TRANSONIQ HACKER

The Independent News Magazine for Ensoniq Users

VFX Effects

by Erick Hailstone

One of the most accessible areas of programming the VFX lies in its onboard digital effects. Today there are so many high quality digital effects around (at reasonable prices), most of us have had experience with some or many of them. You can apply this experience to tweak VFX sounds or to alter them severely. Even if your experience is limited to low cost stomp boxes you can apply this knowledge. Here are some discoveries I've made as I programmed my first set of VFX sounds.

My main instrument is guitar, so one of the first sounds I worked on was a solo distorted guitar. On my own guitar I use digital reverb, digital delay, and chorusing. These effects can be closely simulated by selecting the effect [FLANGE + DLY + REV .2]. Let's start by selecting the sound [FLNGE - FIFTH]. This is the second sound in Bank 1 of the VPC-100 cartridge.

Select [Effects].
On Page 1 set [DECAY - TIME = 50] [REVERB MIX - FX1= 44 FX2= 36].
On Page 2 set [FLANGER RATE= 50 MIN= 050 MAX= 100 FEEDBACK= +73].
On Page 3 set [DELAY TIME= 226 REGEN= +34 MIX= 20 REVERB HF-CUT= OFF].

The **Reverb** will be that of a small-to-medium size room. You can definitely hear the reverb but it decays quickly. This adds depth to the guitar sound without drowning it in a sea of reverb. The Flanger effects sweep the resonant frequency from low to high without disturbing the primary pitch. This creates a sense of motion. The Delay settings create (approximately) 3 - 4 repeats per second mixed back from the the primary sound. Like the Reverb, this is set to create depth without drowning the main sound. Try experimenting with the [DELAY TIME] and the [MIX] settings. Many people set repeating echoes in time with the particular song they are playing. The [FLANGER] can be subtly varied by changing the [MAX] rate.

One of the effects that I am ecstatic about is the **Rotating Speaker** effect. This is an electronic simulation of a mechanical device called the Leslie speaker used with electronic organs (most notably the Hammond B3). This effect allows you to set up a chorusing/tremolo at two different speeds and gradually change between them. Although this effect is heard most often with organs it works well with many instruments. Select the sound [ROM BANK 0] DRAWBARS - 1. Use the Copy function to copy the effects. Now copy the effects on to el pianos, guitars, voices, etc. Here are a couple I found:

Select the sound [ELEC-BASS] [ROM BANK 5].
Select [EFFECTS] and call up [ROTO-SPKR+DELAY].
On Page 1 set [DELAY= 120 EFFECT MIX - FX1=05 FX2=30].
On Page 2 set [HI-ROTOR SLOW=04 FAST=21 LO-ROTOR=ON MODSRC=MODWHEEL MODE=CONTIN].

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On Page 3 set [FEEDBACK LAG=020 REPEATS= +15 AMOUNT= +00 STEREO WIDTH=99.

This effect will be a light chorusing that speeds up as you push the [MOD WHEEL] forward. Try these same settings with the sound DIGIPIANO - 1 [ROM BANK 1].

One of the most interesting effects in the VFX arsenal is the **Dynamic Reverb**. This effect gives you the ability to change the decay time of the reverb using the VFX Mod Sources. Here's an example: select the sound DIGIPIANO-1 [ROM BANK1]. In the Effects section select [DYNAMIC .REVERB] and make the following changes:

On Page 1 set [DECAY - TIME=31 REVERB MIX - FX1=46 FX2= 25].
On Page 2 set [REVERB DECAY - MOD= +30 PRE-DELAY= 000 MODSRC= VELOCITY EARLY-REFL .LEVEL= 19].
On Page 3 set [REVERB FX2-MODE= LEFT .WET/RIGHT .DRY REVERB HF-DAMPING=65].

We now have an electric piano with a small/medium room reverb. The Reverb decay is controlled by velocity. If you strike the keys lightly the reverb decays very quickly. The harder you strike the keys the longer the decay time of the reverb. If you wish the differences in velocity to be more extreme, set the [REVERB DECAY - MOD= +52]. Now when you strike the keys at the maximum velocity the reverb will take six or seven seconds to decay. Change the [MODSRC] from [VELOCITY] to [SUS-PEDAL]. Play a chord. Notice there is little or no reverb. Press down the sustain pedal and play the chord again. You will hear the chord sustain with tons of reverb. Adding reverb in this way enhances the sustain characteristics. This effect is particularly useful with an acoustic piano. With the sustain pedal engaged there is a more natural sense of the piano strings and sound board interacting acoustically. Setting the [MODSRC] to [MODWHEEL or MOD PEDAL] allows you to increase the reverb decay time for specific notes or groups of notes. This can be an unusual solo technique.

Flangers can be used to create a sense of motion or to emphasize certain harmonics. Although we tend to associate this effect with electric guitars or synthetic sounds, some interesting things happen if we apply them to acoustic sounds.

Select the sound TENOR SAX [CART BANK 0].
Next, press [Select Voice]. Make sure that the voice,"SAXOPHONE" is underlined.
Now, press the [OUTPUT] button twice and change the [DESTINATION BUS] from [FX2] to [FX1].
From the Effects section select [FLANGER+REVERB .1].
On Page 1 set [DECAY-TIME= 63 REVERB MIX - FX1=29 FX2=25].
On Page 2 set [FLANGER RATE=25 MIN=040 MAX=060 MODSRC=TIMBRE MOD= +45 MOD= + 57].
On Page 3 set [FLANGER MIX-LEVEL=67 FEEDBACK= +62 REVERB HF- CUT= OFF].

The reverb settings produce a medium size room. The Flanger gives the sound a more metallic quality by sweeping through harmonics. The TIMBRE control will determine where the sweep begins. The lower the Timbre slider is set, the lower the starting point of the sweep (and conversely). This effect can be intensified by raising the [FLANGER RATE], [FLANGER MIX LEVEL], or [FEEDBACK] amount. Copy these effects settings and try them on other patches. I tried it on [ELEC-BASS], [ROM BANK5] and [WOODY-PERC]. The results were unique and musically useful.

The "COPY" function will allow you to come up with many interesting variations. I suggest that you find effects that you enjoy and copy them to other patches. Be brave - nothing will break. You'll have a great time. You'll come up with some new sounds, and learn more about the VFX.

Bio: Erick Hailstone is a partner in The MIDI Connection - a Portland based consulting company. He studied composition at Berklee College of Music in Boston. ▬

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News from Ensoniq

O.S. 1.37 is now available for the VFX-SD. See your dealer for more information.

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News From Hacker

Not much news from the Hacker this month. Still running low on Mirage and ESQ-1 articles. VFX is building up. So it goes...

Cryptic note department: If you recently bought a gift subscription for P. Elam, please give us a call.

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HELP WITH QUESTIONS

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VFX QUESTIONS - Sam Mims, Syntaur Productions. 818-769-4395. (CA)

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.

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

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Sequencing Shortcuts

by Gary Dinsmore

Make your sequencing time go further by using the command-track and command sequence commands. These commands allow you to copy tracks from instrument to instrument for example, or append portions of one sequence to another, or merge two tracks into one.

We will start with a relatively simple but useful technique to create a distinctive drum sequence. First decide whether the song is in a basic two, three or four beat (or other) rhythm. Create a sequence with the appropriate time signature, and give it a meaningful name. I usually delete SEQUENCE 1 at this time, or if 4/4 is the correct time signature, you can use the "Rename Song-Sequence" command to give it a useful name. (Note: I just recently upgraded to the Maartists 4X, and now I cannot delete a sequence that has nothing in it. My EPS locks up with "...EDITING..." displayed and must be cycled off to recover.)

The next step is to load up some drums. This could either be a MIDI instrument to play a drum machine attached to the MIDI out, or an internal instrument like "Power Drums." For this exercise we will assume the "Power Drums" instrument in instrument 1 position. Now select your first sequence name under "Edit Sequence."

Let's create a basic "bass drum-ride cymbal" sequence. This will run the length of the song, then we will record breaks and drum solos over the track when we have completed the other parts.

We can set the metronome click "on" and the sequence countoff to "click" under the "Edit Sequence" page. Start the record and play a single base drum stroke on beat one of the first measure after the countoff. Stop the recorder, and answer yes to the save the sequence question. Now quantize this by pressing "Command Track," double clicking on "track." Press "Enter-Yes" and answer "Yes" to each of the questions to quantize track 1, bar 1 to 1, and 1/4 notes. That should pull the single bass beat exactly to beat 1 and give you a repeating one measure drum beat.

Set the "Record Mode=" to "Add" on the "Edit Sequence" page. Practice your ride cymbal for a few moments, then start the recorder again. Tap in your rhythm. When the measure is finished the recorder will stop and loop back and start playing the finished sequence. Be critical and throw it away if it is not perfect. Once you have what you want, accept it. You can add other drums to the basic pattern, building it up until you get what you want. For our example we will stop with bass drum and ride cymbal. We will still have the option of adding accent strokes, breaks and solos after the track is complete, so stay on the lean side for the basic track. Now turn off the metronome click and change the record mode back to "Replace."

The next step is to append this sequence to itself several times to provide enough measures to more than encompass the phrase or verse you are sequencing. A word of warning here, though. If you are using an older operating system, lower than OS 2.35, this will give you progressively longer measures. It works fine with OS 2.35 or higher. Append sequence simply adds the first named sequence to the second named sequence. The first named sequence is not changed if it is different from the second named sequence. If they are both the same sequence name, the sequence simply gets longer. The first time you append you get a two measure sequence. The second time you have a four measure sequence. You then get eight then 16 and 32. Once the sequence is long enough, that is longer than you need, you trim an appropriate number of measures off the end with the "Change Sequence Length" command. Both commands are under the "Command Sequence" pages.

We will pause a moment to go through the steps. Press "Command" and "Seq-Song" and scroll to the "Append Sequence" page. Press "Enter-Yes" to start. You use the up and down keys to select the sequence name to append from (the one that doesn't get changed). Next press "Enter-Yes" again and select the sequence name to append to. The first named sequence will be added to the end of the second named sequence. The first sequence is not changed except in the special case where the two sequences are the same sequence. In our case, this is true, and our one measure sequence becomes two measures long.

Now to trim the sequence once you have more than enough measures. Press "Command" and "Seq-Song" and scroll to the "Change Sequence Length" page. Press "Enter-Yes" and change "Add" to "Delete" with the up and down buttons. Scroll right two cells and use the data slider to pull "At" down to 1. This is where the first measure will be deleted. Next move left to the center cell and with the data slider and/or up and down buttons indicate the number of bars to delete. The reason for this convoluted procedure is you can only delete one measure at a time if the right "Add" cell indicates the last bar of the sequence.

I firmly believe in saving what I have at every logical step. At this time you should "Edit Song Steps" select the name of the first sequence as "Step 1." With the left cell displaying "INS," press "Enter-Yes." This inserts the sequence as step 1 of the song. Now press "cancel/no." Scroll to "Save Song & all Seq.," give it a name and save it. If you get in the habit of saving often, you won't loose half a day's work when some lout trips over your power cable. That lout could be you just going for cup of coffee.

Now let's load up our solo instrument, and record the solo melody track. You will have the drum track to peg your tempo and rhythm. Save the song at this stage too.

This is where we start saving time. Look over the song and find where things repeat, or the melody passes to other instruments. I handle repeats with alternate endings with the "Copy Sequence" command. This is found under "Command" "Seq-Song." Press "Enter- Yes" to start. Scroll through the available sequences to find the correct sequence. Press "Enter-Yes" again, and you will be offered the next available default sequence name. You can scroll through the name and change it to suit your needs. For example, you could name it "VERSE 2."

If it is the same length as the original, but simply has different notes in the last measure or two, simply "Punch-in" the new part. That is, set the sequencer for "Replace" and start playing the sequence with the desired instrument up. Press "Record"

and the display will change to a flashing "ODUB" indicating that it is ready to over-dub new material. At the exact place the new notes starts, simply start playing the new notes. At the end you will get a chance to audition the new track and choose the new or the old. There is a special problem if an existing note is replaced by a rest. You have two choices, first is to play a single dummy note at the correct time to start recording. (The flashing "ODUB" changes to a steady "ODUB.") Make this note either very high or very low on the keyboard and you will be able to remove it with the "Erase Key Range" under "Command," "Track." The second choice is to use the "Event Edit Track" command under "Command," "Track" to delete the notes in this measure or measures. You will then have a clean track to start your "punch-in" from. If this new verse or whatever is a different length, simply change its length under the "Change Sequence Length" command.

Now let's take a look at another possibility. Perhaps the theme moves from voice to voice. The "Copy Track" is now the appropriate choice.

I will demonstrate with a well known if not trivial example, "Frere, Jacques." I started with 16 measures of 2/4 time signature drums. I did a "Change Sequence Length" to reduce that to 13 measures. That gives me a measure of drums at the start. On track two I recorded the eight measures of "Frere Jacques" starting at measure two. I next quantized the track to make sure the first note didn't hit before beat one of the second measure (this would lead to a lost note on the destination track). This is found under "Command," "Track." After you press "Enter-Yes" it asks the track. Press the instrument selection button for the correct track, in this case, instrument/track two. Now you are asked to enter the start and end bar, you can leave it at one and 13 for this. I usually only quantize the first measure of the phrase, however, to keep the timing from getting "too perfect." The next page requests the smallest time interval to quantize to. Since I recorded this in 2/4 and the smallest interval was 1/16th notes, I selected 1/16. The options range from 1/4 to 1/64T for 64th note triplets.

