI data you will first need to determine just what kind of MIDI data your source can generate. Can it produce velocity, pressure, Xctrl, or pitch bend data? Some programs such as Finale II can produce all these types while other sequencers are more limited. Just like a keyboard instrument, you want to change the volume modulation settings to allow you to produce swells when you send the correct MIDI data. A good place to start is with velocity. This is the controller that is most often chosen for volume modulation. Setting the Vol Mod Source to "vel" and the percent to 99 will give you a full range of dynamic control. All you have to do now is play a note and then by sending increasing values of MIDI velocity the volume will go up. (Figuring out how to make your sequencer send that is another matter. Finale does this through an executable shape.) When using velocity it is important to have the soft velocity curve turned off or else you can get some strange effects from the modulating of ENV 3. If you would like to have your soft velocity curve on, you might try setting the vol mod to "PRESS" but you will have to trade back and forth between control of the volume with the ENV 3 and the press data. Like velocity, pressure will work best if the percent is set to 99.

One way that can work well is to use Xctrl data. But be sure you are sending and receiving Xctrl data on the same number. The EPS default is 2 but can be changed by pressing EDIT MIDI, scrolling to MIDI controllers, set to ON, scroll to "MIDI XCTRL NUM" and then set to whatever number your MIDI source will be sending. You can also use pitch bend data, but be sure you have disabled the pitch bending aspects of your instrument. This method can be very useful for those who are using a synth to drive the EPS since they may be able to send pitch bend easier than other data.

That pretty much wraps up the way to get your EPS to swell. Always remember to be careful to select only the wavesamples and layers that you want to edit, be sure all settings are checked, and, if using MIDI, that your settings match what you are sending. So till next time, "Happy Swelling Buckeroos." ■

Tested and Approved Hard Drives for the EPS

Manufacturer	Model
Jasmine	Direct Drive 45, 70 100, 140
Rodime	45plus, 60plus, 100plus, 140plus
CMS	43SD, 20SD, 30SC, SDU30
Microtek	Nova40
Eltekon	OVD-20, 30, 40, 50, 60, 80, 90, 120
General Computer	Hyperdrive FX/20
Mass Micro	Mass 30e
Supra Drive	MacPlus 20

The MIDI/SQ-80 Connection

By Leonard Crockett

After receiving the June issue of TH, and seeing the request for more SQ-80 specific articles, I decided to contact them and throw my entry into the ring. What follows is hopefully both informative and helpful.

The SQ-80 was like the answer to a prayer for me when it came out during the latter part of 1987. At the time my only other MIDI synth was a Chroma Polaris, and I was in the market for a synthesizer/sequencer companion for the Polaris. I briefly thought of getting the ESQ-1 (which I did convince a songwriter friend of mine to buy as his first synth), but I needed something with more memory and sequence locations, and a better data storage medium.

The SQ-80, for those of you not familiar with it, has 30 more sequence locations and 10 more bank locations than the ESQ-1. And it comes standard with 64K of internal ram. (The ESQ-1 can be brought up to this level by an expander cartridge.) But the disk drive, Poly-Key pressure, and Sys-Ex storage capabilities really make the SQ-80 not just a good buy, but a great buy.

Also in the set-up are the following: SCI Drumtraks, Roland D-110, Alesis HR-16, and a J.L. Cooper MIDI Disk. (The MIDI Disk is used for data storage with the Drumtraks.) I use this set-up for producing and arranging demos for various projects (including my own), and it works very well.

I'll start with a little history on each piece and give you my experience with it as it relates to the SQ-80.

First, the Polaris. This is a 6 voice synth with classic analog sounds with a lot of mid-range tones. It also contains a single track polyphonic sequencer (with 12 sequence locations) that is capable of recording all known MIDI performance data, i.e. pitch bend, aftertouch, note off velocity, volume changes and so on. This is especially important, as I find myself having to transfer Polaris sequences to the SQ-80 and vice-versa. Both machines are capable of recording the other's data and the sequence format is similar in some ways. The Polaris also uses Dynamic Voice Allocation, and is Multi-timbral, but only by way of an external sequencer. It can receive data on up to 8 separate MIDI channels, but with its 6 voice limitation I find myself only using 3 or 4.

Next in the chain is the Roland D-110. This is a sound module based on Roland's D-Series synthesizers. It contains PCM sounds and is basically 16 voice polyphonic, depending on how you structure each sound. It also contains some very good drum sounds that allow for some interesting percussion parts. The dynamic voice allocation that is built into the multi-timbral mode makes it very easy to use with the SQ-80. There is no provision in the voice lay-out for the use of after touch, so I would recommend not sending this type of data on any MIDI channel intended for the D-110. The unit does respond to MIDI Volume, where the Polaris does not.

Rounding out the lot are the Drumtraks and HR-16. Although I've seen where a lot of people prefer to use their sequencer to sequence drums, I don't, for the simple reason that while doing so may be faster it uses far too much memory and also taking valuable sequencer tracks. I think if someone were willing to

take the time to design these things, the least we can do is take the time to learn how to use them.

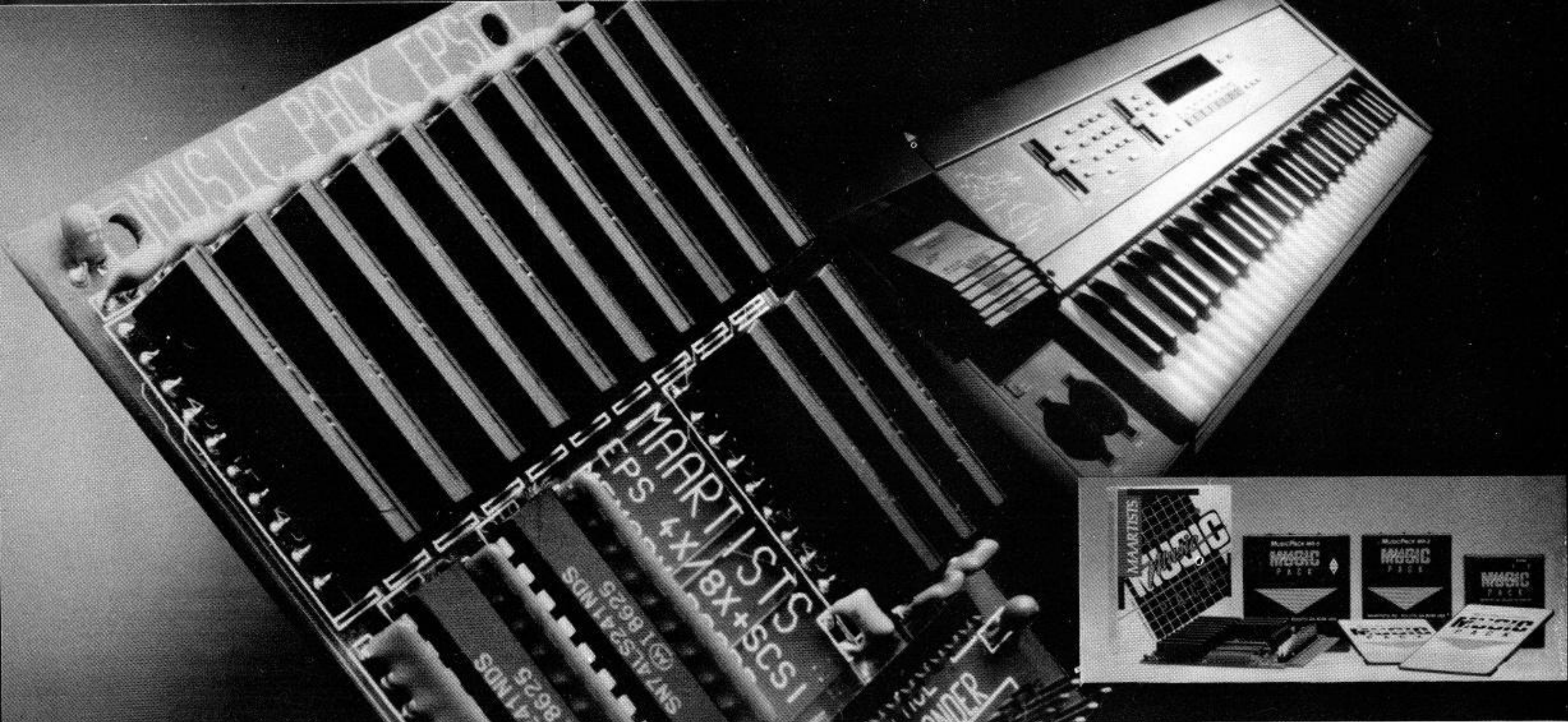
Having said that, I guess you've concluded that I do all the drum programming on the drum machines themselves. (Except for the D-110.) And, with my set-up, this works best. Of course, both the HR-16 and the D-110 can transmit and receive Sys-Ex data dumps to and from the SQ-80, so this is no problem. The Drumtraks, on the other hand, cannot which is why I use the J.L. Cooper MIDI Disk. The Drumtraks and the D-110's drum section work fine with the SQ-80, but the HR-16 have given me some peculiar problems that bear mentioning.

I first bought an HR-16 about a year ago. I was happy with the unit, but did notice some strange things that were happening when using it with the SQ-80. First, there was a problem with the Song Position Pointer working correctly whenever the HR-16 was to be the master and you had the initial tempo programmed for a song. The HR-16 would not correctly locate to the right spot in conjunction with the SQ-80. If you deleted the tempo from the song on the HR-16, it would work correctly. Also if you used the SQ-80 as the master clock, the HR-16 would work correctly when using the Auto-Locate controls on the SQ-80, regardless of whether initial tempo on the HR-16 was programmed or not.

The other problem dealt with timing. When using the SQ-80 to clock the HR-16, I noticed slight timing discrepancies. A quick check using the SQ-80's step edit function revealed some HR-16 events happening on clock pulses such as 11 and 23, instead of being found on 12 and 00. This made some drums, such as the Hi-Hat, seem to be playing ahead of the beat instead of right on the beat. This occurred on parts previously quantized to 16th notes on the Alesis. The way I found of getting around this is to set the SQ-80 to MIDI Clock, then set the Alesis to Internal Clock Only, and set MIDI Clock Out to On. In this way you are able to control both machines together. You can start and stop each one with the other, and use the Auto-Locate controls from either machine. Tempo will be controlled by the Alesis, and this works out to be the better bet, as tempo on the Alesis is continuously variable.

