

Transoniq

Hacker

The Independent News
Magazine for Ensoniq Users

Instant Copy

Making Life Easier with the VFX/SD-1
(& TS synths, too) Copy Functions — Part II

Robby Berman



Well, hello there, copycats and kittens. In our last installment we discussed how to take elements of Sounds and move them hither and yon (which is not to say to and fro) by using the terrific Copy functions built into your VFX or SD synthesizers. This time we'll talk about some other special Copy functions.

Finding Default

If one (or two, for that matter) were to press the Copy button immediately after viewing either the Select Voice page or any of the envelope pages, one (or two) would see the word "DEFAULT" to the left of RECALL and MAKE COPY on the Copy display.

If you press Copy after selecting a voice on the Select Voice page, you can recall a copy of the VFX/SD default voice program into the currently selected voice position. The default voice is nothing special really; it's a STRINGS wave provided as a standardized starting point for programming. But let's check it out.

Select any Sound at all. Press the Select Voice button and mute all the voices you see except one. To do this, press the soft button underneath each wave that doesn't have parentheses around it — this will select the voice. Press the button again and the voice becomes muted, as signified by those dang blang parentheses. Mute 'em all 'til there's only one voice left sans parentheses; then press its soft button to select it.

Press Copy and then the button below DEFAULT. Now go back to the Select Voice page by pressing its button. That last voice you selected has been reprogrammed to play the default voice.

More interesting is what happens when you press the DEFAULT button after being on any envelope page. Press an Envelope button of your choice. Now press the Copy button and the button under DEFAULT. On the lower line of the display, you'll see TYPE=FULL ON. This is the first of 17 default envelopes — you'll find all of the most commonly-used envelope shapes here. Ensoniq's provided these as starting points for your own envelope programming. You can access any of 'em by scrolling upward and pressing RECALL when you've found the one you want.

Swap Talk

Each voice in the VFX/SD architecture has three envelopes and two filters (both filters hide under the single Filters button). By planting yourself on an envelope or filter page and pressing Copy and Recall, you'll be offered the opportunity to copy the parameters from one envelope into another, or one filter to another. To demonstrate.

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Press an envelope ("Env") button, and then the Copy button. Now press the big black thingy under RECALL and: *viola!* The display sez: RECALL FROM COPY OF ENVELOPE-1 INTO NEW ENVELOPE-1. That little underline under the first "1" tells us that the value is editable; you can change it to select any of the three envelopes as the source of your soon-to-be-copied parameters. When the top line is set as you want it, press the center lower button to pick a destination for all those parameter values. Press the button above YES to do the deed, or the one below NO to bail.

If you're on a Filter page and press Copy and RECALL, a similar display will appear.

Here's another example of this swappin' kinda thing — but it's only in the SD-1 (and TS) synths, not the VFXers. If you're on a Drum-Map editing page and you press Copy and RECALL, you can copy entire drum maps to new locations.

You can also use the Copy function to fill in an area on the keyboard range with copies of a key within a drum-map. To do this, select a drum-map key in the Drum-Map Editor. Press Copy and then the button under KEY RANGE. Select the KEY-RANGE START/END parameter and, on the keyboard, play the lowest and highest key of the area you want your copies to land in. Select COPY and it's all over but the shouting (drumming, actually). Press EXIT if you wanna cancel the operation.

This Space for Rent

Did you know that the copy buffer hangs on to what you put in there until you overwrite it? That means that it can simultaneously store all the individual components of a voice. You can warehouse an LFO from here, an effect from there, up to three envelopes from somewhere else. The buffer will keep it all safe and sound until you either make a copy of, say, another LFO, effect or envelope — at which time the new one will replace the old — or until you copy an entire voice or program, which would likewise overwrite the older parameters. This allows you to fill the copy buffer up with bits and pieces of things which you can then distribute here and there at your merest whim. Or you can combine the odds and ends into some new Frankenstein of a voice.

Programming one of these sophisticated synths can certainly be daunting. But the Copy functions provide a wonderful starting point for the novice programmer, what with the defaults and the ability to nick a bit from here and move it to there. For more experienced sound sculptors, it's a great time-saver, giving us back hours of our precious time (so we can watch more TV).