Now play the track and write down the starting and ending measure numbers of the phrase to be transferred. Press "Command," "Track" and scroll to the "Copy Track" page. Press "Enter-Yes" to start the operation. You are asked the name of the sequence to copy from. We can copy from one sequence to another, but for this trivial example the source and destination will be the same sequence. Press "Enter-Yes" to move to the second page. Here you will be asked which track to copy from. For our example it will be track two, so press "Instruments-Tracks" button two. The next page is used to select the starting and ending measure that include the phrase to be copied. Our example uses measures 2 through 9. Next is the destination track. Again select this with the "Instruments-Tracks" button. For the example we will select track three. The final step in our copy tracks command is to designate the starting measure for the transfer. Each round is offset by two measures, so we select measure 4 with the up and down buttons at the "At Bar =" prompt.

One caution, however. You cannot copy a phrase back into a section of the track that has been recorded. If we had selected track two again, we would have copied the new track over the old. This is an important point. We would have obliterated measures four through nine with a copy of measures two through seven if we had copied the track back to itself. If it is really our intention to have the same instrument play both phrases, we will need to make the copy in two steps. The first step is to copy the track to a new instrument/track, then merge this new track back with the original track using the "Merge Tracks" command. This combines the note events of both tracks on the destination track. You can then erase the temporary track.

You can explore copying track two to track four at measure six for the third phrase of the round.

Another trick I have found to be quite handy is the "Transpose Track" command. In sequencing band or orchestra music several instruments are so-called "transposing instruments." For me it is pure torture to transpose trumpet and saxophone parts as I sequence them, so I just play them as written then transpose the track down by two semi-tones. The trick to this technique is to select the instrument, say it is a trumpet, and enter the "Set Keyboard Range" pages. Press "Enter-Yes" to move to the second page, then the right arrow to select "Trans Semi." With the down arrow, set this for -2. Now when you pucker up to play some hot trumpet licks, you look at a C and play a B flat. As you end your recording session select "Transpose Track" under the "Command" "Track" pages. Transpose the whole track down two semi-tones. Now go back into the "Set Keyboard Range" and return the voice to true pitch. Save the song this way, and next time you load this sequence you won't have to adjust the instrument.

The transpose track command also has other uses. When I run out of keyboard for a sequence, I just jump up (or down) an octave for that measure or two. After completing the recording you simply transpose those measures down (or up) 12 semi-tones. You must think in whole measures for this command. I usually wind up quantizing a couple measures when I do this. If you lead the beat by even one clock, the note is simply not in the measure you intended it to be in. Another solution to this problem is to play only the note or two that are below (or above) the keyboard in the wrong octave. Then play the sequence through to the measure the note is in and stop the sequencer. Press "Command," "Track" and scroll to the "Event Edit Track" page. The EPS will jump to the same measure, and you can move to the note in question with the up and down buttons. Now the data slider can change the note down as far as A0 or up as far as C8. Press "Cancel-End" to leave the "Event Edit Track" and you will get a chance to audition the change. The command "Event Edit Track" could be the topic of a whole article by itself, so we will catch that one a different time.

All of these track and sequencing commands are found in one of two groups. "Command" and "Seq-Song" have all of the create, save and erase sequence commands as well as the append and change sequence length commands. There is a special command here called "Sequencer Information." It tells you some nifty data about your sequence, like how large, and how long it plays at the tempo you have selected. It also has one adjustable data position called "MIDI Song Select." The number set in this cell will transmit over MIDI when you scroll onto the songs name in the "Edit" "Seq- Song" page. You also must have "MIDI Song Select" set to "On" in the "Edit" "MIDI" pages.

The "Command," "Track" pages are used to work on individual tracks within a song or sequence. These are things like copy, erase, or transpose track. Together these commands can multiply your playing power and save you time besides.

Bio: Gary Dinsmore has been an amateur musician all his life, at least all he can remember. He started piano and grade school band in Spokane Washington back in the '50s. He played the baritone in the Coast Guard band for a while, and took up the Guitar in college. Gary has recently published "The EPS Users Guide." ▬

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Rubber Chicken VFX Sounds for the EPS

Reviewed by Bill Lewis

For: EPS or EPS-M.
Product: VFX Meets EPS 10-Disk Set.
Price: 10 Disk Set $49.95.
From: Rubber Chicken Software, PO Box 428, Renton, WA 98057, 1-800-877-6377.

I love the color of these disks—a bright poultry yellow. Blue's not new and yellow's hello amongst the plethora of plastic in my EPS sound library. What else would you expect from a company whose name is Rubber Chicken Software? Where do they get these names anyway? ("They" being the sound creation community at large.) I have to wonder how anybody got close enough to "Uranium" to sample it, never mind the fact that they had to get it to talk. Now that's talent!

Anyway, with that name, I KNOW they have a sense of humor. They also have a knack for sampling. The set of sounds in question is their EPS/VFX library. This group of ten disks, 45 patches in all, shows that the chicken folks are no quacks. The quality of the recordings is excellent and each patch has been given attention to the finer details; inventive use of the patch select buttons, creative mod wheel machinations, etc.

Now, whether or not this group captures the essence of the VFX is yet another question. Rubber Chicken claims to have chosen the 45 most endemic VFX sounds. Here's a list:

Starjamhold
Orbit Wonders
Rainy Day
Kalimba
Timbre Organ
Sample & Hold
Change-Bass
Mallets
Golden Harp
Scream-Lead
Funk-Guitar
Deepness
China Pipe
Sizzle
Block Lead
Kagon
Pop Board
Steel & Vox
Guitar
Tenor-Sax
Bottles
Stack-1
Whales
Alls Fair
Dangerous Uranium
Digi-Moods
Digi Piano 3
Inspired Flange-Fifth
Phantom
Orch-Xfade
Space Voice
Angelica Muted-Horns
Presswave
Angelica
Timbre-Brass
Synthlead
Brass
Bell
Elec-Bass-2
Smooth Strg
Piano
Synth-Horns
ChinaChime
Classic-1
Digi

They are all stock VFX sounds. Are they the quintessential set? Not having a VFX here in my studio to compare them to leaves that question to be answered by someone else. Having had SOME access to the VFX (I'm not in total silence), I can say that they do capture the essence of the VFX, in as much as any sampler can mimic sounds from an instrument with built-in dynamic digital effects and all the timbrel "motion" which are the VFX hallmark.

The folks at RC Software have actually done a surprisingly good job of capturing the timbrel ambience and dynamics of VFX in this set. One listen to "Starjamhold" and you'll know what I mean. Of course, a little help from an external signal processor doesn't hurt.

As a group, they tend to concentrate on the digitally breathy, ambient sounds that seem essential for contemporary synth market success. Translation—they're a good set of NOW sounds, regardless of their source. Should you buy them? Well, for $49.95 these disks are a bargain. Frankly, I don't know how anybody could spend the time to put together a quality 45 sound library set, complete with disks, library case, labels, instructions and marketing, then sell it for that price. That's a lot of work! But then we all do it for the money, right?

Now what I want to know is when will somebody create the quintessential EPS Saxophone?

Bio: Bill Lewis is the Wizard Sysop on the Compuserve MIDI Forum where you can reach him at 76701,35. He's been playing electronic instruments since 1965 when he first plugged his saxophone into an electronic pickup and a Maestro unit. ▬

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EPS Sequences and More ! ! !

Synthesis Tools for the Mirage

by Tim Martin, SoftHeadWare

As many Mirage owners already know, MIDIcaster provides the features of a Universal MIDI Librarian/Data Recorder, along with essentially unchanged Mirage OS 3.2. However, as was shown in TH #44 (Getting your Hooks into MIDIcaster), that's just the tip of the iceberg. It also contains some very powerful Synthesis tools that allow manipulation of Wavesample memory in some new ways. Where'd I put them visegrips.....

Shop Class 101

Most Mirage users are probably familiar with the "Single Page Loop" capability of the Mirage. Various articles have appeared in the Hacker describing this process in depth, but briefly, the "Wave Start" and "Wave End" Parameters ([60] and [61]) are brought as close together as possible and the "Loop Switch" is turned on. At this point you have the raw material for a new voice and can adjust the Filter and Amplitude Envelopes to your liking.

As simple as it may seem, this approach can provide a wealth of "Analog" type voices. The looped page of Wave memory contains the information for the harmonic content of the oscillator(s) and the Amplitude and analog Filter envelopes are then applied to the output, like a classic analog synth. This enables the Mirage to emulate a lot of "Moog" and "Arp" sounds, without Sampling!

If you want to change the harmonic content of the oscillator(s) with OS 3.2, you'll have to mess with all those @!#$* Wavesample parameters! Where's that monkey wrench.....

The MIDIcaster "Wave Draw/Synthesize Utility" allows you to vary the harmonic content of the loop by "drawing" the waveform with the Pitch Bend Wheel (similar to the KORG DSS-1), at the currently selected Wavesample in the current Half. Because of the "freehand" approach, it's kind of haphazard, but it's very fast, allowing you to get quick feedback on what you've done and try again if you don't like what you hear. In short, it can be a simpler method of varying the harmonic content of the oscillator(s) than monkeying with all those Parameters.

Algorithmic Envelopes?

The "Single Page Loop" scheme produces oscillator output that is inherently static (i.e. it doesn't change over time). With the Mirage, you also have the ability to program the harmonic content of the oscillator(s) over time, not just filter it after the fact. This is a distinct advantage when compared to older style Analog synths. It means that Frequency and Amplitude envelopes can be "described" to the oscillator(s), allowing the "Real" Filter and Amplitude envelopes to be used for other purposes. I know that hammer was around here somewhere.....

You can explore this potential with the Karplus/Strong Algorithm option. It manufactures multi-page Wavesamples with varying harmonic content, generating "plucked or hammered string" type Frequency and Amplitude envelopes in Waveform memory from your "drawings" (or other data).

Essentially, the Karplus/Strong algorithm takes a table of sample points from the first page of the "Current Wavesample" (Parameter [26]) and averages them over time, creating the Frequency and Amplitude decay characteristic of a plucked or hammered string. MIDIcaster offers you a choice of 8 table lengths that correspond to the first 8 partials of the harmonic series:

#1 - Fundamental, or entire 256 byte page.
#2 - Octave, or the first 128 bytes of the page.
#3 - Octave and a Fifth, 85 bytes.
#4 - 2nd Octave, 64 bytes.
#5 - 2nd Octave and a Third, 51 bytes.
#6 - 2nd Octave and a Fifth, 43 bytes.
#7 - 2nd Octave and a Flat Seventh, 36 bytes.
#8 - 3rd Octave, 32 bytes.

The shorter the table, the higher pitched the sound and the quicker the decay.

With this "synthesized" Wavesample in memory, a loop can be established at almost any page because each page will be only slightly different than the previous. The most constant Amplitude and Frequency content, page to page, will occur after the initial attack portion and the best signal/noise ratio is typically achieved by looping during the attack portion.

Sometimes really noisy noise is a desirable part of a synthesized sound. MIDIcaster lets you write noise in a Wavesample by using a pseudo-random number generator. It, too, operates on the "Current Wavesample". Those tin snips used to be in the top drawer...

Because of the high amplitude, high frequency content of this noise, a very metallic sound can be created using higher "Tune Coarse" (Parameter [67]) values. The metallic sound is caused by "Aliasing", typically undesirable when Sampling, but potentially useful when Synthesizing. In this case, Wrong is Right.

Mix and Match, Glue and Patch

A side-effect of these synthesis methods is that the Wavesamples produced are "in tune" (i.e. they will play in tune with Parameter [68], Tune Fine, set to a value of "80"). This means that it's easy to use Wavesample "Mix" Mode and come up with combinations of adjacent Wavesamples that are harmonious. This is quite often a problem when dealing with sampled sounds.

These are just a few suggestions for using the Wavesample manipulation tools for Synthesis, but they can also be used to "fix up" existing Sampled sounds. Adding a "thunk" to a portion of a Sampled sound with the Wave Draw or Wave Add functions, splicing a Karplus/Strong Synthesized sound on the end of a percussive Sampled attack. Smoothing out tuning problems for easier looping... Anybody seen the wire cutters?

Bio: Tim Martin wrote "MIDIcaster" for the Mirage and "MIDITERM", a Generic Patch Librarian/Midi Data Recorder for the C-64 which has become (much to his chagrin) a Public Domain standard. "Hobbies, what's that mean?" ▬

EPS Hiccups a.k.a. ERROR #144 - REBOOT?

by William Pont

Hi gang. Here is another tidbit of info that might tickle your finely tuned senses in that realm known as FRUSTRATION. If there is anybody in this galaxy of ours who is the proud owner of an EPS and claims he/she has never had an error message wreck their virtuoso performance, then I'd call them a liar or say they never unpacked their toy...

On countless occasions our good Ensoniq folks fobbed the inquiring mind in this journal off with: "...Authorized Repair Stations of Ensoniq..." (hey, that forms an interesting acronym), "...Module replacements...," "...service diagrams not made available to the general public..." and more interesting, but always rejecting, replies.