The original HR-16 I had was software version 1.06. The new HR-16 I have is version 1.09, and this version fixed the Initial Tempo/Song Position Pointer problem, as far as I can tell. The timing discrepancy problem is still the same however, and there seems to be no way around this other than the one I just mentioned. ■

Bio.: Leonard Crockett is an active producer/writer/arranger for Triad Productions. He produced the 12" Lance single, "No More Games" by Joe L. and works as a producer/arranger for L.A. songwriter Steve Hawk.



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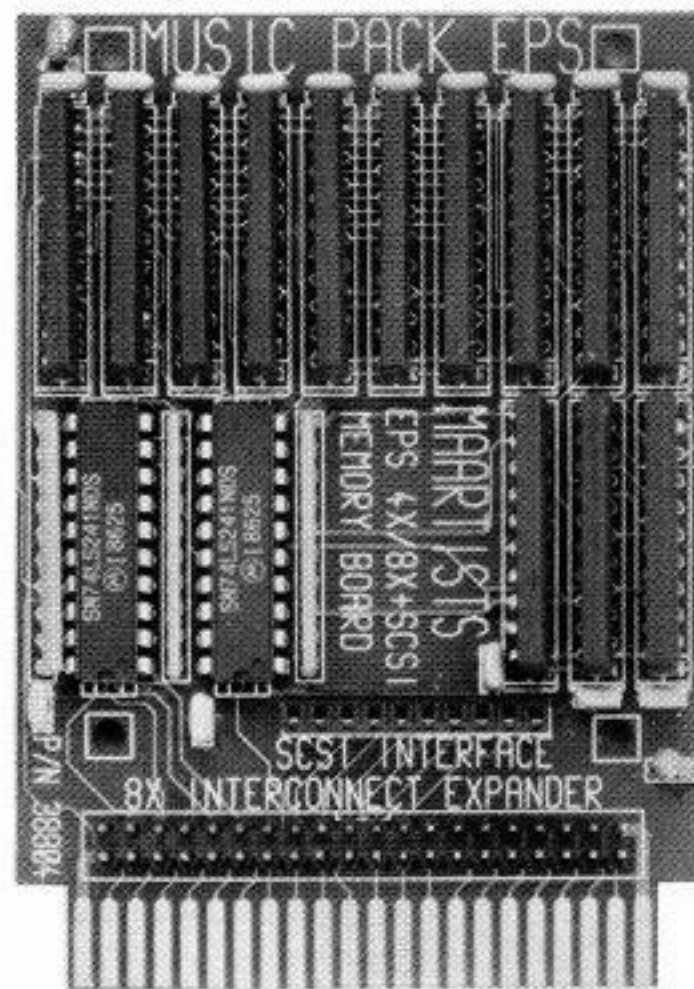
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Hackerpatch

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.

The Patch: SAX1

by Tom McCaffrey, Roslyn, PA

SAX1 is a soprano sax sound reminiscent of Branford Marsalis (of Sting fame). It is an ESQ-1 compatible voice, but when played on an SQ-80, the polykey pressure provides a mellow vibrato. There is a slight amount of attack velocity programmed into the voice, and the voice is monophonic which is necessary to capture the lyrical nature of the soprano sax.

The Hack

Let's face it - sax players shouldn't be scared of losing their gigs to ESQs and SQ-80s. But sometimes, they ain't around when we need 'em (Branford still hasn't returned my call), so Tom's patch can definitely come in handy.

First, it is easy to enter this on an ESQ, so you guys and gals can play, too. Just enter T4 of ENV 4 as 18, and change the modulator of LFO 2 to PEDAL (if you have a CV pedal) or to WHEEL. Note that LFO1 is also set to WHEEL, but don't worry about it - it has no effect on the sound. Actually, you can skip punching in LFO1, but you should turn its MOD off. Or, you could set it for a vibrato of a different speed than LFO2 - have one controlled by the pedal, and one by the polykey and/or wheel. Note that this would have to be at the expense of the ENV1 mods on the oscillators, but their effect is minimal as well.

This patch works marginally well as a mellow tenor sax in the lower octaves. But to really wake it up as a soprano sax, simply turn on the amplitude modulation (AM on the MODES page). You may want to alter the timbre a bit by trying the different formant waveforms in OSC3; they all seem to be suited to different ranges of playing. If you're doing a lot of legato lines, you may be more comfortable with MONO (MODES page again) turned off.

The Patch: KORG

by Tim Edwards, Durham, NC

Here is a patch that no performer should be without. I call it KORG, and you can guess where I lifted this sound from. It has that bright, punchy, happy sound. I modulated the DCA just to be different. You might like the effect of raising the value of T4 on ENV4 to 63.

The Hack

This is a "wet brass" type of sound. Rather than modulating the DCAs so much, though, I think a mod wheel vibrato would be more practical (it seems like I'm always saying that, but it is very useful). To do this, turn the LFO1 DEPTH on all the DCA pages down to +06 or so. Then, set up LFO2 with these values: FREQ=21, RESET=ON, HUMAN=OFF, WAV=TRI, LI=O, DELAY=O, L2=0, MOD= WHEEL. Finally, on each oscillator, set up MOD#2=LFO2, DEPTH=+04.

I played around with the filter a bit for some easy sound variations. First, try removing some of the squishiness by turning the resonance (Q) down to around 3. For another

variation, leave the resonance up, but turn ENV3's DEPTH down to +24 - this gives a much darker moody sound. This works best with Tim's suggestion of setting ENV4's T4 to +63.

The Patch: BANJO

by Dan Hatt, Dartmouth, N.S., Canada

This banjo sound uses the square wave of LFO1 to cause oscillator 1 to "mistrack."

The Hack

This is a great banjo imitation based on the single PIANO waveform. The "mistracking" of the oscillator is explained in my article in the July Hacker, page 6; essentially, Dan has used the piano sample in a higher range to simulate the shorter strings of the banjo. The mod wheel adds a subtle stereo motion, via LFO2.

The notes seem to hang on just a tad too long for me, so I turned T4 of ENV4 down to 31. I also brightened up the sound a bit by setting the filter FREQUENCY to 17. Other than these minor tweaks, BANJO is right on the money!

The Patch: PNOUNC

by Kirk Slinkard, Lakewood, CO

This is my entry in the variable-loop-point waveform category. Different positions of the pedal give different vowels. The oscillator sync function is the key to this effect. The further the pedal is forward, the more the waveform is looped.

The Hack

Actually, two things are happening when the CV pedal is depressed. First, OSC2's frequency is modulated upward, sending it outside of its multisampled range (just like Dan Hatt did in his BANJO patch). This creates quite a different timbre for the sound. But the pitch of the oscillator stays constant, since it is then synced to oscillator 1. In effect, different portions of the complete waveform are played as the pedal is pressed, creating yet more timbral variations. It's a bit complicated, but I recently gave a detailed explanation in *Gig* magazine (November, 1989) of oscillator sync and amplitude modulation.

In any case, Kirk has come up with quite an interesting patch that will find a lot of uses. In reality, I don't think that different vowel sounds are produced, but you do get different formants and variations of the basic "aaah" sound. The patch translates fairly well onto an ESQ-1, but you won't have the three controllers - mod wheel, CV pedal, and key pressure - available at once unless you play the patch from an aftertouch-sensitive master keyboard. An alternative is to modify LFOs 1 and 2 so that their vibratos come in automatically after a delay, rather than with aftertouch. Try DELAY=06, L2=25 for starters.

All in all, this is an extremely expressive patch. You can have fun for hours with it!



Bio: Sam Mims is a studio session player in Los Angeles, and a member of the band THE NEWKS. He is a Contributing Editor for GIG magazine, and 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.

SQ-80 PROG: SAX1

BY: TOM MCCAFFREY

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	SINE	LFO2	1	ENV1	4
OSC 2	1	0	0	SINE	LFO2	1	ENV1	4
OSC 3	0	0	0	FORM2	LFO2	1	ENV1	4

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	57	ON	OFF	-	OFF	-
DCA 2	47	ON	KBD	-38	ENV2	63
DCA 3	24	ON	KBD2	-15	ENV2	63

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	59	0	63	ENV3	63	LFO1	63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	29	OFF	OFF	SAW	0	0	0	WHEEL
LFO 2	23	OFF	OFF	TRI	0	0	0	PRESS
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-1	0	0	31	9	3	0	0	0	0
ENV 2	63	37	16	12	9	13	10	51	20	9
ENV 3	63	53	53	11	10	14	9	0	63	0
ENV 4	63	61	61	12	10	14	29	63	18R	0

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

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

ESQ-1 PROG: KORG

BY: TIM EDWARDS

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	SAW	OFF	-	OFF	-
OSC 2	0	0	1	BASS	WHEEL	1	OFF	-
OSC 3	0	0	4	SAW	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV2	63	LFO1	63
DCA 2	0	ON	ENV2	63	LFO1	63
DCA 3	0	ON	ENV2	63	LFO1	63

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	0	14	32	ENV3	63	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	53	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	37	OFF	OFF	SAW	0	1	0	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	63	49	45	0	0	0	50	63	35	9
ENV 3	63	49	38	0	1	8	33	35	25	0
ENV 4	63	55	46	0	0	0	24	63	0	0

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

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

ESQ-1 PROG: BANJO

BY: DAN HATT

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	0	0	PIANO	LFO1	50	OFF	-
OSC 2	-	-	-	-	-	-	-	-
OSC 3	-	-	-	-	-	-	-	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV4	63	OFF	-
DCA 2	-	-	-	-	-	-
DCA 3	-	-	-	-	-	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	10	5	40	ENV1	53	VEL	10

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO2	25

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	0	ON	OFF	SQR	63	0	0	OFF
LFO 2	15	OFF	OFF	TRI	0	0	0	WHEEL
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	0	0	63	0	0	23	0	0	32
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	28	0	0	0	0	40	43	35	32

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

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

SQ-80 PROG: PNOUNC

BY: KIRK SLINKARD

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	SAW	LFO1	2	OFF	-
OSC 2	-3	0	0	VOICE1	PEDAL	43	OFF	-
OSC 3	-1	0	3	VOICE1	LFO2	2	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	OFF	OFF	-	OFF	-
DCA 2	63	ON	OFF	-	OFF	-
DCA 3	0	ON	WHEEL	63	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	33	0	0	ENV1	63	OFF	-

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	0	3	10	PRESS
LFO 2	20	OFF	ON	TRI	0	3	10	PRESS
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	63	63	14L	12	4	0	0	45	0
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	63	63	20L	8	12	0	0	20	0

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

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

Classifieds

USER GROUPS

Let's form a Southern California EPS user's group. Contact Gary Garshfield, 714-978-1420.