Press the button, Frank. ■

Bio: Robby Berman is a musician/songwriter living in bucolic — or is that choleric? — Saugerties, NY. His latest album is "Rings and Rings."

Transoniq-Net HELP WITH QUESTIONS

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

All Ensoniq Gear — Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 610-647-3930.

All Ensoniq Gear — Electric Factory (Ensoniq's Australia distributor). Business hours — Victoria. (03) 480-5988.

SD-1 Questions — Philip Magnotta, 401-467-4357, 4 pm — 12:30 EST.

VFX Sound Programming Questions — Dara Jones, CompuServe: 71055,1113 or Internet: ddjones@netcom.com or call 214-361-0829.

SD-1, DP/4, ASR-10 Questions — John Cox, 609-888-5519, (NJ) 5pm — 8 pm EST weekdays. Any time weekends.

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

Hard Drives & Drive Systems, Studios, & Computers — Rob Feiner, Cinetunes. 914-963-5818. 11am–3pm EST. CompuServe: 71024,1255.

EPS, EPS-16 PLUS, & ASR-10 Questions — Garth Hjelte. Rubber Chicken Software. Call anytime. If message, 24-hour callback. (305) 792-9231. CompuServe: 72203,2303.

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

EPS/MIRAGE/ESQ/SQ-80 M.U.G. 24-Hour Hotline — 212-465-3430. Leave name, number, address. 24-hr Callback.

Sampling & Moving Samples — Jack Loesch, (908) 264-3512. Eastern Time (N.J.). Call after 6:00 pm.

MIDI Users — Eric Baragar, Canadian MIDI Users Group, (613) 392-6296 during business hours, Eastern Time (Toronto, ONT) or call MIDILINE BBS at (613) 966-6823 24 hours.

SQ-1, KS-32, SD-1, SCSI & hard drive Questions — Pat Finnigan, 317-462-8446. 8:00 am to 10:00 pm EST.

ESQ-1, MIDI & Computers — Joe Slater, (404) 925-7929. EST.

HYPERSOINQ NEW PRODUCTS

Third-party sound company **Pro-Rec** has just added 5 new audio sampling CDs to its line of sounds: *The Fairlight IIX Library*, *Ecstatic Acid Bytes* (3000 analog acid, dance and techno synth sounds), *Astro Glide 202* (800 analog techno and dance sounds from the Roland MC202), *Technologic™* (112 techno analog audio sequences, 21 techno drum loops, 180 synth & bass sounds, drum kits and techno drums), and *The Analogue Collection* (over 650 digital samples of 24 classic analog synths). The CDs are \$89 each and are available directly from Pro-Rec. For further information, contact: Pro-Rec, 106 W 13th St., Suite 13, New York, NY 10011. Phone: 212-675-5606.

Rubber Chicken Software Co. announces their second CD-ROM, *CD-ROM II*. This is a compilation CD-ROM, containing master-piece samples from such *Hacker* mainstays such as First Generation (16-bit computer-generated samples), Bros. Ryan (great sound effects), Jack Tolin (Synth-Bits), Bob Spencer/Bagfed Sounds (of SoundProcessor fame), Tom Shear (of Hair Club for Men fame), Dietz Tinhof, Barry Carson, Rhythm Factory/Bryce Inman, and More! A special 30 meg assortment of electric basses and clean/dirty electric guitars is also included, as well as a couple of new 8-meg PIANOS. All sorts of high-quality samples are represented. List Price: \$299.95, on sale for a limited time for \$249.95! Also, RCS announces *The French Collection*, a 10HD set, containing line 48Trombone, Trumpet, Coronet, Regale, Tibet Horn, Kelon Marimba, Bassari Flute, Amateur Choir, Renaissance Soprano, and other fine European old-style sounds. List Price: \$79.95, on sale for a limited time for \$49.95! Contact: Rubber Chicken Software Co., 4118 SW 61st Ave, Davies, FL 33314, 1-800- 8-PRO-EPS.

RND (🎵🎵)

Ensoniq News

Ensoniq is pleased to announce the release of the KT-88 64-voice weighted action keyboard. As you might expect, the KT-88 is an 88-key version of the KT-76, with all the same great features. The KT-88 weighs 59 lbs. and retails for \$2695.00. It starts shipping at the end of October. Many of you hackers have been requesting an 88-note keyboard from Ensoniq; the KT-88 shows that they are indeed listening.