But the story changes considerably when one makes telephonic requests for info and a very helpful chap (name withheld) provided me with this list of EPS bloops a couple of months ago. Now I feel I must share this with my fellow hacking brothers and sisters and especially third party programmers. (Hey Mark, how about SOUNDPROCESS for the EPS? That would make it the BIGGEST wavetable synth of all time...)

Here they are, have lots of fun:

Error #16 - Voice generator received unknown message.
Error #17 - Voice list corrupt.
Error #32 - UART overrun.
Error #49 - Parser bad parameter type.
Error #56 - Memory allocation error - GETBLOCK.
Error #57 - Memory allocation error - FREEBLOCK.
Error #63 - RAM error - MAINRAM.
Error #64 - SCSI not connected.
Error #128 - BUS error.
Error #129 - Odd address error.
Error #130 - Divide by 0 error.
Error #131 - Illegal instruction error.
Error #132 - CHK instruction error.
Error #133 - TRAPV instruction error.
Error #134 - Privilege violation.
Error #135 - TRACE error.
Error #136 - Line 1010 emulator error.
Error #137 - Line 1111 emulator error.
Error #138 - Spurious interrupt error.
Error #139 - Unused vector error.
Error #144 - Out of system buffers error.
Error #145 - Unknown sampling interrupt.
Error #192 - Unknown sequencer event.
Error #194 - No more sequencer event buffers.

Errors #128 through #139 are typical 68000 microprocessor "exception" errors and are described in the Motorola manuals as "fatal." Hence, the system's silly question after one of these.

That's all, folks. Plenty more bleeps and peeps to get steaming about. But at least now you know what's a-happenin'. TRAPV instruction error???

Bio: William Pont's application for an entry into the Guinness Book of Records as the most atrocious noise polluter has been turned down three times. ▬

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

A:

Midicaster is an amazing new alternative to your current Mirage, Mirage DSM, or Mirage DSK operating system. With Midicaster, you can save sysex data (synth sounds, sequencer dumps, drum machine data, etc.) directly to Mirage diskettes. And you can load it back into those same Midi devices without disturbing the sounds loaded into your Mrage! That's right - unlike with other operating systems, there's no need to re-load your Mirage after data transfers when you use Midicaster.

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

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

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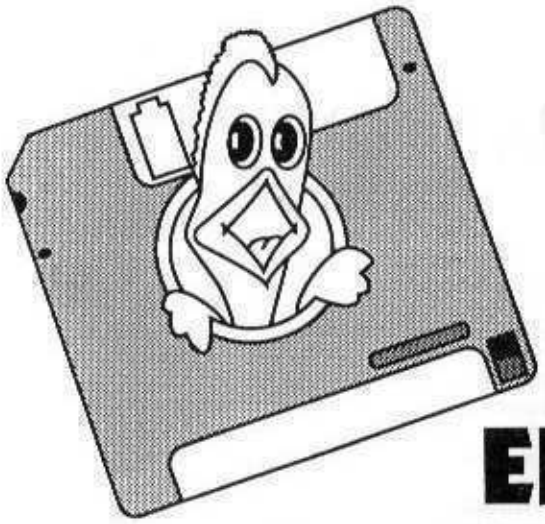

Chicken...

Chicken n. 1. a food, usually served fried 2. a long rubber object, used in the telling of really stupid jokes 3. EPS 3rd party sample vendor selling Original Chicken, VFX meets EPS I & II, and PD samples at affordable prices.

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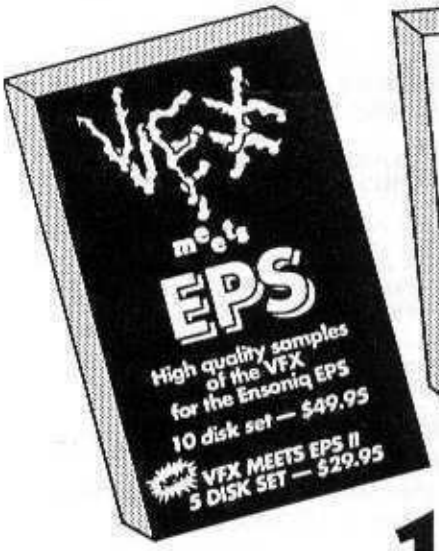

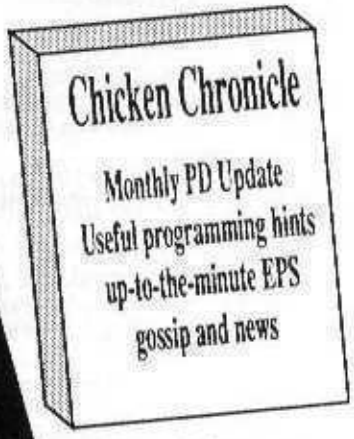

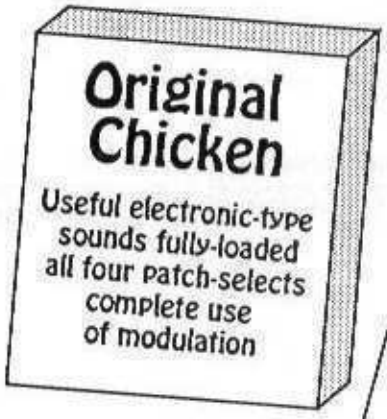

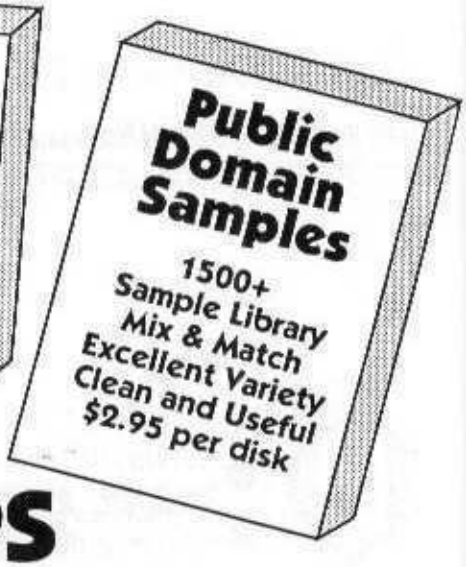

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Using the EPS as a Composer's or Arranger's Workstation

Part 2: Tips on Sequencing

by Gary Morrison

In the first of these two articles on how to use the EPS for developing music for string and wind ensembles, and generating realistic demonstrations, I concentrated on techniques for making the best possible instrument sounds. This time around, I'll suggest some tips on how to perform your music into the sequencer and use the sequencer's features to develop those performances.

Tips Regarding Sequencing

The EPS' has one of the most comprehensive sequencers available in a home-budget sampler. Most samplers, however, are not noted for their sequencing abilities. The combined effect is that the EPS' sequencer works fine for ensemble simulation except for a few annoying problems.

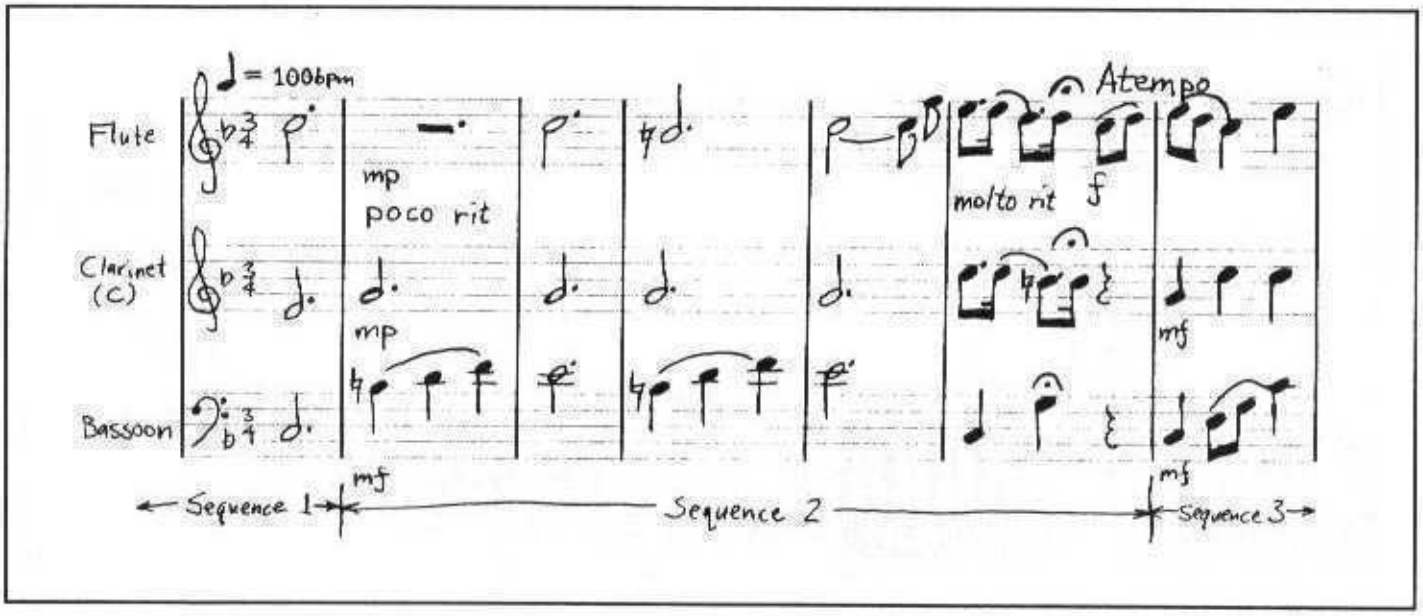
1. Don't play a little bit into the sequence, stop it, and then do a COMMAND:TRACK:EVENT EDIT TRACK. I can't tell you how many times I've seen "ERROR 144 - REBOOT?" pop up on the display after unthinkingly doing that. The response to that question, by the way, doesn't matter - it reboots and loses all unsaved work. I have also seen this many times when you use the down-arrow key on the measure field when you're already on measure 1. I always press PLAY immediately followed by STOP/CONTINUE before I do a track edit.

2. Use the mod wheel to vary volume of your samples. I mentioned this in the previous article to get around a sequencer limitation: You can use COMMAND:TRACK:SCALE CONTROLLER to vary the amounts of every obscure controller you can think of, but once you play a key at a given velocity, you can't change it. Once you piece your tracks and sequences together, you may decide (for instance) that for a certain twelve-measure phrase, the oboe needs to be louder. Bad news, folks - you've got to do a COMMAND:TRACK:EVENT EDIT TRACK and tediously change each note's velocity one by one! (This wouldn't be all that bad if Ensoniq would allow you to use the keypad to enter numerical values while the cursor is over numeric fields, such as the velocity field in the EVENT EDIT TRACK page. Are you listening, Ensoniq?)

You can get around this limitation by making the instrument's volume be dependent on the MOD WHEEL, so that you can change the volume by scaling that controller. Of course, this approach has some disadvantages, too: First of all, SCALE CONTROLLER won't create controller events that aren't already in the track. In other words, if you want those twelve measures to be louder, scaling the MOD WHEEL volume won't help unless you happen to have MOD WHEEL events in that range. You can, however, do a COMMAND:TRACK:ERASE CONTROLLER on the measures you want to change, set EDIT:SEQUENCE:RECORD MODE=ADD, then punch in on that track manipulating the MOD WHEEL to the desired volume levels. The second difficulty with this approach is that such MOD WHEEL events take a huge amount of sequencer space. The third difficulty is that if you start playing in the middle of a sequence, the volume will be very quiet until you hit the next MOD WHEEL event.

3. Many ensemble scores call for ritards and accelerandi. The excerpt below from my *Minuette in F-Major for Flute, Clarinet, and Bassoon* gives a good example of the difficulties gradual tempo changes can cause:

This is an especially difficult passage to sequence, but still it's a quite common idea in ensemble music. As you can see, in measures 2 through 6, the music gradually slows down to about half the original tempo and finally ends in a sixteenth note held for a good eight times its nominal length. The tempo then immediately returns to the original tempo on the pickups into measure 7. These two eighth-note pickups in the flute part at the end of measure 6 must lead into measure 7 with no



gap. Still, all sequences have to be a whole number of measures long, and you can't let the length of the fermata be too much dictated by the granularity of one measure.

How do you sequence this passage? First of all, since you can't change the speed of the metronome gradually during a sequence on the EPS' or most other sequencers, you pretty much have to turn the metronome off while recording this ritarding section, since you'll be defying its beat anyway. Next, separate the ritarding portion into its own sequence and set the meter for that sequence to 1 beat per measure. You can now fit the sequence-length to any beat boundary. How, then, do you line up the two pickup eighth notes without gap into the next sequence unless they just happen, by coincidence, to fall at exactly the end of a beat? After the fermata, play the pick-up notes as you would want them to be played. You can then do an EVENT EDIT TRACK to find out where the pickup note(s) ended up relative to the end of the beat. Knowing that, you can use SHIFT TRACK BY CLOCKS on the last measure(s) that contain the pickups to move them to the end of the beat so that they will butt-up right against the first not in the next sequence. The result is well-worth the work.