Any EPS owners in San Diego interested in sample/sequence swaps, etc., please contact Ken Yates, (619) 229-0268.

SAMPLES

EPS samples for trade by mail or in person. Contact Anthony Siculo at 212-689-6810 (NYC).

Sound effects wanted for Mirage - the odder, the better. Send list, tape and prices to: Tom Skidmore, PO Box 487, Pomona Park, FL 32081.

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Original Ensoniq factory sound disks for the Mirage - disks A1 through A10, B1 through B10, plus #100, #101, #102 and MASOS disks. 24 in all for \$65. Jon LeVeen, 59 Mechanic Street, Camden, Maine 04843. 207-236-8941.

IS IT THE COLONEL OR THE CHICKEN? "Original Chicken" samples for the EPS -- Atmospheres, Mellotron, #1 Tympani, and more! \$10.95 per disk - mix and match for your convenience. Demo tape \$5. RUBBER CHICKEN SOFTWARE CO. Dept. R, PO Box 428, Renton, WA 98057. 206-242-9220.

GET A VFX FOR UNDER \$50! Yes, it's true, kids. Samples of the VFX for the Ensoniq EPS - 10 disk set: \$49.95. Also available - over 1000 EPS public domain samples. Just as good as the factory disks: \$2.95 per disk. Mix and match. PD demo tape: \$5.00. RUBBER CHICKEN SOFTWARE CO. Dept. P-V, PO Box 428, Renton, WA 98057. 206-242-9220.

Over 300 sounds, all original samples for EPS and Mirage. My library has exotic and ethnic instruments, **LOTS** of synths, oodles of sound effects and orchestra hits, unusual uses of ordinary instruments. \$9/disk! And, don't forget my Soundprocess library - "Lush," "X," "DeMity," and "Addy" for your Mirage/Sound- process - only \$25 each, or all 4 (500 sounds) for \$80. Give me a holler! Bob Spencer, 703 Weatherby Lane, Greensboro, NC 27406.

Ancient acoustic instruments sampled for the Ensoniq EPS! **ALL NEW** disks of viols, lute, organs, medieval harp, handbells, krumphorns, rebec, percussion and more! Barry Carson, Minotaur Studios, 52 State St., Canton, NY 13617.

Mirage samples: created with input sampling filter - yielding 50 kHz. Also custom services. 400 sounds. Listings: \$1.00. Demo tape: \$6.00 (includes listings). Mr. Wavesample, 162 Maple Place, Keyport, NJ 07735. 201-264-3512. Make checks payable to Jack C. Loesch.

EQUIPMENT

ENSONIQ 2X EXPANDER - all broken in for you to use. Approved for summer white-water rafting and SCSI... \$219 or best offer (let's haggle a bit). Garth 206-242-9220.

Mirage must go. Includes Super MIDI Disk, MASOS, manuals, format disk, etc. New disk drive factory installed 2/89. First \$400 takes it away. Call Bruce Gerow, Oneioa, NY 315-363-8570.

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For Sale: ESQ-1 synthesizer with multi-track MIDI sequencer. 8-voice polyphonic, 120 sounds, 22,400 note capacity plus 2 Yamaha KS10 monitor speakers and case. Excellent condition. \$1,400. (802) 765-4314.

Ensoniq **ME1 2X Memory Expander** (used), originally \$249.95 list, first \$150 takes it. Call 7-11 PM EST or weekends, 1-407-454-9307.

EPS 2X Expander, used only 2 months, \$195 or trade for OEX-8 8-output expander. Tom McCaffrey, (215) 830-0241.

RAM Cartridges: VFX, \$99.95; ESQ/SQ80, \$42.95 (80-voice) and \$74.95 (160-voice); M1, \$79.95; D10/D20/D50, \$69.95; K1, \$49.95. 5-year guarantee. FREE shipping. For information or to order: **SOUND LOGIC**, 1125 Eleventh St., Ramona, CA 92065. (619)-789-6558.

EPS 4X Expander by Maartists. Approved by Ensoniq. User installable. Totally internal four-layer board designed for ultra low EMI noise. 100% tested. Full two-year guarantee. \$499.95. FREE shipping. For information or to order: **SOUND LOGIC**, 1125 Eleventh St., Ramona, CA 92065. (619)-789-6558.

SOFTWARE

LEAPING LIZARDS Iguana, Chameleon, O.S.3.d, and Iguana Jr. for MIRAGE; ALL FOUR for \$55.00. Mirage Input Sampling Filter, \$75.00. Songwright IV MIDI notation software for IBM, \$75.00. Steve Vincent, 3615 - 66th Ave. W, Tacoma, WA 98466. (206) 565-4701.

I have recently bought an IBM AT with a Roland MIDI-interface. I also own an ESQ-1. Now I am looking for software to control the ESQ, as well as sequencer programs and other MIDI programs. My address is: Anders Wallgren, Studentstaden 22:214, S-752 33 UPPSALA, SWEDEN.

Passport (Master Tracks) 16-track Sequencer Pro, C-64, \$49.95. P/H \$3.00. ORBITAL ACTION MUSIC, PO Box 55191, Grand Junction, CO 81505.

EPS-Sense: IBM Sound Editing System for the EPS/EPS-M reviewed issue #50 of TH. Program: \$50.00. MSCI: IBM VES for Mirage reviewed issue #38. Program: \$25.00, demo: \$7.00. Add \$5.00 for S/H. Send check to: Jeffrey Richter/Donna Murray, 3502 Village Bridge Apts., Lindenwold, NJ 08021. Phone: 609-346-0943.

PATCHES

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One Million ESQ/SQ-80 Patches?!!! NO ... 80 unique alternative patches appropriately titled "The Goosebump Series" for only \$20/data cassette, \$15/Macintosh disk (Opcode format), Demo = Free. P/H = \$1.50 (all orders). The Patchwell, 1826 E Indianola, Phoenix, AZ 85016.

D-50-TYPE SOUNDS, natural reverb, and much more for the ESQ-1 and SQ-80. **SOUNDSET 2** is 40 new patches from the Hacker's Sam Mims. **SOUNDSET 1** also available. \$17.95 each, postpaid, \$29.95 both. Extensive programming booklet with patch sheets included. Specify data cassette or Mirage disk. Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602.

<<<ESQ-1/SQ-80>>> S.S. Productions.... SS-40.I + SS-40.II. Two banks: Finest, most useful patches available. After being disappointed by the rest, I've created my best. Acoustic Simulations, Pianos, Organs, Keyboards, Synths, Exotica, Basses, Bells, Effects, Percussion. Extensive Wheel, CV Pedal, Stereo, Sync/AM implementation. Cassette: one bank - \$16. Both - \$26. Sound list/order, write: Sevan Simonian, 93 Powell Rd., Emerson, NJ 07630. **Skeptical?** Request free datasheet for a patch from any category above.

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SOUND LOGIC ESQ-1/SQ-80 "Modular Voice System". 120 Stereo Voices - The Fundamental 80 plus the Unicorn Series I module of unique voices. Extensive implementation of CV Pedal and Poly-pressure. 64-page Owner's Manual with program sheets and performance notes. All standard disk formats supported. \$39.95. FREE Shipping & Handling. The Unicorn Series II module is now available for \$18.95. For information or to order: **SOUND LOGIC**, 1125 Eleventh Street, Ramona, CA 92065. 619-789-6558.

MUSIC

Alternative 12" dance single just released. 100 percent of the sounds on the cuts are from the Ensoniq EPS. Doing very well in clubs. Available for \$4.99 + \$1.00 for P/H. Ish Records, PO Box 255, Milltown, NJ 08850. Thanks.

OUT-OF-PRINT BACK ISSUES

M.U.G. will provide Out-of-Print issues for cost of materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4 Productions, 622 Odell Ave., Yonkers, NY 10710.

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

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

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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.

Dear Transoniq Hacker,

Hey, all of you **ESQ-1** owners! Don't despair if you don't have those wonderful SQ-80 waveforms! I have found a way to make some very unusual sounds with the ESQ without the regular waveforms. While I was using Dr. T's ESQAPADE, I decided to see what would happen if I sent over the SQ-80 factory presets. Well, out of the 40 presets, I only got maybe 2 - 3 usable sounds, but the rest are definitely for the electronic music buffs. Many are just plain noisy! When I looked to see what waveforms were being used, to my surprise, I found that the ESQ would list the wave as WAVE045, or something like that, if the SQ-80 used one of its extra waveforms. So far this hasn't crashed my ESQ, but, then again, I've only tried this for about two hours now. I'm not too worried about the warranty since my ESQ is 2 1/2 years old. I also tried one of the Hackerpatch sounds (FLUME) and got a very interesting sound. Something like a machine, except for above E5 where it becomes more like a flute with a touch of distortion. I don't know how or why the ESQ makes these sounds, but for right now I'm going to enjoy experimenting.

By the way, your reference to the problem with Dr. T's ESQAPADE in Random Notes is definitely true. It must be a bug (I'm using an Amiga 1000 with 512K). The problem I have is with the SAVE and LOAD SEQ commands. They cause the program to either ignore the command or crash.