New Sounds — ASR-10/TS Series

CDR-4 — This new CD-ROM is a compilation of the many AS libraries Ensoniq has been releasing. It includes AS-1 through 14, the ASR-10 in-box sounds, and the new TS "Essential Samples" collection. The value of these sounds on floppies would be over \$500, but *CDR-4* will retail for only \$99! Available late November.

CDR-5 "LA Riot, Vol.1" — This collection of hip hop, rap and DJ effects was recently reviewed in the *Hacker*, now it comes in native ASR format. Created for Ensoniq by Hollywood Edge and Chronic Interactive this is a must-have collection for dance production. Retail price \$199.95. Available in December.

CDR-6 "Best of Sonic Arts" — Sonic Arts is the new sound development "wing" of Ramtek, and they have created an excellent collection of rock and R&B sounds. Ensoniq has chosen the best of their many CD-ROM libraries for this compilation. Includes pianos, organs, Rhodes and Wurlitzer EPs, basses, guitars and drums. Retail price \$199.95. Available in late November.

CDR-7 "Jason Miles' Psychic Horns" — You may have heard about these stellar horn riffs and articulations from Q Up Arts'

audio CD. Now they are available in native ASR format. Programmed by Robby Berman. Retail price \$199.95. Available in late November.

CDR-8 "Orchestral" — A great starter collection of orchestral timbres from InVision Interactive. Includes ensemble and solo strings, horns and woodwinds, harps, gongs, timpani and more. Programmed by Music and Sound Associates (Clark Salisbury and Erick Hailstone). This is the first in six volumes of CD-ROMs by InVision, which will retail for \$99 each! Available in November. Future volumes from InVision: *CDR-9 "Ethnic"* — available in November, *CDR-10 "Pop/Rock"* and *CDR-11 "Keyboards"* — available in December, *CDR-12 "Drums"* and *CDR-13 "Percussion"* — available in January.

Hacker News

Robby Berman has developed a Hackerpatch form for the new Ensoniq KT synthesizers. Since the KT's are just getting going, we feel that it's probably a little too early to publish the form — but a copy of it is available for anyone who wants one. Just write or call. Meanwhile, it's certainly not too early to begin publishing articles, so we'd like to send out our usual call for writers. (We could also use some more TS writers.) So... if fame, pennies, and getting snatched away by equipment manufacturers appeals to you, call or e-mail and ask for Jane. (503-227-6848 or Jane@iransoniq.com)

Writers Craig Anderton, Bob Moses, and Greg Bartlett have just had their new book, *Digital Projects for Musicians*, released by Music Sales. This is really a very nicely done book that (among other things) describes how to build a simple, inexpensive, general purpose MIDI computer. This huge book retails for \$24.95 and is available at music and book stores. (Music Sales Corp. can be contacted at 212-254-2100.)

Sampling Vintage Keyboards

Part II — The Scoop on the Combo Organ Loop

Barry Carson

Hey kids, want to hear more about vintage keyboards? Neither does my wife. But for anybody who just can't wait to develop a deeper understanding of how to turn their ASR or EPS into a Vox Jaguar or Farfisa Mini Compact, this is the place to be. I'm sorry about the vast time lag between parts one and two in this series, but the first version of this installment fell into the little known but treacherous black hole located somewhere between Canton, New York and Portland, Oregon.

Now that we are all together again, let's look at looping — as with a sampling instrument, not with an airplane. A short loop, as has been often pointed out, can often work well with many musical instrument sounds. Since these kinds of loops

are also perfect for most vintage electronic organ sounds, we will take a closer look at them. Looping, as I'm sure anyone who has read this periodical for long knows, is one of the clever tricks a sampling instrument can do to help conserve memory. If you hold a key on your B-3 down for five minutes it should (depending on the condition of the organ) loyally play that note for the entire five minutes.