4. Use the full-capabilities of the audition page. I don't like complaining about Ensoniq's machines, especially not the EPS, so let me mention something that Ensoniq did right and I can't seem to find in the manuals: After a track edit (such as an EVENT EDIT TRACK, a SHIFT TRACK BY CLOCKS, or a TRANSPOSE TRACK), the EPS gives you the familiar audition page: "KEEP: OLD NEW". This is a great feature, but what if you made a change 25 measures into the sequence or you don't want to be distracted by other tracks? Do you patiently sit around waiting for 25 measures to slog by while you strain your ears to hear the one track you changed? No! Press TRACK and you're on the EDIT:TRACK page so that you can mute or solo various tracks. Then, press SEQ/SONG and you're on the EDIT:SEQ page so that you can start on measure number 24. Wonderful!

5. Avoid quantization except to piece together a keyboard part. Five or six individual players can't possibly synchronize their notes like the flick of a keyboardist's wrist. Similarly, avoid track entry at less than half-speed; the results can be very mechanical. Of course, you're treading a fine line here - you don't want to let your tracks get too far out of synchronization, but if you let them be too perfect, it sounds like computer-generated nonsense.

Listen Carefully

The one tip that I must emphasize most strongly is to listen to your results very carefully and compare them with comparable ensembles performed on the real acoustic instruments you're trying to model. You might want to simply play an existing score for which you have a recording solely to compare the results. You can learn a lot about how good your instrument samples and sequencing skills are really quickly that way.

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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Electric Organs and Leslies

by Kirk Slinkard

This article takes a look at two electric organs that have survived onto the synthesizer age—the Vox organ, and the Hammond organ with the Leslie speaker—and how to synthesize them on Ensoniq synthesizers that have "SQ" as part of their name. Before you get into this article, it would be a good idea to load the three patches into your synthesizer. The two Leslie patches are layered to each other, so it doesn't matter which one of these you play. To begin with, some organ terminology:

Footages

These originated on pipe organs as a way to specify the relative pitch of different sets, or ranks, of pipes. The value describes the length of pipe used for the lowest C on the keyboard, or the longest pipe in the rank. 8' is the most common and basic pitch, many cheaper organs having only this one. Ranks on pipe organs can go as low as 64' and as high as 1/2'. The 64' rank is pretty rare and gets into subsonics. 16' is a common lowest footage. Doubling the length of a pipe lowers it an octave, and halving it raises it an octave. Some ranks, especially in the higher footage, are designed to provide a fifth or a third instead of another octave. Sometimes a switch or drawbar will activate a few footages at once, mostly higher pitched ones. This is called a mixture. The pipe organ approach to additive synthesis, along with some of its terminology, carried over to electric organs and to some synthesizers. The fine settings will be assumed to be zero.

FOOTAGE	OCT=	SEMI=
1/2'	4	0
1'	3	0
1 1/3'	2	7
1 1/5'	2	4
2'	2	0
2 2/3'	1	7
4'	1	0
5 1/3'	0	7
8'	0	0
16'	-1	0
32'	-2	0
64'	-3	0

Hammond Organ Waveforms

Hammond organs, as well as a lot of others, use harmonically simple waveforms, and add them together at different frequencies for harmonic convert. This is classic addition synthesis. A Hammond organ might have nine different ranks available for mixing, some of these being in mixtures. The sine wave is a logical choice for imitating Hammonds, but the SQs have only three oscillators per voice. Ensoniq has addressed this problem by supplying a few waveforms at different pitches—just right for this type of organ patch. This family of wave includes:

1. Sine
2. Octave
3. Oct + 5
4. 4 octs
5. Organ (5 octaves)

So you could have as many as fifteen different pitches of sine waves per voice. If you take the Oct + 5 wave and set its Oct=1 on the oscillator page, you would have a perfect example of a common type of mixture rank. Use the provided Leslie patches as a starting point to experiment with different combinations of these waveforms.

Overdrive Distortion

On the SQ synthesizers, this effect is found in the DCA 1 through 3 pages. These are designed to operate at full volume with only one oscillator turned on full. So if all three are turned way up, they will overdrive the mixer that they go into. This effect is different in intensity for different waveforms, but it works fine with the previously listed waves. To hear this, play one of the Leslie patches with the pedal all the way forward. These patches are designed to be just short of distortion with the pedal all the way back.

The Leslie Effect

The classic Leslie speaker has a fixed horn driver firing up into a rotating horn, and a fixed woofer firing down into a rotating slanted baffle. They both rotate together at either a fast or a slow speed. The large baffle takes more time to change speeds than the horn does. Because of the SQs fixed frequency LFOs, I haven't been able to simulate this part of the effect without outboard devices (see Issue 41). But these Leslie patches can almost create the illusion of this happening. Put the pedal all the way forward, hold down some notes, and move the modulation wheel all the way forward. What do you think? These patches are optimized for the smoothest mod wheel transition when the pedal is all the way forward. The wheel turns the fast Leslie patch down (but not off) when it is back, and the slow Leslie patch down (but not off) when it is forward. This way, the overall volume of the layer can be the same anywhere the wheel is set. If it turned them all the way off, there would be a "silent zone" at the middle of its travel.

You might think of the Leslie effect as being composed of five different component effects:

1. Chorus
2. Flanging
3. Vibrato
4. Timber tremolo
5. Panning tremolo

The chorus is achieved by detuning two oscillators, one up and one down. Like most of the other component effects, it is more intense in the fast Leslie patch. The slow patch doesn't even use flanging or vibrato, but the fast one combines them by using LFO 1 out of phase on the first two oscillators and mixing them with stationary oscillator 3. LFO 1 also goes to the filler for timber modulation and to the panner for location modulation.

For a more authentic sounding Leslie effect, run this through a stereo sound system and put both speakers right up against each other. Turn the speakers either toward or away from each other so they are at a 90 degree angle.

An extra effect for SQ-80 players uses envelope 2 to gate the

LFO. This combined with the second release on envelope 4 simulates reverb coming from stationary speakers as on the Leslie model 925.

SQ-80 PROG: SLOW LESLIE BY: KIRK SLINKARD

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	11	31	ORGAN	OFF	-	OFF	-
OSC 2	+1	7	1	OCTAVE	OFF	-	OFF	-
OSC 3	-1	0	0	OCT+5	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	48	ON	WHEEL	-20	PEDAL	+20
DCA 2	48	ON	WHEEL	-20	PEDAL	+20
DCA 3	48	ON	WHEEL	-20	PEDAL	+20

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	36	0	0	LFO1	+42	ENV4	+63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO1	-63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	9	OFF	OFF	TRI	0	0	0	ENV2
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

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

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

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

SQ-80 PROG: FAST LESLIE BY: KIRK SLINKARD

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	11	30	ORGAN	LFO1	-1	OFF	-
OSC 2	+1	7	2	OCTAVE	LFO1	+1	OFF	-
OSC 3	-1	0	0	OCT+5	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	18	ON	WHEEL	+30	PEDAL	+20
DCA 2	18	ON	WHEEL	+30	PEDAL	+20
DCA 3	18	ON	WHEEL	+30	PEDAL	+20

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	36	0	0	LFO1	-28	ENV4	+63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO1	-63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	27	OFF	OFF	TRI	0	0	0	ENV2
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

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

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

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

SQ-80 PROG: VOX 3. BY: KIRK SLINKARD

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	SQR2	LFO1	+1	OFF	-
OSC 2	0	0	0	SQR2	LFO1	+1	OFF	-
OSC 3	+1	0	0	SQR2	LFO1	+1	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	58	ON	LFO2	-17	OFF	-
DCA 2	58	ON	LFO2	-17	OFF	-
DCA 3	58	ON	LFO2	-17	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	34	0	63	OFF	-	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	36	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	27	ON	OFF	TRI	0	0	0	WHEEL
LFO 2	36	ON	OFF	SQR	0	0	0	PEDAL
LFO 3	-	-	-	-	-	-	-	-

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

	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	-	-

The Vox Organ

This patch uses standard non-Leslie organ techniques including fine settings on all the oscillators at zero and, on the modes page, OSC= on. The vibrato is applied equally to all oscillators, thus eliminating flanging at least on single notes. This particular patch uses the 16', 8', and 4' pitches—very common on combo organ sounds. The real key to this patch is the "SQR 2" waveform. It sounds very much like the Vox's bright sound. The pedal brings in a tremelo that sounds like the one on the old Vox amplifiers. The Vox Continental organs also have one or two mixtures drawbars. You might experiment by layering this patch onto one with three higher footages.

Well, I hope all this information helps to get you organized. Mod you later. ▬

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EPS-M	2.4	X	
MASOS	2.0	X	
MIRAGE	3.2	X	
ESQ	3.5	X	
ESQ-M	1.2		X
SQ-80	1.8		X
VFX	2.0		X
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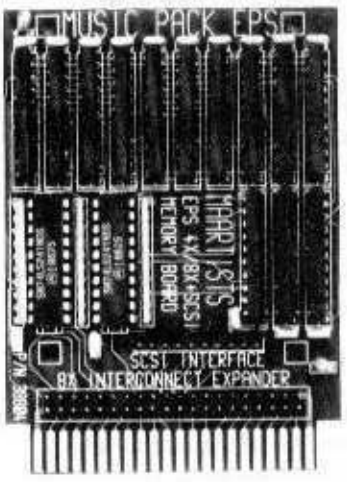

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The Mirage In The 1990's

by Don Slepian

The Mirage of the 1990's will continue to be what the Mirage has always been: a most inexpensive gateway into the world of digital sampling instruments and a fine instrument on its own merits.

First, let us consider price. The Mirage has always been inexpensive compared to other comparable instruments. I most recently bought a Mirage rack unit in fine working order for $400, and I expect to see a $300 Mirage before 1991. This means that it is practical to have several instruments, and that a single instrument is available to many people who could not afford anything over $500. There are enough Mirages out there to make it a viable machine for many years to come.

The Mirage has a number of enhancements available. Products from Upward Concepts (85 Bennett Rd., Durham, NH 03824, 603-659-2721) give the Mirage MIDI volume, MIDI Overflow mode, microtonal tunings and alternate temperaments, as well as sysex storage and other capabilities. The MIDI User's Group (M.U.G.) and many third-party vendors still advertising in the Hacker have large collections of inexpensive disks, and Mirage sounds are plentiful in the public domain.

I personally have three Mirages, each with Megabank expanders. Considered as a single instrument, that makes 27 full keyboards of sounds RAM resident, with any three playable at once, all for less than one of today's mid-priced keyboards.

As of this writing (8/89) I have spent my first two months with E-Mu System's remarkable Proteus sound module. This very modern instrument reveals to me the strengths and weaknesses of the Mirage.

The clear, clean, full bandwidth sound of the Proteus contrasts with the duller, noisier, grainier sound of the Mirage. The Mirage sounds are softer and less "real." It is also wonderful to turn on the Proteus and not have to load disks.

I would not and could not replace my Mirages with a rack of Proteus modules, for the Proteus and other machines of its genre are lacking some essential qualities of the Mirage.

First is the quality of individuality. My Mirages don't sound like anyone else's because I've done extensive customizing of commercial sounds, as well as some of my own sampling. I don't see the same capability to directly manipulate sample memory in the Korg M1 series or the Proteus, and it seems that individuals owning these instruments will not have the ability to create their own sounds or powerfully alter the existing ones. Hopefully this will soon change, else we shall see an era of exceptional sonic conformity.

The Proteus, the Kurzweil modules, and that nameless sampler that Keyboard magazine considered the overall best all fall far short of the Mirage's dynamic filtering capabilities. The Proteus's digital filter is a disappointment, not nearly as good as the digital filter on the EPS, and I've never heard a digital filter sound nearly as "good" as the analog filters in the Mirage. Dynamic filtering and filter resonance give fine expressive qualities, especially when controlled by keyboard velocity. Without muted and dull sounds, timbres are only bright or brighter, and miss an entire range of timbral contrast and subtlety. Until digital filtering can fully match the performance of analog filters at an affordable price, I must hold on to the Mirages.

The modern trend in digital instruments is to have a single DAC feeding several analog outputs. The Mirage processes each note separately, a more expensive (and I feel better) way of doing things. The Ensoniq ESQ series (and the Emulator III) share this same architecture with the Mirage. My Mirages all have separate output channels for each note (I have published this very simple mod in TH and elsewhere). When I connect the Mirage to 8 amplifiers and 8 speakers, each speaker is reproducing one and only one note. All the sound mixing happens in the air, just as a pipe organ or a symphony orchestra mixes their sounds. There is no loudspeaker intermodulation distortion, and the resultant sound is far more acoustic than is commonly heard from loudspeakers. This setup may sound eccentric, but it is so far superior to any alternative that I can only imagine complete acceptance and inexpensive practical commercialization of this principle in the future. For the present, the low-fi sound of a simple Mirage reproduced in this fashion puts to shame any other electronic keyboard reproduced conventionally.

Instruments can not long be kept for sentimental value. The Mirage will continue to earn its place in many setups based on its continuing value and worth as a tool of musical expression.

Bio: Don Slepian has been an active performer in electronic music since 1970 and video art since 1976. He has twice been sponsored by the French Ministry of Culture to perform electronic music and computer graphics in Paris and La Rochelle, and presently consults in these areas for Bell Communications Research. His album "Reflections" is on the Audion label distributed by JEM Records. ▬

Sequ-Patch Writing on the SQ-80

by Jack Rilling

Creating voice programs on the SQ-80 can be a lotza fun and be a very rewarding experience, but it can also be very frustrating. This is partially due to the fact that a programmed voice can sound very different when played by the sequencer than when it is played by even the most agile of fingers. Why?... Because there is no annoying "key clack" when the sequencer is doing the playing as there is when the playing is done manually! With all the extra noise of the key movements going on, it's hard to get an idea of what the voice really sounds like on its own. This is especially true of programs that use a transient attack like bowing, picking, plucking or clicking as part of the sound. The attack sound itself can actually be drowned out by the noise of the keys.