The VFX sounds GREAT, Ensoniq!!!! I've got one on lay-away, and hope to have it, along with some other equipment, in a few months. Ever since I bought my ESQ, I have eagerly awaited new products from Ensoniq. I don't think that it is too bold to say that the VFX blows away the competition in both its price range, and the competition above its price range. It is also nice to see Ensoniq being better promoted in the music field. They may not be putting Yamaha out of business, but they are sure holding their own. Keep up the good work! Maybe we'll see something this Christmas from Santa???? Only the Shadow knows.

Well I'd better wrap up this letter. Thanks for all the great articles and reviews, TH. This publication is probably my favorite, and I do get a lot (just ask my checkbook!).

Keep up the great work!
Mark V. Fusco
Austin, TX

[Ensoniq's response - If an SQ-80 sound is played on the ESQ-1 and it uses an SQ-80 waveform which is not available on the ESQ-1, the waveform will show as a numeric value in the display and the DOC chip will play non-existent memory as the waveform.]

Not surprisingly, playing non-existent waveforms may not sound very interesting, but there is no danger of harming the ESQ-1 so have fun!

Dear Hacker:

I am pleased to be the recent owner of a new **EPS** and find it to be quite a challenging instrument. My dealer told me that he doesn't think there is a technical manual (schematics, etc) for the thing.

If that's true, I'm most disappointed. I design computer-based systems for a living. Many employ the 68xxx processors. I feel quite left out if I can't get my hands on a technical manual for a piece of equipment which cost me the best part of \$2000. I'm quite willing to shell out another \$30 for such a manual. Is one available, or in the pipeline?

I found that with a many-voiced sound at full volume, the EPS would generate some nasty distortion ... not the kind you get from an amplifier clipping, but the kind resulting from a DAC being driven by a register which is overflowing. Happily enough, I found that by pulling back on the volume control and boosting my outboard amplifier, all was well. Sure would be nice to know where in the circuit that volume control is located. Hard to do, though, without a schematic...

Your publication is excellent, and I look forward to the next issue.

Sincerely,
Tom Pickering
Middletown, RI

[TH - You might want to check out Dick Lord's article, "Inside the EPS," in Issue #39 to at least get a system overview, block diagram, and pinouts.]

[Ensoniq's response - There are no technical manuals with schematics available for our products. Service is provided at Ensoniq Authorized Service Facilities and is based on a module-swap program. Service manuals are oriented toward diagnosing and replacing defective modules. Any component-level service is performed at the factory.]

Volume control on the EPS is performed in software. As with all digital systems, it is possible to overload the system by playing a large number of full-level signals panned to the same stereo location.]

Transoniq Hacker,

I recently bought a **VFX**, trading in my **ESQ-1**. I'm very pleased with it. I have, however, run into some problems. The following concerns are directed toward Ensoniq. FYI, my serial number is VFX-10579-V.

1. The VFX manual says there is a Rotary Speaker effect with overdrive distortion. There is no such choice on mine. Just the normal Rotary Speaker effect.

2. When I have a program selected that uses the normal Rotary Speaker effect, with no keys being pressed, the audio outputs send a audible click to my amp once every couple of minutes. It ONLY happens when a program uses the Rotary Speaker effect. Repeat - the

keyboard is not even being played.

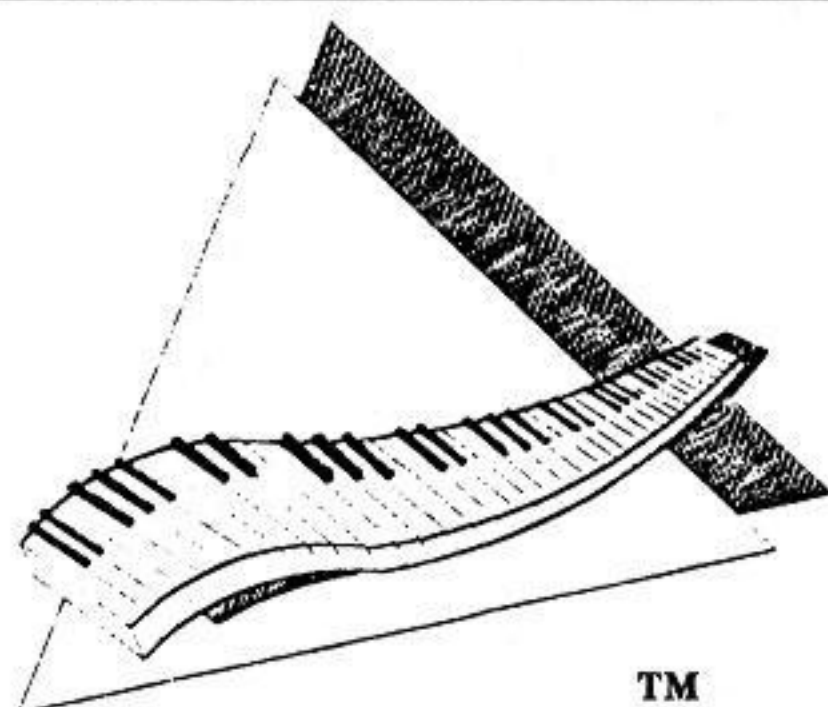
3. There is supposed to be 20 separate presets available with their own effects, programs and etc. - 10 in Bank A, and 10 in Bank B. 20 presets in ROM and 20 in RAM. Well, the problem begins when I edit a preset in say...RAM #1- Bank A. Whatever program I replace in that preset, the same position in Bank B gets replaced also. What this means is I can only have 10 presets! And don't tell me they can have separate effects, that doesn't work either! So, for all intents and purposes... I can only have 10 presets in ROM, 10 presets in RAM, and 10 on CART.

4. Editing and saving Effects on either programs or presets is very buggy. Let's say I take the "DRAWBARS-1" program in Bank-0 in ROM and copy it to a RAM preset-2. Then I change the effect to the "FLANGE+DLY+REV.2" for the preset effect. I then save the preset, go to another preset and play it for a second, and return to the edited preset. When I return, the preset has the "FLANGE+DLY+REV.1" effect! If I again set the preset effect to the "FLANGE+DLY+REV.2" effect and go through the same process again the results are the same. I'll tell you what it takes - set the effect to the "FLANGE+DLY+REV.2" effect, change some settings and then save the preset. When you come back to it it will now be correct. I have recreated the problem with other effects such as "LARGE HALL REVERB" and "SMALL HALL REVERB", so I know it's not just a fluke of that particular effect. I've tried it with the programs in RAM also... same problem.

Also, I have run into problems saving program effects with different settings. I don't remember the exact situation, but the effect sounded good and I saved the sound with the new effect. When I selected the RAM program/sound right after doing that, all of the sudden it sounded like the oscillators were varying the pitch dynamically!!! I wish I could remember the exact situation, but the problem ONLY happened when I went to save the sound with the new effect.

I expect these problems are system software problems. If they are typical of the VFX I can say without hesitation that no live performer will want to use a program with the Rotary Speaker effect. The click is definitely audible. Also, anybody doing any programming will definitely want to save their work AS THEY MAKE CHANGES! You may run into an error that causes the VFX to re-initialize itself, losing all RAM data, programs and presets. In fairness, the VFX clearly says this. If it happened to me, it'll definitely happen to you. I'm NOT a programmer. The above problems have occurred before and after I've re-initialized the unit, so that's not gonna help.

Let me clarify what I said at the beginning of this. I'm VERY pleased with the sound of the VFX, especially in tandem with the on-board effects. This should not scare anyone away from buying one. If you don't, you're just missing out. But, as the first person in town to own one, I pretty much expected some operating system problems. I would also like to



The EPSTM Users Guide

Reviewed in the April 1989 issue of Hacker. This manual was evaluated as being "...impressively thorough." This 75-page manual has a six-page index and menu diagrams for the edit and command modes. It is written to be a reference manual and companion for Ensoniq's own manuals.

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thank the Transoniq Hacker for giving users a vehicle for their concerns. One question remains, however, how are you going to print data for VFX programs? (Laughter) If you're considering it, good luck. (There's a lot of information to put into it.)

John Megehee
Tulsa, OK

[Ensoniq's response - 1. The overdrive feature was never implemented and it wasn't deleted from the first printing of the manual. More recent versions of the manual have been corrected. Sorry for any confusion we might have caused you.]

2. This has been corrected in version 1.72. There was a problem with the rotor algorithm in previous versions which could cause clicks depending on what effect was previously selected.

3. This isn't true. There are 20 presets available for each storage media. When changing PRESET banks, you must actually select a preset (by pressing one of the 10 bank buttons) after you have changed banks using the soft button.

Think of the "Bank A, Bank B" toggle as selecting which bank of presets you can select a preset from. The preset bank doesn't change from one bank to the other until you select a new preset.

4. We were able to duplicate the problem, and this does appear to be a real bug. We are now looking into it. Thanks for finding it.]

[TH - Sam Mims, our resident Patch Hacker, is developing a VFX sheet for patches and we will be running some as soon as we get it and them. (See his letter below.)]

Dear TH,

Please pass my anger along to Ensoniq. Thanks to them I had to purchase a Korg M1R (hey, Ensoniq, notice the "R"?). I use my **SQ-80** as the main sequencer, set up MIDI channels, and record the notes for Brass, Strings, etc. in the SQ-80, then send them via MIDI to the Korg which is set up in Multi-Combination mode. It works pretty well, but I still wish I could use the VFX's sounds instead of the Korg's. Why not a **VFX-R**? I don't have room for another keyboard in my home recording studio, but I have lots of rack space. I told the salesman at the store, "When Ensoniq decides to manufacture a VFX-R, let me know and I will gladly hand over my money." I guess Ensoniq is making so much money they don't want another \$2000-\$3000 from all of us MIDI users. It would seem that the VFX would make a perfect tone module, since it does not have a sequencer or a disk drive, but it does have all those wonderful sounds.

Thanks TH for letting me get that off my mind. In the August 1989 Interface Jon Jacoby said he could not adjust track mix levels and keep those new settings. I have had the same trouble when bouncing tracks via MIDI to and from the Korg M1R. It seems the volume level gets mixed up with the recorded material and my levels return to previous settings every time I select a new sequence. To fix the problem, first select the track, push the EDIT button, then the TRACK soft button, then REM-CTRLS, and answer YES at the prompt. All MOD wheel

and PITCH bend movements will also be lost, but you can then set the levels and they will be remembered. Then select an unused track, re-record any MOD or PITCH movements, and merge them. Hope this helps.