If you want to play a sampled B-3 note for five minutes you will have had to loop that sample [either that or have recorded a five minute sample in the first place which would mean: A) that you used up the entire sampler memory on the one note and B) you couldn't play a note for six minutes]. If you listen closely to any electric organ sound you will first

hear an initial explosion of noise when the note first fires. This grungy transient is referred to — with great affection — by organ enthusiasts as “key click,” the sampling of which will be explored in the next installment of this series. After this you will hear any kind of percussion portion of the organ sound die away leaving a very regular, repeating waveform that forms the body of the organ sound. This kind of repetitive waveform is just the raw material for a good loop. As you may well know by now, there are, in general, two kinds of loops: short loops and long loops. Short loops are short and long loops are, well, long. A third type of loop, the medium loop has absolutely no uses, positively no redeeming value and is never to be mentioned within these pages.

How short are short loops? Short loops are so short you can't even hear 'em; they simply oscillate on one repetition of a regular waveform. Long loops, on the other hand, operate sort of like tape loops, with a long chunk of audio that repeats over and over. Long loops use up quite a bit of computer memory but they are necessary for complex sounds that consist of many interacting audio events occurring simultaneously, sounds like big string sections or gigantic choirs or huge pipe organs come to mind as perfect candidates for long loops. Of course long loops can be used for simple, repeating waveforms like those produced by an electric organ, but since there really is no benefit in using them and since they use up more memory than short loops, they won't really be discussed here. For those seeking more information, I think every *Hacker* writer has written at least one article on long loops at some point since the Mirage came out.

Listen to a basic electric organ voice with the 16', 8' and 4' drawbars or tabs on full and no harmonic percussion. You will hear a basic tone that is made up of three frequencies. 8' is the unity pitch, 16' an octave lower and 4' an octave higher. Your job is to capture one cycle of this sound and have it become the loop so it will repeat over and over. When done properly, it should sound absolutely indistinguishable from the original sound. Here's what will happen. If you have sampled a note from this organ and hit a key of your EPS, the sample begins to play back; we hear the key click, we then hear the repeating waveform which is the loop. Even though you might end up with a sample that is a fraction of a second long and which uses very little memory, you can hold the note and play it forever just like on the real organ. Ain't life grand?

Let's do it. Sample the desired organ note into the EPS (or 16+ or ASR. I won't be covering the Mirage in this article but I know that I — and others — have written about short loops on the Mirage within these pages before). Make sure you get a good long sample; we can truncate it later. Once this sound is safely residing within the memory of your instrument we can get to work.

First go to the edit system page and make sure that auto-loop

finding is on; then hit the edit then the wave switch. Scroll over until you get to the mode page and select “loop forward.” Then scroll over and set the loopstart to around (50) and the loopend around (70). When you play a note you should hear the regular organ sound turn into a really obvious medium loop (yuck). If you just hear the regular organ sound droning on forever, you've created a perfect (albeit bigger than necessary) loop first try! Next, take the loopend slider with (70) underlined and ram it all the way backward until it jams into the loopstart; you'll know when you're there 'cause you can't go any farther. When you then play a note, you should hear the regular organ sound until it hits the loop point. You will then hear any of a number of strange sounds that will sound like anything but your electric organ. Underline the large number right after loopend and begin stepping this value by slowly using the up arrow. You will hear the sound of the loop jumping to the various zero crossings in order; this is the auto-looping feature at work. The pitch of the first few will be very high as the EPS oscillates tiny little bits of the original waveform. As the pitch of the loop begins to approach that of the sample, the tone quality will also begin to sound more like the original. When you are getting in the right neighborhood, you will hear the sound jump an octave when it hits the loop point; at this point one more step should get you there.

When you take this final step you will probably get a loop that sounds a bit off (both in pitch and timbre) from the original waveform. At this point you need to go to the center number (displayed as a decimal and only available on the Loop End page) and fine tune your loop. With some complex organ sounds like a B-3 with all the drawbars out, you can actually hear the many overtones go in tune with each other as you approach the perfect short loop. With careful use of your ears, this control lets you create the perfect short loop, one which contains all the nuances of sound produced by the original waveform.

The last step in this process is to use the Loop Position control to move this perfect loop closer to the beginning of the sample to save memory. You may well also notice very subtle changes in the timbre of the loop as its position is moved; again this can be useful to use in creating a completely invisible loop. Once you have your perfect loop positioned near the beginning of the sample, move the sample end point up near the loop end point (I always leave a little space for any future hacking anyone may want to do), truncate the wave, and you are off and running.