But there is an answer to this problem that you may not be aware of. Let the sequencer do the playing while you do the voice editing. I recently stumbled across the method I'm about to describe to you while creating an acoustic guitar program and it worked so well that I just had to pass it on to all of you SQ-80 owners out there. In fact, once you try this method of program editing, you may never want to do it any other way. Here is how it's done....

Choose the waveforms from the page of oscillators 1, 2 and 3 that you feel will most accurately produce the sound that you are trying to create. Next, try to tune in as closely as possible to the sound you want by making all the necessary changes to the DCA, filter, modulator and mode pages. Sound pretty close to what your looking for? Close....but not close enough," is a familiar answer. Now try this. (Here's where it gets good.)

First, save the voice you are working on to a bank location by selecting the WRITE page and choosing a name for the program. Now to write this new program to a bank location, press and hold one of the bank location buttons. You will now notice the word "WRITE" flashing on the left side of the chosen bank page. While holding the bank button, press one of the soft buttons at the same time and the new program will be written to the chosen location. It's a good idea at this time to save the new bank with your program, and the individual program to a disk to ward off any possible screw-up demons.

Now select the CREATE/ERASE page and ERASE any existing sequence memory. (Remember, if there is something in sequence memory that you want to keep, save it to a disk before erasing the whole thing.) With the sequencer memory cleared, start a new sequence by pressing the SELECT button. All the track locations should now read "unused." Now assign your new patch to track 1 sequence, try to emulate the characteristic of the instrument in play. As an example, in my acoustic guitar patch, I carefully entered each "string" of the guitar using the step edit function, placing each note at a 1/32 step interval, holding each note until all six were entered and holding all six notes for another 7 or 8 steps. At playback, the result was a very realistic "strum" of the guitar.

Now go to the control page and turn the loop on. This will make the sequence repeat indefinitely. Now, press PLAY and start the wheels in motion. While the sequencer is playing you can now call up any of the pages used in voice programming and make changes to the patch while it plays. Now you can concentrate on the sound instead of the keys. By the way, COMPARE also works with this method. You'll see the little "c" light up as soon as you make the first change to the patch so you can compare your changes to the original. When you're satisfied with the new patch, resave it as before. Using this patch editing method, you will now be sure of what the voice will sound like when using it in an important sequence.

That's it for now, keep on Hackin'!! ▬

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Wanted: Memory expander for Mirage Rackmount. Prefer MME (Virtual Engineering), will consider IVM Megabank. Will pay top $ for kit in good condition with docs. Contact Ned Selfe, PO Box 31084, San Francisco, CA 94131. (415) 641-6207.

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ESQ-1 Opcode/MAC Patch Editor/Librarian V5.01 (800k or 400k), many patches, $85 (list $199). Opcode/MAC MIDIMAC Sequencer 2.5 (original disk & docs), $75 (list $150). Call: Bill, (517) 728-2781 (Mich.).

Digidesign Soundesigner software for Mirage, $100 (Mac); Soundfile and Opcode sequence and bank librarians for ESQ-1, $35 each (Mac). Original owner. Wendell Ing, 41 Laimana St., Hilo, HI 96720. 080-935-4151.

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.

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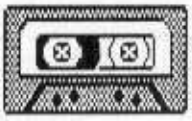

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VFX Prog: FLUTE-VOICE

By: Sam S. Mims, Syntaur Productions

NOTES: This patch is a melding of flute and voice sounds, to give a smooth breathy pad. Pressing the left patch select button gives a solo flute, an octave higher than the main sound. Pressing both patch select buttons combines the original vocal sound with this higher flute, creating more of a flute/voice layered sound instead of a blend of the two. The right patch select button combines voices 1 and 2, which are both vocal pads, and which are very slightly detuned from each other. The result is a flanging effect, which works very nicely with the breathy vocal sound.

No fancy programming tricks were used here - just the tasteful combination of some relatively basic patches. And other combinations work well, too; try changing the VOCAL-PAD waveforms to VOX-OOOHS, MARIMBA, KALIMBA, ANVIL-LP and the SYNCHRO-X transwave for added pleasure.

WAVES	1	2	3	4	5	6
Wave	Vocal-pad	Vocal-pad		Chifflute	Chifflute	
Wave Class	Breath	Breath		Breath	Breath	
Delay	000	000		000	000	
Start	00	00		00	00	
Vel Start Mod	+00	+00		+00	+00	
Direction	Forward	Forward		Forward	Forward	

MOD MIXER	1	2	3	4	5	6
SRC-1	Press	Press		Press	Press	
SRC-2	Veloc	Veloc		Veloc	Veloc	
SRC-2 Scale	0.8	0.8		0.8	0.8	
Shape	Laterise	Laterise		Laterise	Laterise	

PITCH	1	2	3	4	5	6
Octave	+0	+0		+0	+1	
Semitone	+00	+00		+00	+00	
Fine	-01	+00		+02	+00	
Pitch Table	System	System		System	System	

PITCH MODS	1	2	3	4	5	6
MODSRC	Off	Off		Off	Off	
MODAMT	-	-		-	-	
Glide	None	None		None	None	
ENV1	+00	+00		+00	+00	
LFO1	+01	-01		+02	+02	

FILTER 1	1	2	3	4	5	6
Mode	LP2	LP2		LP3	LP3	
Cutoff	078	078		070	070	
KBD	+19	+19		+26	+26	
MODSCR	LFO	LFO		LFO	LFO	
MODAMT	+09	+09		+19	+19	
ENV2	+80	+80		+99	+99	

FILTER 2	1	2	3	4	5	6
Mode	HP2	HP2		HP1	HP1	
Cutoff	000	000		000	000	
KBD	+00	+00		+00	+00	
MODSCR	TIM	TIM		ENV2	ENV2	
MODAMT	+69	+69		+69	+69	
ENV2	+44	+44		+00	+00	

OUTPUT	1	2	3	4	5	6
VOL	90	90		77	99	
MODSRC	LFO	LFO		LFO	LFO	
MODAMT	+06	+06		+07	+07	
KBD Scale	+00	+00		+00	+00	
LO/HI Key	A0/A0	A0/A0		A0/A0	A0/A0	
Dest Bus	FX1	FX1		FX1	FX1	
Pan	50	50		50	50	
MODSRC	OFF	OFF		LFO	LFO	
MODAMT	-	-		+40	+40	
Pre-Gain	OFF	OFF		OFF	OFF	
Voice Prior	MED	MED		MED	MED	
Vel Thresh	+000	+000		+000	+000	

LFO	1	2	3	4	5	6
Rate	24	24		25	24	
MODSRC	MIXER	MIXER		MIXER	MIXER	
MODAMT	+18	+18		+18	+18	
Level	16	16		16	16	
MODSRC	MIXER	MIXER		MIXER	PRESS	
Delay	52	52		52	52	
Waveshape	SINE	SINE		SINE	SINE	
Restart	ON	ON		ON	ON	
Noise SRC RT	00	00		00	00	

SELECT VOICE

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

ENV1	1	2	3	4	5	6
Initial	-	-		-	-	
Peak	-	-		-	-	
Break 1	-	-		-	-	
Break 2	-	-		-	-	
Sustain	-	-		-	-	
Attack	-	-		-	-	
Decay 1	-	-		-	-	
Decay 2	-	-		-	-	
Decay 3	-	-		-	-	
Release	-	-		-	-	
KBD Track	-	-		-	-	
Vel Curve	-	-		-	-	
Mode	-	-		-	-	
Vel-Level	-	-		-	-	
Vel-Attack	-	-		-	-	

ENV2	1	2	3	4	5	6
Initial	00	00		99	99	
Peak	99	99		99	99	
Break 1	86	86		29	50	
Break 2	64	64		40	57	
Sustain	62	62		32	44	
Attack	10	10		00	00	
Decay 1	30	30		41	41	
Decay 2	41	41		49	49	
Decay 3	33	33		00	00	
Release	22*	22*		20*	20*	
KBD Track	+00	+00		+00	+00	
Vel Curve	CC2	CC2		CV2	CV2	
Mode	NOR	NOR		NOR	NOR	
Vel-Level	69	69		99	99	
Vel-Attack	57	57		00	00	

ENV3	1	2	3	4	5	6
Initial	45	45		90	90	
Peak	99	99		99	99	
Break 1	75	75		83	83	
Break 2	75	75		73	80	
Sustain	72	72		78	79	
Attack	03	03		00	00	
Decay 1	50	50		44	44	
Decay 2	34	34		47	47	
Decay 3	40	40		50	50	
Release	14*	14*		14*	14*	
KBD Track	+00	+00		+18	+18	
Vel Curve	CV2	CV2		QR	QR	
Mode	NOR	NOR		NOR	NOR	
Vel-Level	00	00		23	23	
Vel-Attack	05	05		99	99	

PGM CONTROL

Pitch Table	OFF
Bend Range	**
Delay	X1
Restrike	00
Glide Time	00

EFFECTS (1)

Effect	CHR+REV.2
DECAY TIME	70
FX1	44
FX2	25

EFFECTS (2)

RATE	18
DEPTH	33
DELAY	020
R.MOD	+00
D.MOD	+00
MIX	+50

EFFECTS (3)

WAVESHAPE	SINE
MODSRC	MODWHEEL
HF-CUT	OFF

PERFORMANCE

Timbre	00
Release	00

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.

ESQ Patch: SILK

by Cam McMinn, Portland, OR

This patch is a no-frills, slightly-phased electric piano sound I use a lot for mid-keyboard chords.

The Hack

This is a nice basic electric piano sound. The patch was intended for chordal piano parts while staying out of the way of other instruments, and it does that very nicely. However, I wanted to add just a little more to it to make it stand on its own better—but still without cluttering the mix. First, I bumped DEPTH, on the DCA 4 page, to 63 to give a bigger stereo sound. Next, I went to the FILTER page and turned RES (Q) to 00 to make the sound slightly fatter. Finally, I decided a bit more tine sound was in order; simply raising OSC 3's OCTave to 4, and both SEMI and FINE to 05 accomplished this very nicely. If you're doing this on an SQ-80, substitute 19R for the T4 parameter of envelope 4, for a bit of reverb effect.

I found an interesting guitarish sound in Cam's patch, simply by turning the AM mode on. This creates an acoustic guitar in the bottom octaves, which blends into a synth piano in the upper register.

ESQ Patch: PITZI

by Glen Gafter, Kent, OH

This is a single-oscillator sound using a formant waveform. It sounds dry and puny by itself - it's one of those sounds that doesn't stand out on its own - but it works great in a sequence with other sounds.

The Hack

Like Cam McMinn's SILK patch above, PITZI is simple, but basically a nice sound. And like with SILK, I wanted to take this one a bit farther, and make it stand on its own a little better. So the first thing I did was add in the other two oscillators to fatten things up. To do this, duplicate the parameters of OSC 1, except on OSC 2, tune FINE to 04, and on OSC 3, set OCT to +1 and WAVE to SYNTH3. (There's a lot of room for experimentation here - play around and use what you like best.) I felt that the mod-wheel vibrato could be faster and deeper, so I changed the LFO 1 FREQ to 22, and the MOD #1 DEPTHs of all three oscillators to +03.

At this point, the sound seemed a bit too static, so I set up LFO 2 as a panning modulator with the following parameters: FREQ=07; RESET, HUMAN, and MOD=OFF; WAV=TRI; and L1=63, DELAY=10, and L2=56. Then I used LFO 2 as the MOD on the DCA 4 page, with a DEPTH of 63. The end result is a sound not too far from Glen's original, but much more lively.

ESQ Patch: PEDAL+

by Bill Seath, Minneapolis, MN

In this patch, the pedal controls the sync parameter. By moving the pedal, you create a "Wa" sound for an endless variety of timbres, or just a great lead effect. Also, try substituting waveforms in oscillator 2. Go wild!

The Hack

I love interesting sounds like this. Moving the CV pedal causes the timbre of oscillator 2 to swing from one extreme to another. (If you don't have a CV pedal, substituting WHEEL whenever PEDAL appears in the patch parameters will give the same effect using the mod wheel. On ESQs, turn MOD of LFO 1 to OFF; on SQ-80s, turn it to PRESS.)

The sweeping sound is nice, but I wanted to make it just one component of a smoother sound with a more solid foundation. To do this, I added in OSC 3 with parameters OCT=-1, SEMI=0, FINE=03, WAVE=SINE, MOD#1=LFO 1, DEPTH=+02, MOD#2=OFF. I also cranked up DCA 1 to LEVEL=63 to add more of the foundation to the sound. Changing the WAVE of OSC 2, as Bill mentioned, is interesting; after adding in OSC 3, I liked using SINE here as well, but many waveforms work nicely.

SQ-80 Patch: STRIKR

by Kirk Slinkard, Lakewood, CO

STRIKR is supposed to sound like some struck stringed instrument sent through a polyphonic flanger with a little resonance. The mod wheel turns up the flanger effect.