One last thing to TH, I still think you should produce a separate newsletter for synths and samplers. Maybe alternating each month? You could then use the articles that would help both kinds in each newsletter and actually reduce the amount of work that you have to do!

Keep up the good work anyway.

Sincerely,
Dennis W. Dickerscheid
Vanceburg, Ky

[Ensoniq's response - At this point in time we are not actively developing a rack version of the VFX (but we're not saying "NEVER"). Only time (and your comments) will tell us if there is sufficient interest to make such a product worthwhile. As we said last month, we are looking for your input to help us decide what the product and price point should be. (See the letter below from John Epperson.)]

[TH - Regarding separate newsletters - it just doesn't work that way. There's large economies of scale involved in printing operations and everyone would have to wait two months between Hacker fixes. Besides, a large number of our readers own both types of gear, and even many of those who don't are still interested in seeing what's going on with both.]

Dear TH

Thanks for a great magazine and the opportunity to air the following. It required great patience and a lot of research on my part to put this together so please bear with my attempts at being thorough.

To begin with, I own an **EPS**. I bought it because it offers the promise of Multitimbral Polyphony combined with assignable multiple audio outputs at a reasonable price.

However nice that may seem, I have called my EPS dealer and Ensoniq on many occasions with the same fundamental problem receiving promises each time that "It'll be fixed in the next software update."

In its essence, the problem centers around using the Patch Select buttons when the EPS is used with an external sequencer and in Multi Made.

In Multi mode, it is assumed that each instrument will have its own channelized identity as shown on page 31 of the Musicians Manual (Version 1.0). This insures independent communication with each EPS instrument. If one follows all the setup rules correctly, each instrument would have its own unique Controller messages such as volume, bender, etc. These messages should in no way interfere with each other. Otherwise, there would be chaos.

The information provided on page 13 of the EPS Musicians Manual (Version 1.0) illustrates the correct use of the Patch Select buttons. These buttons, however, perform clearly in an undesirable, incorrect, and undocumented manner when used in Multi mode with an external sequencer.

To observe the problem, the setup is as follows: go to the EDIT MIDI page; establish a BASE CHANNEL, set TRANSMIT ON to Instrument Channel, then set MIDI IN MODE to Multi. Now go to the EDIT Instrument page and set each instrument's MIDI OUT CHANNEL to its corresponding channel as per the chart on page 31 of the Musicians Manual (Version 1.0). Finally, while still on the EDIT Instrument page, assign each instrument's SEND KEYS TO to either MIDI (if echo on at your sequencer) or Both (if echo off at your sequencer). (For those who don't have an external sequencer, running a MIDI cable from the EPS's MIDI out to its MIDI in would serve the same purpose).

Now, follow the instructions provided in the manual on page 13. If you lock in any patch on an instrument, it becomes impossible to do any further kind of Instrument-Track button assigning or unassigning, patch locking in or unlocking. Once this occurs, a hard reboot is the only remaining option. (If you're using a sequencer which is set to echo off, you must record and play a sequence in order to obtain the preceding results.)

The use of momentary patch selects causes all instruments to change in unison to the most recent patch selection exclusive of the channel of origin. A momentary patch change on Instrument 1, say "X0", will cause all other instruments to make the same momentary change to "X0" at the same time. To experience the full effect of this, record a sequence with momentary patches on the instrument being recorded. "Overdub" another sequence using another instrument on its appropriate channel and this time, don't use the momentary patch selects. Play the two of them back together. Notice anything unusual about the second track?

Specifically, Controller 70 (Patch Select) messages with values above 32 are a constant source of grief when the EPS is used in Multi mode with an external sequencer. Such messages appear to lose their channelized identity and affect all of the EPS's onboard Instruments as a group - even though the instruments are in Multi mode, set up on their respective Channels. This seems to apply only to Controller 70 messages and no other controller messages that I'm aware of. (Note: Controller 70 values of 0 = Patch Select buttons at 00, of 32 = Patch Select buttons at 0X, of 64 = Patch Select buttons at X0, and of 127 Patch Select buttons at XX.)

My temporary band-aid is to ignore the Patch Select buttons and assign whatever layers I need to the patch "00". This eliminates the need for locking in the Patch Select buttons altogether but, damn it, one reason I bought the EPS was to take advantage of the great effects that only the Patch Select buttons could bring about. The designers at Ensoniq went to great lengths to provide us users with this powerful tool. However, I don't remember reading any advertisement or anywhere in the owner's manuals that those of us with external sequencers would be "locked out" (pun intended).

So, HELP!!! Somebody please give me some good news. I use my EPS and all my other recording equipment to make a living. The Patch Selects are essential. You folks at Ensoniq have to have known of the existence of this serious problem from day one. Either that or else you released the instrument before it was thoroughly scoped out. It's hard

to believe that the problem still exists when the EPS has been on the market for over a year. In any case, the current situation is intolerable and in need of being properly addressed. And I and everyone else like me is hoping the solution is not the EPS MKII. How can one defend the EPS in a studio environment when it can't even perform the most rudimentary of operations - particularly those outlined in the owners manual.

I happen to have a lot of faith in the team from Malvern, PA. You designed an almost 100% great instrument. So don't let me and an awful lot of other hopeful fans down. Show the Keyboard Magazine crowd how good you really are. But, Please don't tell me that OS 2.4 will solve the problem. It hasn't.

Lewis Ross
Portland, OR

[Ensoniq's response - You're correct - O.S. 2.4 doesn't completely fix the bug, but rest assured that we ARE working on it. The problem occurs when the EPS has a "MIDI loop" (its MIDI Out connected or patched to its MIDI In). To avoid the problem for now just disconnect the return back to the EPS whenever you don't actually need it. Thanks for your patience.]

Hi Guys,

I enjoy the Hacker a lot and have sent you several **ESQ-1** patches which were published for your readers.

I'm sure that your people must be aware of the fact that there is a major slump in the retail music biz right now. I guess the problem may be originating with the consumer not being able to find a market for the music they are producing with all these "wonder boxes". Maybe some of your people can brainstorm some ideas for articles to help all us new musicians out here get our goods to the market. There are tons of articles about how to make your synth (sampler, etc) do just about anything, except make some dollar silo bills! Personally, I'd like to have some useful info about marketing my own cassettes. If I could make just a little bit of money, I could justify buying that R-MU Proteus I lust for night and day and I'm sure that the general electronic instrument buyer out here kinda feels the same right now.

David Bell
System One Productions
Morehead City, NC

Help! Please ask Ensoniq the following:

1. When using OS 2.35 I sometimes have the problem that the Patch Select buttons stick -- not physically, digitally! I use CMD/ENV/1 EXAMINE ANALOG INPUTS to look at the Patch Sel buttons and see that the value stays high even though I'm not pressing the buttons. I re-boot the **EPS** and go to this page again. Initially, the Patch Sel value shows 0 after pressing enter. I press one button and get the value 32. I press the other and get the unique value of 96 (32+64=96). I press both buttons at the same time and the value sticks at 127 and will NOT return to 0.

This is very frustrating because you cannot de-select instruments in Load mode when this happens. This problem does NOT exist if I use OS 1.95.



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2. When I use OS 1.95, I sometimes get the message, "ERROR -- 134 REBOOT?" The EPS pauses only a second, then re-boots automatically. I have the EPS connected via MIDI out to an Alesis HR-16, through an Alesis QuadraVerb, and back IN to the EPS. This error seems to have to do with the sequencer of the EPS. I believe it's only happened when I've started or stopped the sequencer.

Thanks for your help!
Aaron Lyon
[CompuServe 73710,773]
Sunnyvale, CA

[Ensoniq's response - This is also related to the letter above from Lewis Ross. Don't use the "MIDI loop" in your set-up.]

Dear TH,

Since our friends at Ensoniq have invited us to let them know how we feel about the sales of rack mount units, I thought I would write and share a recent experiences of mine.

I have been looking forward to getting a new, high quality synth for about six months. With money saved, I began shopping around. I first looked at the VFX. It was a well integrated system that sounded great and had some attractive features. The first question to my dealer was "Will it be released in a rack mount version?" He simply replied, "No." Period. End of Subject. Next Question.

After some asking around to various dealers and other folks, it could safely be said that a rack mount version of the VFX would never see the light of day. So I bought a module from a competing manufacturer. (For your information, I purchased the Korg M1-R.) It doesn't have polyphonic aftertouch, patch select, a number of the programming features or nearly as many voices as the VFX has, but it sounds good and I am extremely happy with it, to say the least.

I have a small studio with virtually no room left for a number of full sized keyboards. Also, the EPS is a such a fine controller that another keyboard is unnecessary. Simply stated: I don't need another keyboard. A second keyboard would be little more than a huge module leaning against the wall or hanging from the ceiling.

I don't suggest you make a rack mount module of the VFX. It is already too late. You have dug our own grave. To make a module at this point would require some drastic feats of engineering and a lot of time. By the time a module could be in production, the next generation of Ensoniq synths will be on the market. Now, had you released the VFX in a rack mount and keyboard format simultaneously, I would not have purchased that "other" synth from that "other" manufacturer. I have been very happy with my Ensoniq products and would jump at the change to own more of them. However, until your products are available in a rack mount form or come free of charge I will be unable to use them. Period. End of subject.

I do not mean to sound elitist. I have had and/or used all of your products (save the VFX) and loved them all. I will not part with my EPS. I think it is the finest piece of equipment (my) money can buy.

Also, since you asked for an equipment list, I

shall supply you with such: Ensoniq EPS with expanded memory and output expander, Alesis Midiverb II and HR-16, Oberheim Matrix-1000, Korg M1-R, Kawai MX-BR mixer (which is about to be replaced with a Roland M-160, which is, by the way, rack mountable).

John Epperson
Mission Viejo, CA

[Ensoniq's response - Thanks for your input - at the release time of the VFX we weren't ready to engineer both a keyboard and a rack with all-new chips and technology. We're not sure that if they're not released at the same time that it's "too late." Let's hear what more of you "Hackers" think.]