Next time — as promised — we will take an intimate look at the various phenomena that make up the key click experience, something no one should miss. ■

Bio: Barry Carson is patiently waiting for his Ensoniq Mirage to become a vintage keyboard.

Stupid DP/4 Tricks

New Creative Uses for Your DP/4

Ray Legnini

In this session we're going to explore some of the DP/4 algorithms that are typically used by guitar players and use them to create some new interesting sample source material. We'll presume you'll record your new sounds to multi-track tape, DAT or ADAT for later sampling. Of course, when you're done with this little exercise you'll want to sample these into your shiny new ASR-10 and make some music.

Setup

Almost any home studio setup will work. You should feed the DP/4 Input #1 a signal from your console's auxiliary send or an effects bus. If an aux send or effect bus is not available to you, plug the input source directly into the DP/4 input. We don't want the original source signal to be recorded to the tape, just the processed signal. Some consoles will allow you to remove the signal from the master stereo bus and send it instead to a sub-mix bus out. If your setup will allow you to do this, great. If not, you'll have to patch directly into the DP/4 input as mentioned above for those without effects sends on their consoles. Patch the output from your DP/4 into your console for monitoring purposes. Since we're making mono sample material at this point, just connect output #1 from your DP/4 to the console. If you have more than one output of your DP/4 connected to the console, either don't monitor the extra outputs or turn their volume pots all the way off on the front panel of the DP/4. The console should feed the processed signal also to your DAT machine or other mastering machine from which you will later be sampling from. If you are using a CD player as the input source to be processed, you may also need RCA phono jack to quarter-inch adapters so that you can plug the CD player directly into your DP/4.

Low-Fi

First, we'll create some less than hi-fi drum mono loops or drum grooves from modern well-recorded drum tracks. The idea is to capture some of the grungy sound that is produced when you sample an old scratchy LP. Yes, drums through a screamin' guitar amp! This technique will work equally well whether your input material is a live drum track played by a real live breathing drummer (remember those?), grooves from a sampling CD, or of some drum patterns you've recorded into your trusty keyboard workstation. By the way, a really cool source of new and interesting drum material to spark your creativity can be found in Ensoniq's TSD-1002 library for the TS-10 and TS-12. This is a set of 540 drum and percussion sequences in every style imaginable, with and without fills, performed and sequenced by a real drummer using

MIDI drum pads. Anyway, pick your source and check your signal paths, here we go....

Back To Mono

We need to set up your DP/4 and pick a Config. That will allow us to process our source material. We will be making mono samples. Pick Config preset #60 4 Src: 4 Mono Out. This Config allows us to pick any one of the 1 Unit effects to use on our drum groove and get a mono output. To see how this is accomplished, hit "Edit," then the "Config" button. Scroll to the right with the cursor keys until you see the display marked "AB Output Select." It is set to "Dual Mono." This means that each unit in this Config is acting separately and independent of the other units. If it was set to "Mixed Stereo" instead, you could get unwanted processing leftover from your last session added to your new samples if there is a valid preset in Unit B.

For our example, I'll use a CD player as the input source playing a pre-recorded drum track. It is plugged directly into the DP/4 input #1. Hit "Select" and then the "Unit A" button. Pick RAM Preset #44, '66 Car Radio by scrolling with the data knob. We'll get that old funky '60s or '70s drum sound and turn the grooves into instant classics. Try different types of drum grooves and record them to the new master tape you're making. The pre-programmed Tunable Speaker settings work great right out of the box, but experiment with the various editable parameters available when you go into Edit mode. There is a parametric EQ available for you to play with in this algorithm, so the creative sound control possibilities are endless.

As a starting point, go to parameter #09 and edit the Mid 3 frequency band of the EQ. Be careful when editing — there is a lot of gain available that could damage speakers or your hearing. Use the Bypass button to compare the original signal to the processed one. Another cool sound can be found on the same edit page, the "Q" parameter. This adjusts the width of the EQ band. Try sweeping the parameter up and down while your groove is playing. For the truly adventurous, assign a modulator to this parameter and sweep it from your CV pedal. You could even automate the moves by using a sequencer to record the moves you make from a synth controller such as a modulation wheel when it is assigned to this parameter. You may want to just keep the master tape rolling while you experiment so that you don't lose something that may become useful later on.