The Hack

This is a nice sound that I think many will find quite useful. Key pressure adds a touch of vibrato, and the CV pedal sends the notes slowly panning across the stereo field (you may prefer to speed this panning up, by raising the FREQ of LFO 2). The mod wheel adds a neat touch; it applies a slight vibrato to OSC 3, but its main effect is on OSC 2, which it detunes a great deal. Because this is done via LFO 3, the amount of detuning slowly oscillates. And because SYNC is turned on, the detuning changes only the waveform of OSC 2, not really affecting the pitch of the notes. Overall, a great phasing effect.

Some wide variations on this sound are easily achieved. To get a very "synthy" flavor, turn the filter resonance (Q) up to 31. Other variations are found by using different waveforms for OSC 1; zip through them all, and save the ones you like.

*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.*

ESQ-1 PROG: SILK

BY: CAM MC MINN

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	EPNO2	OFF	-	OFF	-
OSC 2	1	0	1	BELL	OFF	-	OFF	-
OSC 3	0	0	0	OCT+5	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	52	ON	OFF	-	OFF	-
DCA 2	33	ON	OFF	-	OFF	-
DCA 3	37	ON	OFF	-	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	0	2	50	ENV3	45	KBD2	-7

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	50	8	LFO2	35

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	-	-	-	-	-	-	-	-
LFO 2	12	OFF	OFF	TRI	63	0	20	OFF
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	63	38	1	59	0	2	28	47	37	15
ENV 4	63	47	0	17	0	2	41	63	19	44

	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	-	-

ESQ-1 PROG: PITZI

BY: GLEN GAFTER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	FORMT1	LFO1	1	OFF	-
OSC 2	-	-	-	-	-	-	-	-
OSC 3	-	-	-	-	-	-	-	-

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

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	41	3	0	ENV3	33	OFF	-

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	19	OFF	ON	TRI	0	0	21	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	63	22	6	12	0	0	12	59	37	0
ENV 4	63	39	0	20	0	0	48	42	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: PEDAL+

BY: BILL SEATH

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	SINE	LFO1	5	OFF	-
OSC 2	2	0	0	SQR	PEDAL	-63	PEDAL	-25
OSC 3	-	-	-	-	-	-	-	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	37	ON	OFF	-	OFF	-
DCA 2	52	ON	OFF	-	OFF	-
DCA 3	-	-	-	-	-	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	32	7	15	ENV3	50	PEDAL	20

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	6	PEDAL	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	24	OFF	ON	TRI	0	-	0	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	50	43	0	0	22	0	17	46	37	0
ENV 4	63	63	63	10	1	0	17	63	8	9

	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	-	-

SQ-80 PROG: STRIKR

BY: KIRK SLINKARD

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	GRIT3	LFO1	+01	OFF	0
OSC 2	-2	5	0	BASS2	LFO1	-01	LFO3	-63
OSC 3	-1	0	0	CLICK	OFF	0	LFO3	+01

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV1	+52	KBD2	-02
DCA 2	0	ON	ENV1	+63	OFF	0
DCA 3	0	ON	ENV2	+63	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	44	0	16	ENV3	+63	OFF	0

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	24	OFF	ON	TRI	0	0	0	PRESS
LFO 2	5	OFF	ON	TRI	0	0	0	PEDAL
LFO 3	6	OFF	ON	TRI	30	0	0	WHEEL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	+63	+63	0L	00	4	0	0	37	16
ENV 2	+63	0	0	12L	00	0	25	0	0	0
ENV 3	+63	+27	-63	63L	15	0	35	59	16R	21
ENV 4	+63	+38	+18	30L	00	0	31	60	16R	26

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

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

The Interface

Letters for The Interface may be sent to any of the following addresses:
U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221
Electronic mail - GEnie Network: TRANSONIQ, CompuServe: 73260,3353, or PAN: TRANSONIQ.
This is probably one of the most open forums in the music industry. Letter writers are asked to please keep the vitriol to a minimum. Readers are reminded to take everything with a grain of salt.

Dear TH,

I hope that one day I will be able to dump my KCS128 sequences "directly" to my **EPS** "and" be able to save them and later LOAD and PLAY them, thus using my EPS as a stand alone studio seq/controller. Ensoniq, any plans for this? Ever?

Thank you,
Al Trautman
Lydia, LA

[Ensoniq's response - We are not in a position to develop custom sequencer conversion software for all of the various sequencers on the market. The primary intention of the EPS sequencer is that sequences will be created on the EPS itself, although it is possible to record sequences into the EPS sequencer one track at a time.]

Dear Hacker,

Great mag - but what a lame review of EZEI Can't you get a demo of the real thing? Even if you have to spring for it? What are magazines for anyway?

Like to see more on sample editing programs for the **EPS**. Seems like some won't work with current EPS operating systems. Check with DigiDesign and Steinberg!! This is appalling!! Nonetheless, the EPS is the centerpiece of my MIDI setup.

David Coffin
Newtown, CT

[TH - Springing for it wasn't the problem. We were getting a lot of requests for information and the demo was all that was available at the time. The complete program is out now and we'll have a follow-up. (The short answer is that it works.)]

[Ensoniq's response - Steinberg has contacted us about a possible compatibility problem, but have not as yet provided us with enough information to be able to find the problem. We are not aware of other such issues at this time. If the developers adhere to our guidelines, there should not be any compatibility problems.]

Transoniq Hacker,

Here are some questions for Ensoniq:

1. I'd like to say that I haven't had any problems with my **SQ-80**, but a curious thing happened a couple of times that I thought you might be able to explain. Once during initialization there was a glitch in the AC power that confused the computer. Instead of the normal blue letters and numbers, there was an orange glow coming from around and between the display panels. I was able to duplicate this intentionally at a later date. What caused this sinister glow?

2. It is my intention to purchase a VFX-SD ASAP, OK? But I would like to wait until the final software version is out. Can you make any predictions about this yet?

3. What is the difference between an Ensoniq low-pass filter and a Moog low-pass filter?

4. How many synthesizer players does it take to screw in a light bulb?

Your subscriber,
Kirk Slinkard
Lakewood, CO

[Ensoniq's response - 1) A sufficiently large glitch can cause the microprocessor which scans the fluorescent display to lock up. When this happens, depending on what information is on the display at the time it locks up, the filaments may begin glowing. Although the circuit is current-limited to prevent damage, the display should not be left in this state for extended periods or the filament life will be shortened.

2) The VFX-SD sequencer Operating System (O.S. 1.37) is completely operational. If "bugs" are found and reported to us we will, of course, continue to fix them. It is difficult, however, to say what a "final" software version would be. We intend to continue to develop and upgrade the VFX-SD as time and resources permit. You can feel safe in buying the VFX-SD at any time. We stand behind it.

3) Both filters are a 4-pole design, although the classic Moog filter was entirely analog, while the filters in the EPS and VFX series are completely digital. Our digital filters are quieter, have wider bandwidth and are more stable than analog filters. Although our filters do not provide the resonance function of the Moog filter, they provide the additional capabilities of multiple modes (low pass, high pass and band pass) and independent tracking for the separate filter sections.

4) We don't know, but it sounds like a hardware problem.]

Dear Hacker,

I use this medium to discuss my exasperation with the **VFX-SD**.

The problem apparently rests in the SONG MODE where sequences are edited in steps. The problems occur erratically and insidiously:

1. Volume changes occur on MIDI channels MIDI'd out. At times program changes don't occur.

2. Note sticking, note omissions.

3. Bizarre crashes occur unexpectedly when innocuous buttons are pushed.

I have been sending my bugged disks to Ensoniq and am awaiting a cure.

I would like to know if there are others who are experiencing these problems. I feel all alone.

I sincerely feel this machine was put on the market before maturity, or before puberty for that matter. Please begin publishing articles on the VFXsd! The LOCAL functions (internal programs and song capability) SEEM TO WORK OK. I have been transferring SQ-80 data to the VFXsd and many songs use external MIDI modules (D-50, MT32) I have very carefully ruled out problems with these modules, cables, MIDI mergers,etc. The SQ-80 (original source of songs) puts out the song through these modules without any difficulty. There must be a major flaw in the SONG mode. Now Ensoniq swears software updates are very common and happen all the time with many new products. But how can a company put out a product that cannot create healthy songs with its sequences? I have heard of glitches but this is a basic function - that doesn't function!

I have been offered VPC cartridges by Ensoniq to have patience and work with them. I assume that sending me a new VFXsd would prove futile since they insist it's software instability.

What do you recommend I do?

Though the customer service reps are polite and patient there is an obvious arrogance and hesitation to admit wrong and grant me and my complaint the attention it deserves. Joe Friel (sic?) knows of the problem, but others I talk to don't know (or pretend not to know) and ask me inane questions when I call, like, "What MIDI-through box do you use?" Damn it, I've been using MIDI for years. The Ensoniq salesman at Sam Ash is more or less disinterested and denies he knows these flaws exist. It may be that he focuses solely on programming sounds and hasn't used its MIDI-Song Mode application. He hasn't heard any of these complaints.

Am I paranoid?

I hope to see something said about my complaints in future issues.

Thank you very much,
Glenn Losack, MD
New York, NY

[TH - Note: The letter above was the last in a series received over a few days. The final

letter (the one printed) seemed to have the best "wrap-up" of the problems.]

[Ensoniq's response - Dr. Losack has been very helpful in finding and reporting some bugs to us, which we have worked very hard to fix. There are too many details to his specific situation to be effectively dealt with in this type of forum. O.S. 1.37 (see news from Ensoniq in Front Panel) came about directly because of his situation and problems. His use of the machine is very advanced and we thank him for his efforts. We have spoken to him on numerous occasions since he wrote this letter and will continue to do so.

As an open comment to all of you readers who call in to Ensoniq Customer Service; it's important to note that we must fully understand your problem to be able to help you. That requires asking a strictly defined set of questions to be sure that we can qualify your situation and use of the product. If there are extenuating circumstances or other issues it is up to you to help us by bringing them up. Be clear, concise and patient. We want to help you the best we can.]

Dear Hacker,

First, let me say that you guys are doing an outstanding job. Like other readers, I often feel that the four or five week wait for my next issue is a little too long, but I'd rather have quality than quantity.

About a year ago, due to some quirk in the natural order of things (divine intervention), I ended up with a used rackmount **Mirage**. Although I wasn't blown away by the 8 bit sound quality, I WAS impressed by Ensoniq's product flexibility, customer service and third party support. It really warmed my heart that an American manufacturer was doing all of this! My next logical step was to buy an **ESQ-1**.

By the time you receive this letter I will be the proud owner of a VFX-SD. I've had to sell my Korg M1 to do it, but it's a small price to pay for the type of service and fun I've come to expect form Ensoniq and all of you third party whiz kids.

Now that I've buttered you up, here are a few questions:

1. How about a VFX rack version? Not for me, but for my friends who I've bragged to about you guys.)

2. What's the scoop on a new ESQ-type synth that Ensoniq is supposed to come out with?

3. Does Ensoniq plan to introduce a 16 bit sampler like the EPS in the not-too-distant future?

4. Do we have any hackers out there brave enough to make a sequencer expander and RAM cartridge for the VFX-SD at a reasonable price?

5. Is anyone interested in forming an Ensoniq User's Group in the southeast? Maybe one exists?

A final word to Ensoniq - please don't get razzled when we complain. We do this because you are the one manufacturer who seems to listen. You're on the cutting edge and we're here to make sure you stay that way.

Sincerely,
Buster Whitlock
Lexington, SC

[Ensoniq's response - Thank you for your kind comments -- it's nice to hear that you appreciate our efforts.

1) We have no plans to manufacture a rack version of the VFX.

2 & 3) For obvious reasons, we cannot discuss future product development in a public forum.

4) The price of the RAM chips used in the VFX-SD sequencer expander have already come down considerably. We have just announced the availability of the SQX-70 Sequencer Expansion (see this month's news from Ensoniq for more information).]

Dear Hacker,

I bought an **ESQ-1** about a year ago and a Yamaha RX7 in September. We also have an IBM computer with all the gizmos and high-tech peripherals (VGA monitor, mouse, 286 processor and CMS-401 MIDI interface card). A couple of months after I bought my ESQ-1 I saved up to buy Cakewalk 2.0. After I got the RX7, I have been having some problems connecting the RX7 and the ESQ-1 to the computer (to be run by the sequencer). I have received many different setup formations by my dealer and music teacher, but none of them seem to work. I would appreciate it if you could print up the correct MIDI setup to use. I also have a Yamaha YME8 MIDI thru box.

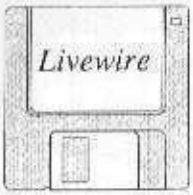
While I'm at it, I have really annoying problem on my ESQ-1. Sometimes, when I want to sequence with a count-off click, I don't hear the click sound. However, I do hear the count-off click when I also have the click option on. I have software version 3.5 so the problem can't be in the software.

One more thing. Since I will soon be going to college, I would like to know which computer system is the best for music. Price, portability, and software availability are my prime considerations.

Sincerely,
Aric Jacover
Evanston, IL

[TH - The portable version of the ST (STacy) might be your best bet for a cheap MIDI computer with lots of software available. Regarding your MIDI setup - there are probably several different ways to configure this depending on what you want to drive what. We suspect that your dealer has probably given you some configurations that

The Best!