Dear Hackers:

I purchased an EPS and have been impressed with the wide variety of tasks it can handle. Receiving the Transoniq Hacker has greatly enhanced my understanding of and enjoyment of the equipment. I look forward to those days when my mailman (who also owns an EPS) places the latest issue in my box.

I have three "how to" questions for you, the folks at Ensoniq, or a reader.

First, how can you sample a sound and assign it just one note on the keyboard?

Second, how can you select a part of one instrument, and then combine it with a part of another instrument? I would like to pick, for example, a drum kit, save 12 of its sounds, and assign them to the lowest octave on the keyboard. Then, I would like add, say, two octaves of bass guitar, and on top of that add two octaves of piano. What you would end up with is 12 percussion sounds on the bottom octave, two octaves of bass guitar, and then two octaves of piano. Any suggestions?

Third, how can you save to disk only one of the four patch selection options? For example, take an instrument such as "Crunch Guitar" -- patch select * *, and save to disk only that sound. This would really cut down on memory usage.

Sincerely,
Carl S. McGinnes
Tallahassee, Florida

[TH - At least when your issue gets lost in the mail, you'll know who to ask.]

[Ensoniq's response - 1. To assign just one note on the EPS keyboard, use the KEY RANGE function (See page 16 of the Musicians' Manual).

2. If all of the sounds are different instruments, you can set the key range of each instrument as shown on page 16, then save this configuration as a performance preset in a bank (as described starting on page 17 of the Musicians' Manual). If not, then you should copy the wavesamples from one instrument to another (See page 27 of the AAG) and reset the key ranges to your liking (see page 16). You'll have to resave this instrument when you're done (you should probably rename it as well).

3. You can copy the active layers from that Patch Select variation to a new Instrument and save it (See page 26 of the AAG), or use

a performance preset as outlined on page 18. It's important to note that both of these solutions may not necessarily save any memory, since most of the patch variations use the same set of wavesamples.]

Dear Hacker,

Back in Issue #42 (Dec. '88) I suggested that interested Hackers send me their home-recorded music and I would compile a "sampler" (pardon the loaded term) tape of music produced by fellow amateurs; I would then dub the selections onto high-quality cassettes and make the project available to the TH community for a nominal charge. I have had only three responses since then, which makes a total of four artists (including myself) for the compilation. I have heard from many more telling me that it's a great idea, so I thought I would give it one more shot with the hope that I'd get a few more responses. Kim Cascone's letter last month, in which he (she?) said, "Someone should put together a compilation cassette of experimental music composed solely on the EPS with the internal sequencer," made me think that it's still a good idea (sans the EPS qualification).

So...if any of you amateur home MIDI studio types would like to have your music included on a cassette compilation for the TH community, send me a cassette with your music. please make it the highest quality tape and recording you can, since the finished product will be at least third generation audio (GIGO, you know). I can handle metal tape, too. Please include a little bio info about yourself (even a picture?), as well as production notes which your listeners will find interesting (equipment used, patches, techniques, tricks, etc.). Sorry, I won't be able to return any materials to you.

What I will do is listen to your songs, choose one song per artist (probably), compile them onto one cassette, and dub copies onto high quality Type II cassettes using a Yamaha dubbing deck. Then when the project is completed, I'll let you all know through the TH Interface, and send a cassette to whoever wants one, for a couple of bucks to cover my costs. There are no restrictions regarding musical style, or even expertise, for that matter. This is strictly an amateur, grass-roots endeavor, intended only as a way for us to share our music with each other, for the fun of hearing what other Hackers can do with their Ensoniq gear. So, dust off the old 4-track, and send me your songs! Mail to:

Steve Vincent
3615 66th Ave., W.
Tacoma, WA 98466

Howdy Hackers:

I'm just writing to comment on a few letters in the August issue: 1) As to Mike Rogers request for individual voice outputs for the ESQ-1: while such a modification would be fairly simple to design and write up as an article, I believe that its usefulness would be debatable. Due to the ESQ-1's (and SQ-80's) use of dynamic voice allocation, any of the 8 voices may be randomly allocated to any sound as needed.

In other words, if you were to install such a modification, you would quickly discover that an output would play Sound A one moment, Sound B a moment later, and so on... with no real way of controlling or predicting how the

voices are assigned, the actual usefulness of this type of mod is probably not worth the effort or expense. Sorry, Mike.

2) I was not happy with Ensoniq's reply to Brian Walker's letter concerning the E-mu Proteus. Since I already own a Proteus myself, I can assure everyone that it is INCREDIBLE, and yes, you can load (and program) new sounds into the critter. In less than a month, I've already created several dozen sounds, which will be available once the market decides on a standard librarian program. I might be able to offer the sounds as a SYS-EX dump on a SQ-80 disc, providing that there are sufficient SQ/Proteus owners out there to make it worthwhile. If this sounds good to you, please write me c/o Mescal Music...

Best wishes,
Charles R. Fischer
Mescal Music
P. O. Box 5372,
Hercules, CA 94547

[Ensoniq's response - We didn't mean to give the impression that you couldn't load new sounds into the Proteus. However, you can't load new samples into it, you can only reprogram the parameters of the existing ROM samples. We were simply trying to point out the inherent differences between a ROM-based sample player and a RAM-based sampler such as the EPS.]

Dear Hacker:

While perusing the manual of my recently-acquired EPS, I turned to the MIDI implementation chart and was thunderstruck to note that the sequencer doesn't receive Song Pointer. Quel Grande Bummer! Suddenly the "smart" tape sync box I just ordered looked like a pretty dumb investment, and I figured it was back to the Dark Ages of starting every playback from the beginning of the song, even if all I want to do is overdub the last bar.

However, when my tape sync box (Cooper PPS-1) arrived, I hooked it up, and just for fun tried starting a playback in the middle of a song.

Lo and behold, it worked! The dear EPS chased and found the Continue point and played from there. I haven't yet investigated to see whether it chases Program Change, Controller settings, etc. But at least the basic function seems to be there. Now then, about Ensoniq's documentation: Page 51 of my Musician's Manual clearly states that the EPS does not recognize Song Pointer. Maybe they should issue an Errata sheet detailing this and other mistakes in the printed manuals.

Rob Lewis
(GEnie: R.LEWIS6)
President
Musonix, Ltd.

[Ensoniq's response - Yep, it's a typo. This will be corrected in the next manual printing.]

Dear TH,

I'm currently going through a reorganization of my setup and have a few questions which have probably already been covered in previous issues. I'm a fairly new subscriber even though I've owned Ensoniq equipment

for quite some time. To give you an idea of what I'm doing and maybe keep someone else from making the same mistake I'll fill you in on my problem.

After several years of "Jamming" with some of the guys, I found myself alone with a Korg DW8000, a Mirage, an ESQ-1, an SQ-80, a DSP and the EPS and not really knowing very much about any of them. A typical case of techno-envy. As a new piece of equipment came out I snatched it up. I must also say this was before I got married and now my financial situation has changed considerably. I should add that I've also got the complimentary equipment such as a mixer, Atari 1040, Carver amp and speakers and no money in the bank. In the past month I've sold all of my keyboards except the EPS and bought the VFX. I can now re-invest some of the "keyboard money" into useful things like an effects unit or expansion for the EPS. What I'm trying to get at is for those of you out there like me, learn the equipment you have now thoroughly. Don't buy something now because you want a specific sound until you've exhausted all possibilities with your current setup. You may find a sound or whatever acceptable enough to do the job.

Enough of my self pity. First question is: have you done any research on the Maartists 4X/8X SCSI Memory Expander for the EPS? I've had one store manager tell me it's not compatible. If it does work and work well, it sure beats the Ensoniq 4X for price. Second question is about a new product from Sharp. They are currently making a magneto/optical diskette drive that uses a standard 5.25 inch diskette and can hold a whopping 595 Mega-

bytes. The FY-700 model also has an SCSI port. It could be an attractive alternative to a dedicated hard disk for the EPS, depending entirely on the price and compatibility. There's some food for thought for the future.

Sorry this is so long but I tend to run at the mouth (or keyboard). Well, keep up the good work and I'm looking forward to some issues on the VFX.

Sincerely,
Joel C Hartzell
San Francisco, Calif.

[Ensoniq's response - Use of the Maartist expander will not void the EPS warranty. However, the ENSONIQ SCSI interface cannot be used with the Maartist product without voiding the warranty. We have not tested the Sharp drive so we don't know about compatibility at this time.]

[TH - Ensoniq sends updates for the little list of SCSI drives that we publish every month. If it ever gets tested, it'll show up on the list. (Readers are always welcome to pass along their experiences with various drives.)]

Interface:

1. Does the ESQ E-Prom RAM cartridge contain a tiny battery, which, when dead, results in loss of RAM cartridge data, rendering the RAM cartridge useless? (C.f. KEYBOARD Jan 1989, page 72 section about RAM cartridge/card batteries in general.)

If so, what is the duration of data in ESQ E-Prom RAM cartridges?

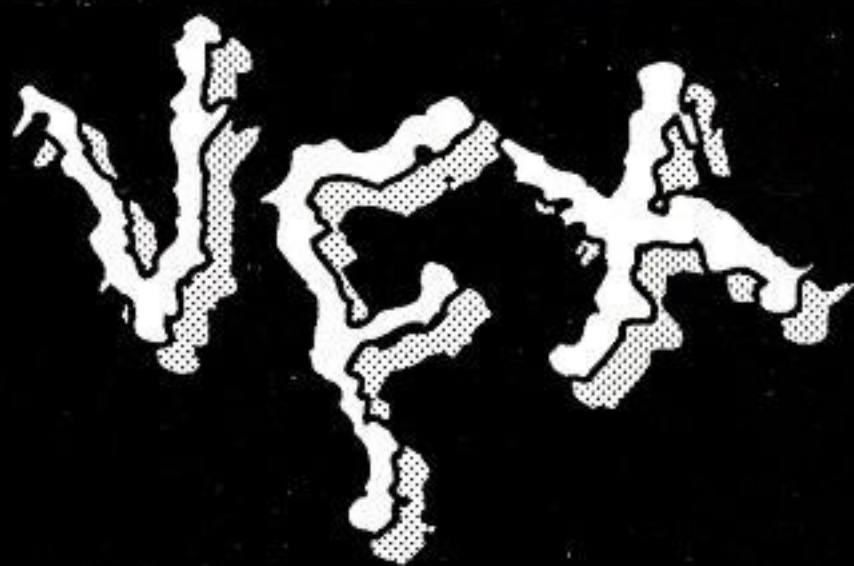
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2. The Lithium Battery is "not readily available" according to Transoniq Hacker Issue 36, August 1986 page 27. The lithium battery must be replaced by Authorized Service for Ensoniq keyboards, Yamaha RX-Drum Machines, and other synthesizers except for Roland and Casios. What happens, say in 10 years, if Ensoniq or Yamaha manufacturers no longer exist, or stop providing support for the essential lithium battery as they do now, and only plan to do in the future, without firm guarantee?