Another 1-unit preset to check out is ROM preset #69, Speak-

er Cabinet. This has a darker tone, but fewer editable parameters. Make sure the "Mix" parameter is set to "99" to hear the most extreme effect. Also try ROM Preset #70 Tunable Speaker. It is the same basic algorithm that created the car radio effect from the example above. Another popular technique is to remove the low end from a drum loop and then add different kick drums to the pattern. A good tool to try on your own loops is ROM Preset #87 Rumble Filter. To hear the effect, go into Edit Mode and scroll to parameter 03, "High Pass FC= ___." The default setting is at 62 Hz. Slowly move the parameter through its range and listen to the low end change. Settings around 100 Hz are subtle, settings up near 2000 Hz will leave you with nothing but cymbals and percussion. Of course, if you find settings that are particularly useful, you should store them using the write commands. See your DP/4 Musician's Manual if you're unsure of the steps to take to store a preset.

Drums On 11

If you really want to get nasty, switch to a guitar amp simulator. I like ROM Preset #66 Guitar Amp 1. Select this pre-

set and process your drums through that. Turns any beautiful 44.1 kHz sample into an instant digital dinosaur classic. It takes a little experimenting and editing, but it's worth it. Changing the settings on the amount of pre-amp gain (parameter 03) and amp output level (parameter 04) will change the sound drastically but can cause extremely high output levels. Be careful not to hurt your playback system or your ears. See the DP/4 Musician's Manual for more info on the actual parameters available for you to edit.

Obviously, if we can affect source material with a 1-Unit Preset, other types of presets should also work. Be sure to try the different 2 Unit and 4 Unit Presets available. Check out 4U ROM preset #68 Metal Master Gtr. Drums recorded at the high school gym through a screamin' \$50 PA system!! That's grunge.

That's all for this installment. Have fun creating new sounds with these new techniques. ■

Bio: Ray Legnini works at the Ensoniq facility in Malvern as a sound developer. He loves to sample pianos.

How Sounds Work

Part X — It's a Mod, Mod, Mod, Mod World

Mark Clifton

In the first installment of this little two-part series-within-a-series on effects we covered reverb programming on the SQ-1/KS-32. This month we'll turn our attention instead to modulation effects and all of the cool ways in which they can be mangled and distorted for your own personal pleasure and enjoyment.

Our first patch, "8-Voice Delay," uses the 8-VOICE CHORUS algorithm to create a delay effect, something that is conspicuously absent from the SQ's internal effects lineup. This patch sounds especially good on percussive sounds, particularly plucked instruments, and I use it quite often for staccato comping lines or arpeggiated runs, as well as to add depth and shimmer to pads and new-age solo sounds.

8-Voice Delay

8-VOICE CHORUS	
FX-1	44
FX-2	00
Chorus Rate	04
Chorus Depth	32
Chorus Center	99
Feedback	-55
MOD	FX1-Mix
BY (MODSRC)	Modwheel
MODAMT	+99

The secret to creating this effect lies in the interaction between the high Chorus Center value (99) and the low value assigned to the Feedback parameter (-55, though positive amounts will also work). Lowering the Chorus Center will increase the speed of the delay repetitions all the

away down to 00, where no delay effect is noticeable. Changing the Feedback will lengthen the number of repetitions: centered at 00 it becomes merely a doubling effect; at +99 or -99 it will repeat infinitely. The Chorus Depth value is set to 32, which adds a little straight chorusing to the sound and creates the equivalent of a "Chorus+Delay" combination effect. Lowering this value to 00 will eliminate the chorusing, and raising it will make it more pronounced. The low Chorus Rate of 04 makes this extra added chorusing very subtle and smooth. Raising the value will increase the rate of the LFO pitch modulation of the sound, making it seem more "wobbly." Moving the Modwheel up increases the overall wetness of the chorus/delay in relation to the sound you use it on.