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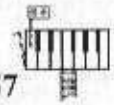

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SHOULD work. In your spot, the first thing we would do is to try JUST the computer with JUST the ESQ, and likewise with the RX7, to make sure everything's functioning. Swapping your MIDI ins and outs won't hurt anything either and it's a quick way to make sure things are talking to each other.]

[Ensoniq's response - Make sure that the countoff parameter is set to COUNTOFF=CLICK; not COUNTOFF=QUIET. If this doesn't fix the problem, try reinitializing the ESQ-1 (save all data; then, while holding down Record, press the upper-right soft button; answer YES). If this doesn't clear it up, call Ensoniq customer Service at (215) 647-3930.]

Dear Hackers,

Fist off, I have found TH to be an invaluable source of information and feedback, as the other "user support" magazines don't allow reader to interact. I hope Ensoniq appreciates the gaps you bridge. Keep it up.

Now for Ensoniq: what gives? The 2.20 OS that came with my **EPS** may not have been perfect, but my newly acquired 2.4 OS is driving me crazy. It crashes constantly, even during simple functions (copying instruments, playing while loading, etc.). The command/copy floppy function would really be useful if it ever worked correctly. 10 out of 10 disks I've tried to copy were unsuccessful. Pleeease, take a little time out and make the best work-station the PERFECT work-station by fixing the last few bugs in the OS.

Double kudos on the **VFX-SD**!! As far as I am concerned, it is the BEST new product this year. When I upgraded from an SQ-80 (8 voices) to my EPS, 20 voices seemed like a lot. But, as my compositions grew more complex, I began running into limitations. The VFX-SD would make an excellent addition to my studio (21 voices AND great sounds.) But I won't be buying one. I already have a master controller, my EPS, and I don't have the space for another keyboard. Since there is no rack version I am now deciding between the M3 and the Proteus. The longer you delay, the more dedicated Ensoniq buyers you lose.

Don't be deceived by my few gripes. I am a hardcore Ensoniq fan. Keep up the good work!

Erech Swanston
Maestro Sounds
New Yawk, New Yawk

[Ensoniq's response - Yes, we do. That's why we are willing to help answer these questions.

We have not heard of the problems you mention, but since we know that there is a problem with the "Copy Floppy" function, you may have a bad O.S. disk that was copied using O.S ver 2.40. We suggest that you visit your dealer and use the Copy OS to Disk function to copy a known-good version of 2.40 to a freshly formatted disk.]

Dear Hacketeers,

Noble savage from "Wahoo-Serious," Texas had a good point. The **C.V.** (Cheesey Voltage) pedal basically sucks. BUT, we do get what we pay for (unfortunately).

My question? What if the $0.15 piece of plastic that moves the gear on the potentiometer should happen to rub it the wrong way and break?? Can we get a replacement part... or do we shell out another measly $40 for another pedal? Thank you for your support. (Comment based on the correct answer from Ensoniq.)

Thanks,
Greg Brettell
Phoenix, AZ

[Ensoniq's response - We do not manufacture the pedals ourselves, so we do not have replacement parts. This hasn't been a problem, as the CV pedals have proven to be extremely reliable, with virtually no reported failures.]

Hey Transoniq,

I am an **EPS** owner, composer, musician with a Commodore Amiga, Dr T's KCS 1.6ish, and a thirst for fresh industrial/alternative dance/post-modern music that can't be quenched.

I have been getting mixed signals on the bit width of the EPS's samples. Please correct my misunderstandings. The EPS's A/D converter can sample sounds at 13 bits. The EPS can play 16 bit sounds. Ensoniq memory upgrades are only 13 bits wide? My concern, assuming 16 bit memory is still available, installed, and supported by the EPS output hardware - can 16 bit samples be loaded, saved, and played (although not sampled directly with the EPS?) I am very interested in computer generating DSP samples for the EPS. Is it worth it to generate them for the 16 bits, or does the EPS only recognize 13 bits in playback? Additionally, if the EPS can play 16 bit samples, wouldn't 13 bit memory upgrades sacrifice some resolution of externally generated 16 bit samples?

Just so I can see this PC comparison in your mag: MS-DOS makes me puke, Macs are way too expensive, Atari STs are a knee-jerk response to Macs with nothing innovative except a dinky price tag and veritable poop loads of boring software. Amigas are to me the most practical, powerful, cost effective A R T computers to be found anywhere. With this in mind, I hope the trend in new innovative Amiga software products continues.

I wish Ensoniq would work with ART computer (AMIGA, Mac, Atari, IBM...) software developers to establish a solid base of Ensoniq oriented software packages. An EPS linked to an ART computer with good sequencing, patch and sample editing, DSP sample generating software would make an awesome graphical workstation to be compared with the best. Such an integrated workstation capability could make Ensoniq

products gorgeously attractive over other products in the future.

Is it true that the patent on FM synthesis by Yamaha has expired? If so, is Ensoniq paying any attention to this? FM synthesis, although a little out of fashion these days, is a truly remarkable method of sound generation. A unit like the VFX with FM synthesis would be a blockbuster! Add to that EPS-like sampling capability and there would be nothing that could top an Ensoniq.

Fred Shaul
Computer and Software Engineer
Graduate Music Student
South Bend, IN

[Ensoniq's response - The EPS uses 13-bit samples as source material, and all internal RAM is indeed 13 bits wide. Any signal processing operations are performed with 16-bit resolution to prevent signal degradation. The sample interpolator and digital filters have 24-bit resolution and the final signal is played back through a 25-bit floating point converter with 13 bits for waveform data and 12 bits of volume control. Though it is correct that the EPS stores and plays back 13 bit samples, you can still get excellent results generating DSP samples at 16 bits and then sending them over to the EPS for playback. This is exactly how we create many of our factory sounds.

We do work closely with many developers writing software for a variety of computers. We would like to be able to do even more, but our resources are limited.

Although we are studying various algorithmic methods for generating sound, we don't feel that FM represents a feasible path for us, considering the development costs.]

Dear Interface,

I must be starting to feel a part of the family. It normally takes a crisis of some sort to prompt me to write to a magazine, but not this time. I just wanted to share a couple of thoughts with fellow users.

First of all, I recently made my first purchase of third-party patches. I have owned my **SQ-80** for over a year and have not yet acquired the inclination nor the ability to program voices myself. I got a collection of sounds on disk from the dealer when I bought the synth (ALL public domain, I'm sure) and, although few are what I would call impressive, I have been using them almost exclusively, as opposed to the factory patches.

Buying third-party patches has often been cited as a means of breathing new life into old gear, and since my equipment budget had been dwindling, I decided to give it a go. And, I decided upon Cesium Sound, simply because "Cesium" and "Nick Longo" have been favored names in TH (so it must be a safe bet) and because I have received direct mail advertising from him. Rather than rate Nick's patches, since I have virtually no REAL third-party patches for comparison, let me just say this: it is REALLY true what they say - you have no idea what these synths are really capable of until you get some professional programming into them. Compared to the factory's patches and most of the dealer's freebies, these patches SING. They have a lustre and presence I have not heard on ANY of the nearly 1600 patches I have collected. If you are not satisfied with the quality of sound you are getting out of your synth, BUY SOME THIRD-PARTY PATCHES. Watch the Hacker reviews to identify those of the best caliber.

And, while we're on the subject of patches...this will no doubt arrive too late for this year, but keep it in mind for next year. Patch disks/tapes/cartridges make great Christmas gifts. Prices start at under $20, their net effect is similar to that of receiving a new instrument, and they're even small enough to be considered stocking-stuffers if you are so inclined.

On the subject of equipment addiction...My friend Steve and I have come to the conclusion that MIDI was not so much a technological breakthrough as it was a marketing breakthrough. It is amazing how you just can't seem to get enough MIDI gear. In fact, we are of the opinion that MIDI actually stands for "Marketing Instruments to Dumb Individuals." The very sight of the right rack-mount synth expander has a way of making years of education and common sense go immediately to the wind.

On the subject of on-board sequencers...On more than one occasion I have read the sentiment, often in the context of a product review, that an on-board sequencer is "good enough for use as a scratch pad." Specifically, this has been said of Ensoniq's sequencers. Okay, it's true. My SQ-80 sequencer doesn't quantize to to 32 billionth notes. And it can't merge two tracks with different instrument assignments. But I use it in performance nearly every week, and I recently did a jingle of sorts (a full-length song, actually) for a local restaurant, all with the SQ-80 sequencer. Interestingly, not one person has approached me to suggest I use a more sophisticated sequencer and reserve my on-board sequencer for "scratch-pad" applications. Rather, the typical responses are craned necks ("Where is that sound coming from?") and questions from inquisitive listeners fascinated by the technology. I even received several compliments on the production quality form an engineer just back from LA. So it is not just the uninitiated who find this machine impressive.

And a few amusing anecdotes from the past...When I was a Communications student at Temple University, I took an audio production course. One of my classmates was a tall gangly guy named Bill Mauchly. As many of you know, he is now a major force at Ensoniq. Well, let me give you some idea of what a creative whiz this guy is. For one project he recorded spoken phrases on tape and put them into a Mellotron. So, by depressing various keys he generated spoken words. Initially, the phrases were complete and spaced fairly

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normally. (The project, by the way, was about the first time Mr. M indulged in recreational vegetation.) So, as things progressed, the phrases got more and more jumbled, shorter, closer together, distorted, you get the idea. If I'm not mistaken there was also some cheesy electric guitar playing "Louie, Louie." It was great. At the end, the instructor slowly reached over, shut off the tape machine, looked up at Mauchly and said, "Okay, how did you do it?" This kind of thing sounds elementary, now that we're all accustomed to sampling, but this was around 1976. Quite visionary I think. Bill had a few other jewels in this class, too. For a final project, he produced a series of four commercials, some with jingles. Most memorable ones were the ads for "Bang" (the first feminine deodorant in roll-on form) and "Eye Popper," a family board game in which the loser must pull his eyeballs out with "Eye Popper Suction Cups." Yes, a little twisted, but definitely creative and, as we have seen in Ensoniq products, a very intelligent guy.

Well, that's about all this time around. Thanks again for a great magazine. I look forward to receiving it every month. I only wish it was bigger; I read it all in a day or two.

Sincerely,
John R Bolles
Royersford, PA

[Ensoniq's response - We heartily encourage our customers to check out third party sounds. They represent an excellent way to add value and longevity to your keyboard at a moderate cost.

You are certainly not alone -- we know of many people, from home recordists to top studio professionals, who are using the sequencers in our products for full-blown musical production. We haven't used the word "scratchpad" for years.

Regarding Bill... he never mentioned these projects to us. Thanks for the insight.]

Dear Hacker

Thank you for answering my questions in the December issue of TH. There are, however, a few points I need to re-clarify as they did not produce the answers I was looking for.

One was point #3, the "It only works in MIDI mode" bug.

Although I am completely aware that you can get a long sustaining sample to re-fire over itself creating an echo effect, by assigning it to a group of keys with the same pitch and then playing these keys one by one, that tends to eat up keys! Currently, on the **EPS** through MIDI, playing the SAME key note value causes the voice allocation of the EPS to retrigger the sound on different voices causing this desired echo effect! Yet, from the keyboard, the voice gets grabbed by the next voice, canceling this effect. I am able to do this from the keyboard using the same key from my PPG 2.3 but not from the EPS. Is there a way a Wavesample, Instrument, or basic overall operation can be set to allow such a repeated single key to cause the EPS to use Dynamic Voice Allocation rather than using this, one voice per key method?

Another point was for question #1: Removing the sequencer.

I am aware that as long as you do not use the sequencer, no sample memory will be used up, but my question is how about re-writing, (re-compiling) the complete operating system of the EPS WITHOUT any sequencing, or recording related routines in it, causing the length of the OS to decrease, thus freeing up some more RAM for wavesample information. I understand that the EPS uses an area of RAM for loading in overlays for some its functions. If the sequencing portion of the software is not overlay dependent, then it can be removed. If it is, then obviously the only memory saved will be the few bytes representing the overlays themselves and that wouldn't warrant a change, but it seems that since all MIDI and KEYBOARD driver programs are obviously in memory at the same time the SEQUENCING driver is, and that all I want is the MIDI and KEYBOARD drivers, that removing the SEQUENCING driver could be a valid possibility.

And, finally, question #2, Sampling converting rates...

I have run into a few times where I will convert a sample down to a lower sampling rate, and then I'll ask to convert it again, and I'll be given some pretty outrageous sampling rates to choose from. I thought 52 kHz was the highest, but the EPS will give me choices like 78 and 110 kHz. I know converting up is a waste, but can you initially sample at a frequency over 52 kHz? Or is this just a bug in the frequency list for conversions?

Some new questions for Ensoniq regarding the EPS are:

1. Will there be a High-density 3.5 disk drive available for the EPS (1.44 Meg per disk) which could read, write, and format both 800K and 1.44 disks selectively?

2. Is the operating system of the EPS proprietary or can it be read by perhaps an IBM, ATARI, AMIGA,etc? Just a thought...

Sincerely,
Peter Stone
Mission Hills, CA

[Ensoniq's response - No, there is no way, other than the one you have found via MIDI, to override the EPS's retriggering scheme, which alternates two voices when you repeatedly re-strike a single key.