Will there be other sources for this essential battery?

G.J.
Washington, MO

[Ensoniq's response - All of our storage cartridges use E2PROM memories which do not require batteries and will, for all practical purposes, never wear out.]

The lithium batteries used on the mainboards for RAM back-up are common batteries available from companies such as Panasonic.]

Transoniq Hacker -

Concerning the **ESQ-1** and **SQ-80**, it seems to me that the programmable ambience effects that they can produce has been a largely overlooked subject. In my back issues, I came across 2 articles on this (Issues 37 and 43). I have been programming my SQ-80 in my underground laboratory for about a year now, and I have come across an amazing array of ambience and delay effects, each with virtually unlimited variations. Your magazine played no small part in this. In fact, I have not been able to find any digital delay unit that came close to the ESQ-1/SQ-80's capabilities, and therefore I have not bought one. Anybody who thinks that a good reverb unit enhances the synthesizer's sound doesn't deserve an Ensoniq, they should be playing a Korg instead! Anyway, I hope that there is a possibility of seeing more articles on this subject in the future, especially after Sam Mims said this in Issue #43: "We'll cover some simple tricks this time, and get on to more complicated delays and reverb effects some other time." Also, after doing various tuning experiments with the "NOISE 1" and "NOISE 3" waveforms, I noticed a remarkable similarity between them. Just what relationship do these two waveforms share?

Your subscriber,
Kirk Slinkard
Lakewood, Colorado

[Ensoniq's response - The NOISE 1 AND NOISE 3 waves are just two different collections of random data points. Since both are random, they have a certain similarity but each has its own characteristics; especially when played over different ranges of the keyboard.]

[TH - Sam's been a pretty busy writer lately. Maybe this'll remind him.]

Dear TH:

I've owned an **ESQ-M** For about 2 years now. I use it with a MIDI Guitar Controller and have enjoyed it very much. However, it has wiggled out on me twice.

About 7 months ago, while in the middle of a rehearsal session, the LED display went out.

The module still played sounds, but only the last one I was using. None of the buttons, slides, or switches functioned. I tried resetting the power switch but to no avail. I brought the unit to a local authorized Ensoniq repair shop, but after more than a week of bench burning they hadn't found any problem. I checked it out and sure enough everything was fine (except for 2 patches - ANABRS & KOTO 2 which were scrambled. I remedied that by copying my backup EEPROM).

So everything was fine until last night. I turned on my rack and was in the process of changing MIDI Modes when - BANG - out went the display. Now I can work the front panel but totally blind! Resetting the power sometimes brings the display up but it quickly goes out. Right now I have everything disconnected. Before going back to the shop, I wonder, is there any light you can shed on this problem?

Very truly yours,
Bob Samala
Elmwood Park, NJ

[Ensoniq's response - This sounds like an intermittent problem with the display board. If you really lost all keypad and slider functions, the problem is most likely in the cable that connects the mainboard with the display board.]

Dear Hackers:

First, let me give a big, "Aw, shucks!" to Kirk Slinkard, and to Jane Talisman for the very kind words in August's "Interface." It's nice to see that others share my excitement for "Hackerpatch"; I always thought it was a great idea, even before the Hacker had ever heard of me. Kirk is very generous to suggest doubling my pay (hey, wanna be my manager?), but the truth is, I'd still be doing it even if there were no pay.

Because I see all the patches that readers submit before they are published, I'm placed in a position that could be viewed as a "conflict of interests." As you may know, I am the owner of Syntaur Productions; while the main product of this company is music production, I also market synthesizer patches for the ESQ0-1/SQ-80. Now, this is certainly not a multi-national corporation at work here, it's just me, operating out of my home. And the patch market business is really just a sideline; I program the sounds for my use in studio sessions and in live performance. If I can spend a little extra time tweaking them and documenting them, with the reward of selling a few sets, then why not?

Well, the only "why not" reason I can think of is that it may make some readers wonder if maybe, just maybe, some of those "not yet published" reader patches are being sold by Syntaur Productions.... It's a topic that Jane and I have discussed, and it has come up again, since I just released my second set of patches to the market. Neither Jane nor I want to say, "Alright, Sam, you can do one or the other, but not both," so I decided to write this letter and explain my position, and hopefully alleviate any fears that some readers may have. (I will point out that I don't review any commercial synth patch sets because of this dilemma.)

In only one instance has anyone suggested that I might have "borrowed" a sound from "Hackerpatch." The person had sent in a program that emulated a certain sound, and

then noticed that I was selling a program that emulated that same sound. Now, his query was based on the name of my patch only; he had not heard it. And it had been some time since his was sent in, and it had not been published.

I immediately phoned him, and assured him that I had not stolen his patch; to verify that, I sent him a copy of mine, which in no way resembled his. I was then surprised that he was concerned that I had stolen his "idea" for a patch. In actuality, I was duplicating a sound that was outlined in the Minimoog (ca. 1971) owner's manual. (But let's face it - you can't hoard an idea for a sound. If you could, who would "own" the rights to strings, brass, and electric pianos?)

Anyway, the situation was resolved, and even though I wasn't overwhelmed by his patch, it was eventually published. (The ones that overwhelm me get published right away; the ones I see no use for get rejected; the others sit in "purgatory" for a while.) Since that time, whenever I receive a patch that resembles one of mine, in concept or whatever, I take the liberty of writing the sender, explaining the situation, and enclosing a copy of my patch, just to avoid any speculations.

Now, certainly I've learned some things by taking apart all of these submitted patches, and I'm sure that part of this knowledge has crept into my programming. But those patches that really offer something unique are the ones that are published, and everyone has the opportunity to learn from them. Another situation that occurs is that someone submits a patch that relies on a technique that I've been exploiting in my patches, and at that point, I offer to the readers a full explanation of the technique, even though I had previously "reserved" it as a special trick. (You gotta have some secrets, ya know. And until someone else discovers mine I reserve them for my customers. Fair enough?) The latest example of this was John Ludbrook's BASWEH patch, which used a technique of moving the multisample split points, and which I discussed in detail in my article in the July issue (page 6).

So, I hope that with this long-winded (sorry) explanation, it won't appear that I'm abusing my position as resident patchmeister. If you disagree, then by all means fire off a letter to the "Interface" (and I'll see to it that none of your patches ever get published - just kidding!).

And finally, one more note about the "Hackerpatch" - we'll soon be adding VFX patches. In the very near future, we'll publish a "standard" patch sheet, and then we'll expect you VFX-ers to start those cards and letters coming. I've also wondered about including Soundprocess/Mirage patches - is there enough interest?

Thanks for hearing me out, and thanks for helping make the Hacker the only magazine that I read cover to cover the day I receive it.

Sincerely,
Sam S. Mims
Syntaur Productions
North Hollywood, CA

[TH - Could you explain a little more about the part about "doing it for no pay"...?]

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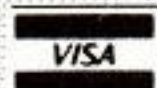
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Dear TH:

(I have one question. Lucky you!)

Why doesn't my **EPS** come with a CRT port for a monitor? Why? I want my CRT.

Sincerely,
Rick Rogers
Tinley Park, IL

[Ensoniq's response - The extra cost of a video interface is not justified for the few players who would make use of it. It would be much less expensive and more versatile to buy a Commodore 64/128 or a PC clone and add a MIDI interface.]

Dear TH

I have a few suggestions I hope Ensoniq will consider incorporating into the **EPS OS**. (I'm envisioning that ad Ensoniq took out a few months ago with all those smiling Ensoniq engineers rolling their eyes towards heaven and a caption reading, "Just what we need, George, more suggestions!")

Anyway, here goes. I, for one, would find it most useful to have a Load Disk function. So that if you had, for example, eight instruments on a disk, the EPS could automatically load the little devils in order onto tracks 1-8. Perhaps it could be set up so that if you had twenty instruments on a disk, you could quickly load disk instruments 9-16 on tracks 1-8, or perhaps disk instruments 1-4 could be automatically loaded onto tracks 5-8. This would seem to me like a logical, timesaving step that could fit somewhere in between the

Load Instrument and the Load Banks functions. You could load more than just one instrument at a time without taking time to set up banks. There would be more flexibility than with the Load Instrument function, and less than that of the Load Banks function.

Secondly, would it be possible to use the left pedal on the SW-5 foot switch so that you could change presets by pressing the switch with your foot? When I'm playing live, 99% of the time I'm using both hands. Changing presets with a foot pedal would be a very useful feature!

Thanks TH and Ensoniq for supporting this forum for ideas. Ultimately, I'm sure this will result in better products for everyone!

Also, I have some incredibly good samples for the DSS-11 must have transferred (preferably via computer) to the EPS. If there's anyone out there who could possibly do this, please let me know.

Your friendly Hacker cultist,
George Finizio
714-792-5801

[Ensoniq's response - Since a "load disk" function can already be accomplished using a bank, and the bank only needs to be set up once, it's not likely that we would make this change. There is also a good possibility that all of the instruments wouldn't fit into memory anyway.]

We actually did implement the preset changes using the SW-5 on the VFX. Good idea.]

Transoniq Hacker:

Regarding Issue #42 page 14, Jim Johnson mentions **ESQ** tape sync outlets for sequencing with pre-MIDI drum machines.