The Sequencer operating system code is in an overlay already. It is loaded as the default when the EPS is booted up.

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The extra-high sample rates you noticed are there primarily because they were easy to implement, being multiples of existing sample rates. They do have a number of uses, however. For one, the higher the sample rate the greater the pitch resolution, so you could use this function to buy extra pitch resolution at the expense of some memory. Also, converting to one of these high sample rates could be used to "transpose" a wavesample to a different octave prior to merging it with another sample.

1) We have no plans for a quad-density drive on the EPS as this would require re-designing the disk controller circuitry on the main board.

2) We use our own disk format. We really don't know whether our disks can be read by other computers.]

Dear Transoniq Hacker,

I recently purchased a **VFX** and so far I think it is a pretty terrific instrument. I'm developing a patch editor/librarian for it to run on an IBM PC (clone) using a Roland MPU-401 MIDI interface. A check of the manual shows that the VFX appears to be sending and receiving large chunks of data with only minimal possibility for error detection. When I say large chunks of data I mean 1,060 bytes in the case of transferring a single program, or 63,600 (!) bytes in the case of transferring all internal programs. With the VFX's current system exclusive protocol it is possible to detect the following kinds of data errors.

1. One of more bytes are complete missing.

2. One or more bytes are corrupted in such a way that the upper four bits (nybble) are non-zero.

3. A parameter is so badly corrupted that its value is out of range.

What if only a few bits in the lower nybble are flipped in such a way that the parameter value is still within range? This could dramatically alter the program (or preset) and the user would never know until he started playing (a scary thought in a performance situation.) Note that this would not only be a problem when the VFX is connected to a computer. It could happen whenever program/preset data is sent via MIDI (for example to an EPS for storage on disk.)

In my "daytime job" I'm a computer engineer specializing in computer communications, and if I've learned anything from this job, I've learned that you don't take anything for granted when it comes to computers talking to each other. It seems to me that there should be a checksum or other error detection information included whenever a large block of MIDI system exclusive data (like parameters for a program) is transferred. There should also be an acknowledgement sent by the receiving machine (also as system exclusive data) indicating whether or not the data arrived intact. What's the story, guys? Am I missing something? Am I being too idealistic? Does the MIDI protocol provide some kind of low level error detection? If not, does Ensoniq have any plans to add error detection/correction to their system exclusive protocol? Is this apparent lack of error detection common in the system exclusive protocols of other synths? I haven't seen any data corruption problems yet, but my MIDI setup is fairly simple and in a fairly clean (electromagnetically speaking) environment. Has anyone out there in hacker-land seen any mysterious problems that might be attributable to data transmission error?

Sincerely,
Tim Lowery
San Diego, CA

[Ensoniq's response - Your observations are correct, but the situation is hardly as dire as your conclusions might suggest. In an ideal world, where time and code space are not so precious, one would like to have as many layers of error correction as possible. However, we have used the same basic protocol for SysEx data transmission in all of our products, and the issue of data transmission errors has never really come up as a problem.

There is no absolute standard for data transmission protocols via MIDI SysEx, so each manufacturer has developed their own. "Hand-shaking" protocols, if they are necessary for the transfer, can cause problems when using generic librarians and MIDI SysEx recorders which don't respond with the proper messages (as we learned with the ESQ-1).]

Dear Hacker,

Well, I must say that after a year and a half of subscribing, you made a believer out of me! I love your publication! Let's see some more articles that deal with the ins and outs of the **ESQ-1**. I read a while back (I forget which rag) that the ESQ-1 made it to the "Synthesizer Hall of Fame." Is there such a thing?

I would also like to see more lead keyboard, and analog string patches in the "Hackerpatch" column. ("CP-87" & "OCNSTR" are great lead keyboard and concert string patches respectively; I use these two often.) Sam, you're doing a good job there! Keep up the good work! The "Hackerpatch" is one of the key reasons I subscribe. I have to admit though, it's hard to retain issues in my library that only deal with the VFX, Mirage, & EPS, because they are not applicable in my setup. But, you can't please everybody all the time. Maybe a good balance is the answer. Anderton's write-ups are killers! Young synthesists, read Craig's articles with reverence!

I have a bone to pick with music store salespeople - I'll try to explain it the best I can, so bear with me for a minute. If you sell a product, for the sake of user support, learn extensively what it will do and not do. Go beyond the owner's manual to learn some tips and tricks about the device. (If you're now mumbling to yourself, "This guy's nuts! I don't have that kind of time!" I would then ask, just how important customer satisfaction is to you. If customer satisfaction is important, then learn the products so you can answer the customer's questions and they won't leave your store in a huff. If you don't know, talk to the manufacturer while the customer's there. Simply put, if you don't know the answer, find someone who does. (This goes for upgrades too!)

I am a computer programmer by day and a MIDI fanatic by night. I'm familiar with the consequences when the customer is left in the dark on a hardware/software problem. It gets old going to a music shop for an answer to an important question, only to be told, "Well... I don't know what to tell ya, ...Here's the number of the manufacturer... Sorry!" That kind of reply is pathetic and it stinks! Now I understand when you've exhausted all in-store resources, you may need to call the manufacturer - and that's highly advisable. It's just that when the above response is the FIRST response and not the last is when it's aggravating.

I'm not picking on any particular manufacturer or store. It's just that I'm tired of going to an "Authorized Dealer" for brand X and all I hear is this "Well, I don't know what to tell ya" stuff. (I would like to see Ensoniq salespeople read the article in the Hacker a while back that dealt with "Synth Programming Standards." I have used this article as a basis for standardizing naming conven-

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tions for all programs in my system.)

Grapevine advertising is free and it's the best kind in my book. Positive and negative experiences spread like wildfire! I think that good customer/salesperson relationships are a key issue to the success of ANY product.

In addition, when I consider buying a product, I look for five things (not necessarily in the order mentioned): (1) ergonomics (ease of use), (2) cost, (3) available software, (4) operating system upgrades, and (5) sound quality of available patches. If any one of them fails the test, (where applicable), I won't buy the product. Period. Sounds are important, but they're only part of the ballgame.

From the customer side: when a store treats you well, tell them! They're human beings who want to know when they're doing a good job. When there's good relations between customer and store, everybody wins.

My setup consists of a Kawai Q-80, & Kim, Alesis HR-16, and ESQ-1 as my controller. These are routed to a Korg KMX-122 12-channel mixer, with an ART Multiverb. I would be interested in swapping sounds for the ESQ-1, Kim, and HR-16 patterns via Q-80 disk format. (I'll swap ESQ-1 on cassette if you want.)

Thanks for the air time! Keep up the good work with the Hacker and have fun makin' music.

Ron Nolan
Wichita, KS

[TH - Actually, we've never had any issues that dealt with just the VFX, Mirage and EPS. We've had at least one article on the Mirage and the SQ's in every issue since they've come out. (Although this will probably change for the Mirage in the near future...)]

[Ensoniq's response - To blow our own horn for a minute, the ESQ-1 did win the music industry's "Most Innovative Keyboard" award in 1986 and has gone on to sell enough units to be one of the top-selling synths of all time. That success is due in large part to all of you who purchased them and we thank you for making that possible.

We agree with many of your points about the responsibilities of a dealer. We work very hard to educate our dealers through the Ensoniq School and extensive workshops in the field. Our limited dealer base is selected by many of the criteria you have mentioned and we believe that there is no finer group of dealers than Ensoniq Authorized Dealers (sound the inspirational music).]

Dear TH:

I write to address the issue raised in Carl McGinnis's letter in TH #52 regarding moving samples around the keyboard and/or combining them in different instruments, "custom" drum kits, etc.

As a novice in electronic music in general and **EPS** sampling in particular, I too have asked the same question and the answer is always the same - but the stuff on pages 16, 17, and 27 and changing root notes just doesn't work! The changes described simply result in strange sounds coming from the original notes. (I.e. a bass drum sample on C2, copied to a new instrument and changed root note to D4 never sounds on D4 - it still plays on C2 and sounds like a flag flapping. However...

To do what I want (and what I assume McGinnis wanted) one must select the appropriate layer and sample on the Edit Inst. page. The hit the "Set keyboard Range" button, and SHAZAM! The keyboard note rage of that particular sample is displayed. Changing this setting to the desired keyboard notes and THEN resetting the root note on the Pitch page will relocate a sample anywhere.

Since this is the only way I have successfully rearranged drum kits and combined bass and keyboard instruments together into one "instrument" as McGinnis suggested, I have the following questions:

1) Is this the proper way to relocate samples?

2) If so, why can't I find any reference to these steps in ANY EPS manual or article? No one has ever mentioned Set Keyboard Range from Edit Page and the display that results.

3) If this is wrong, will I ruin anything by doing this, and what is REALLY the right way?

This comes six weeks after the McGinnis letter since I just discovered this step by accident!

Thanks for offering this opportunity to "Interface."

Sincerely,
David Grebos
State College, PA

[Ensoniq's response - The steps you outline are the correct ones. After you change the Root Key for a sample you must also change the range using the Set Keyboard Range function if you want the sample to play at the proper pitch on a different part of the keyboard. Unfortunately, it appears that this was not made clear in the documentation, although it is all there in different sections.]

Interface:

I'm writing in reply to Bob Grey's (of Greytsounds) letter in January's TH. Being the company in question, we offer this rebuttal.

To summarize, Bob reported that some

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The Touch Technology Team at

ZimmerWorks

people found some of his company's samples in our public domain library. After being informed of that, he called us up and we responded by gladly offering to accommodate him. He went on to write about what he thought "public domain" should mean (free distribution by artists' intention), then claimed we violated those standards, and doubted we had the versatility to maintain a list that fit his criteria.

Rubber Chicken's response: now this is Bob's situation. He called us three or four months ago. We had been checking his catalog already (it had just been released to **EPS** owners), but it didn't reveal that we had any of his sounds since it doesn't list the actual sample names nor the block amounts. After he talked with us, we suggested that he send us names and blocks so we could take care of it. We also sent him our own list so he could be better informed on what we were doing. To go further, we checked our own sources and adjusted accordingly. Well, we're STILL waiting for his reply (that was four months ago, remember?). We phoned him several times, but he hasn't returned them. Bob, we don't want your sounds on our list!

To refute Bob's second point, let me explain a little on how our company manages our list. We compile our samples from several major US markets (and some abroad) from personal representatives who trade, deal, and look for samples people are intentionally making available - while strictly avoiding commercial ones. We here at the head office keep hands-on track of all catalogs known to sell EPS samples and review the list continuously. We have dropped over 200 samples already, as a result of this persistent weeding-out process. We update our own list to the minute, never releasing anything we know is outside the boundaries. Our list is stored on a database and is copied on standard 8 1/2 x 11 paper for distribution. It has been done that way since the beginning (one and a half years ago), and that by design.

Mr. Grey takes a dirty swipe at us, saying, "[our PD samples] have been acquired from... more expensive libraries... they are identical... and they can be sold for less because they did not put their hard work and time developing them." Are you saying all of them? Grrrr... Mr. Grey, we challenge you to find even ONE example of this (besides your own - which you haven't taken care of yet). We do, and continue to, adhere to high standards of integrity, and we willingly make ourselves fully accountable to Ensoniq Corp., Transoniq Hacker, and the entire EPS owner family (including you, the reader).

Shareware (or public domain) is no longer the underground concept it used to be. Nowadays (especially in the PC field), entire storefronts and mail-order companies are built with this in mind. And what could be better? Raw samples, easily made, before optimization, sold at a fraction of what fully reved-up samples cost. Sampler owners are free to build up their libraries and enhance their EPS all that much more. Shareware is wholly legitimate, but only when administered by people who have a genuine interest in the computer/instrument and the people who own it, and are not motivated by personal greed.

In closing, I would like to assure all concerned (including Mr. Grey) that we hold OURSELVES responsible for keeping our own library pure, and nobody else. We are currently doubling our efforts to check and clear samples (taking the offensive a bit). We also realize the PD issue can be a thorny one on some points. Let's hear some dialogue. We're very interested on what everyone has to say.

Happy sampling,
Garth Hjelte
Chief Designer
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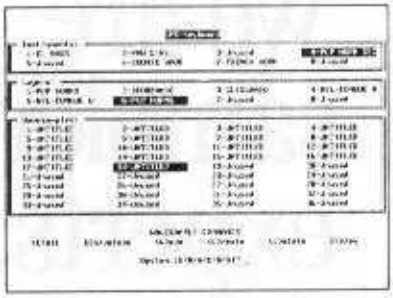

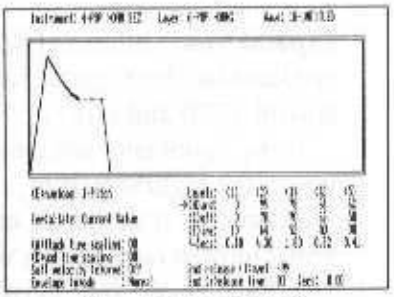

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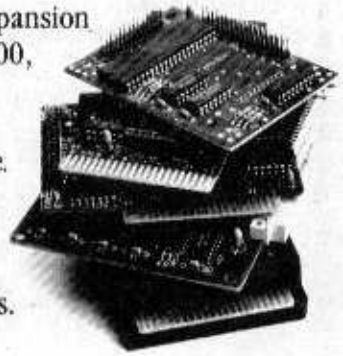

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