Please ask Jim to explain with a schematic diagram how to adapt the 5-pin DIN Sync on Roland Drum Machine TR-606 to the ESQ Sync Phono plug directly.

A second alternative from 5-pin DIN sync to ESQ sync phono plug indirectly might be through what type of device "DIN to Phono" Box? What brand name and number? But the expense would defeat the cost effectiveness of using a pre-MIDI drum machine.

A third alternative to using the Trigger Out/Gate mini phono plug would sync to a fraction of the tempo on ESQ sequencer using TAPE SYNC clock.

The pre-MIDI companion to the Roland Drum Machine TR-606 was the Bass Line TB-303 with DIN sync.

G.J.
Washington, MO

[Ensoniq's response - We defer to the expertise of Jim Johnson.]

[Jim Johnson's response - In the October '88 issue of Electronic Musician on page 78 there's a schematic for a simple circuit to interface the Roland SYNC-out to a pulse clock input like that on the ESQ's tape SYNC input. Going the other way is quite a bit more complex and would involve deriving two signals - a clock and a start/stop signal from the ESQ's clock output. With the schematic from EM you'll need to press START on the ESQ before starting the drum machine.]

Transoniq Hacker:

If anyone knows where a MIDI full-keyed organ Pedalboard can be obtained, please write to my address below.

- 2 octaves pedalboard (Level), or
- 2 octaves pedalboard (Concave)
- Bench to fit over 2 oct pedal keys.
- Raised level area to place expression pedals, sustain pedals, and other effects pedals.
- Keyboard stand that will fit around pedal keyboard and not get in the way.

OBJECTIVE: to play some synthesizers with one's feet via MIDI, while playing other synthesizers with hands.

G. JAEGER
Rt 1, Box 197
Washington, MO 63090

Dear Mighty Editor:

It's been a long time since I've wrote and whined - a lot of things have been building up in my little head lately - here goes...

I sure do appreciate OS 2.4 (**EPS**). COPY DISK function is great - here's a few questions and comments -

1. What does RESTORE mean? I sure would like to fix some of my screwed up disks. Is it an anti-fragmentation function (for hard and floppy disks)?

2. Why do you have to insert the source disk

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twice when using DISK COPY on a 2X-equipped EPS? If a floppy only contains 1585 blocks, shouldn't it copy in one pass on a 2X (2024 blocks)?

3. Sure do miss the INST-SEQ-MIDI-SYSTEM lights when you're in LOAD mode - was it forgotten or nixed for more space? Sometimes I can't figure out what kind of file I'm loading unless I have those lights.

4. I thought we had limited OS space - TAP TEMPO seems pretty useless to me - if push comes to shove, axe it!

5. I feel this EPS machine still crashes too much (for me). Typically, it crashes once every 4-6 hour sequencing session. I should point out, though, that all the problems are primarily in the sequencer (that's the most software-intensive part of the EPS). I hope that Ensoniq would renew their commitment to debug the thing - I know they have to focus on the new instruments, and I would encourage them to do so (I want them to stay in business), but the EPS just has a little more to go. Then they can let the third-party people pick up the esoteric support.

EPS OS WISHFUL-HOPING-PLEADING SECTION - I really like AUTO-MIX. It's really helpful to easily fade in or fade out or do some other subtle thing. But there's a slight problem. Say you've made your sequences, edited them into a song, and then AUTO-MIXed some fades and volumes in. You think you're done, but then you realize you want to add or drop a verse. At this point you can add or drop that verse, but now you have to do all those fades and crescendos over, since they are recorded on the song tracks and are now misplaced in respect to the song (since the song length has changed). Bummer. What about simply implemented AUTO-MIX on the SEQ tracks, too? Not only would that make the stand-alone SEQ self sufficient, that also would solve our little problem as described above. Also, can we get it so you can have access to the tempo while the SONG is playing? Or even SEQ editing (especially tempo-wise) while in SONG mode (like the ESQ-1)?

One more OS thing. 2.4 "fixed" the way program changes are transmitted from the INST panel buttons. Now they transmit whenever you select them, no matter if you're switching from another instrument or just selecting from scratch (which I believe Ensoniq originally intended it to work). In my live performance applications, I don't want any program changes sent, so 2.35 suited me fine. I could switch around without screwing up my other MIDI modules. So... I use 2.35 for live, 2.4 when I'm back in my studio. Different strokes for different chickens, I guess. What about this... the EPS can switch program changes received off, so what about program changes transmitted? Right now there's no way to prevent them from transmitting. Replace TAP TEMPO with that.

My EPS blew up recently (yipes!). WARNING: if you have the 8-out, listen to Ensoniq for a change and don't plug or unplug it while the EPS is on. I got into that nasty habit and paid the price (steam plume; i.e., blown quad op-amp at the output). Fortunately, with help from a local Ensoniq service center (Steve Paulik, Sound West, thank you!), and a couple calls to Ensoniq Customer Service, turnaround time was cut to two days! I can't thank Ensoniq enough for giving me that

special attention they seem to give all their customers. Listen, service doesn't have to be a prerequisite for a small company, but I can tell that at Ensoniq it's a top priority.

Seeing that I've got space, I'd really like to thank all the people I've been able to help through Transoniq-Net and Rubber Chicken Software. This American society tends to be pretty rude, but all the Hackerpeople seem real pleasant. I actually look forward to calls! Everyone is extremely courteous, patient when details need explaining, accept "I don't know" for an answer, and laid back enough to just talk about what kind of music they play sometimes. In a world that seems to be screwing up more every day, these types of attitudes really pick me up and motivate me to go on further in what I do. Thank you!

Best wishes to Ensoniq Corp. on their new VFXsd. Looks great. I worry about Ensoniq being bought up by Burger King or some evil non-American conglomerate. Could it be that our days are numbered? Ok (just for fun, kids), let's all say it together... VFX RACK VERSION!

Whitman sampling,
Garth Hjelt
Rubber Chicken Software
Renton, WA

[Ensoniq's response - 1. RESTORE is used to restore backups of a hard disk, but is not implemented yet. Stay tuned.

2. We're not sure why it does that. We should point out that there is a problem in the copy function that will be corrected in the

next OS release (See last month's Random Notes).

3. Thanks, you've found a bug! We're already looking into this.

4. TAP TEMPO was a requested feature that was easy to add.

Trade-offs in reference to an operating system are not that simple. It's a question of how much code space can be made available and how easy it is to add a function. We have not given up on improving the EPS, but we must concentrate on fixing any bugs over trying to rearrange the functions of the product to add new features.

Thanks for the kind words. Negotiations with Burger King are only a rumor, and totally unfounded (at this time!).

Dear Hacker,

My friends and I have purchased a lot of sound disks, but the best we have heard are by Cosmo Watts. Everyone should buy one of his.

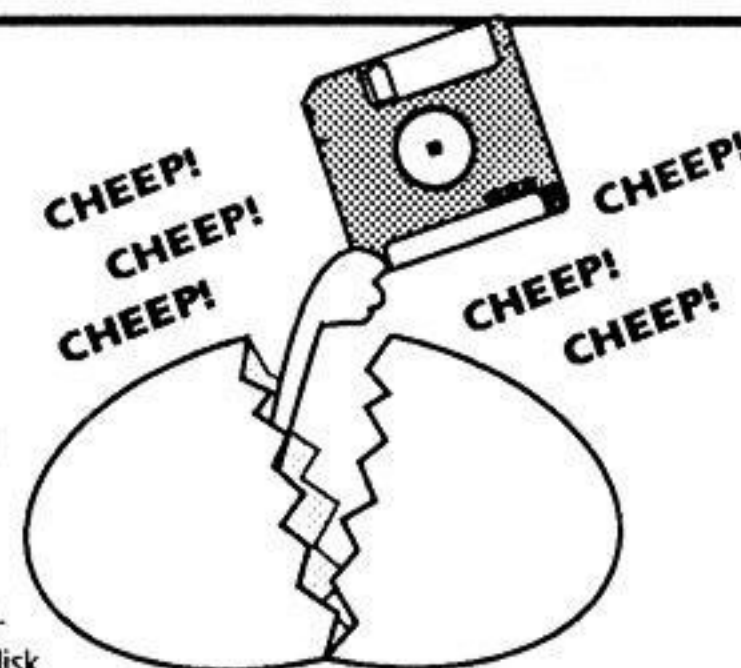
Does Ensoniq have a double-density disk drive for the EPS?

Thanks,
Jim McDonald
Fayetteville, AR

[Ensoniq's response - The Sony drives we use are double-density.]

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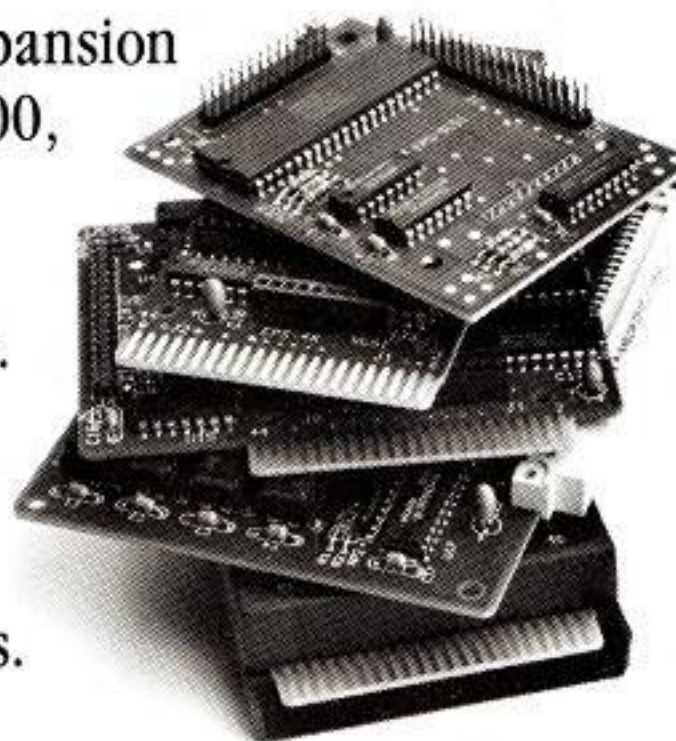


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