Unfortunately, though this effect spreads the delay reflections out across the stereo field, it is not a true stereo delay effect. A true stereo delay alternates the repetitions back and forth between the left and right channels. In this program, all eight voices of the chorus algorithm sound at once. Also, this effect cannot be duplicated with the CHORUS & REVERB algorithm, which only uses four voices instead of eight. If there is a sound or oscillator that you don't want fed through the delay effect, just assign it to FX bus 2, which at a value of 00 is kept completely dry.

The next effect is "Alien Pod," which uses the FLANGER+

REVERB 2 algorithm to create a highly animated, other-worldly sound that is somewhat reminiscent of the call of a cybernetic humpback whale. The great deal of sonic motion in this patch is caused by the extreme low value (-98) of the Feedback parameter. Raising this value toward 00 will gradually decrease the amount of motion present, while raising it even more, into the "+" range, will reintroduce the effect with a slightly different sound. Knocking it down another

step to -99 (the lowest value available) will give you the most possible motion, though with a little added ringing and a longer decay time. The reason I don't take the Feedback value that low is because it will sometimes cause distortion in the outputs when applied to sounds with high volume levels. Lowering the output volume of the patch you use it with should alleviate this problem. The Flange Depth and

Alien Pod	
FLANGER + REVERB 2	
FX-1	30
FX-2	25
Decay Time	50
HF Damping	00
Flange Rate	18
Flange Depth	99
Flange Center	50
Feedback	-98
Flange Level	99
Input Invert	Off
MOD	Center
By (MODSRC)	Modwheel
MODAMT	+98

Level are both set to their maximum values, causing a nearly total saturation of the sound by the flanging effect, and the Rate is kept at a leisurely 18. Raising the Rate can yield some pretty cool wobbly effects, particularly in the lower range of the keyboard. Turning the Input invert to ON can also offer some interesting variations. The Modwheel increases the Flange Center from 50 to 99, all but eliminating the watery motion of the sound and instead replacing it with a sort of static ringing. Toggling the wheel back and forth while holding a note creates a wonderfully evil metallic distortion that would be at home on any sci-fi/horror movie soundtrack. As on the previous patch, any sound that you don't want flanging applied to should have its output destination assigned to FX2, which adds only reverb to the sound. Basically all of the SQ's modulation effects are set up this way, with the mod effect+reverb on the FX1 bus and only plain reverb on FX2.

The last effects patch we'll look at is "Custom Leslie," the rotary speaker effect that I use with all of my Hammond B-3 patches. When playing with my band, Grape Hate, I use almost exclusively B-3 sounds, which means that the quality of my patches is very important. I am constantly tweaking to get just the right sound (at least until I can afford to buy my own B-3, and the truck to haul it with), and the program you see here is the best Leslie I've been able to come up with so far.

First, the FX1 and Decay amounts are kept low to ensure that the added reverb is very subtle and non-obtrusive. The B-3 did have a built-in spring reverb, but its sound was distorted by the addition of the Leslie, which spun the reverb along with the rest of the sound of the instrument and effectively killed its functionality, creating a completely different sound.

The reverb in the SQ's rotary speaker algorithm is chained after the modulation effect, so it functions more as a room ambiance. I've heard some people drench their B-3's in big hall reverbs, but in my opinion this kills the intimacy and complexity of the sound, so I choose to keep it fairly dry.

The mod effect itself is set to a Slow Speed of 10 and a Fast Speed of 99. Both of these speeds are changed back and forth to each other by the Modwheel set to the SWITCH Speed-Mode. This mode accurately reflects the response of a real Leslie, which takes a couple of seconds to change speed when its toggle switch is flipped. The Modwheel is the most authentic modulator for this parameter, since it is located in roughly the same place in relation to the keyboard as the speaker switch on a B-3 and requires that one hand be lifted from the keyboard to operate it. I actually believe that the fast speed on an original stock Leslie is slightly slower than the value listed here (probably around 90 instead of 99), but since many players would adjust the speed by changing the belt in the speaker's motor this area becomes sort of subjective. I like my Leslies to scream, though, so I chose the maximum setting. The Rotor Center is set to 50 for the most realistic sound, though moving it up and down can create different kinds of effects, and the Rotor Depth value is 54, though any number between 45 and 60 will usually work depending on personal taste. Many players like to overdrive their Leslies, creating a warm, gravelly tube distortion, but unfortunately there is no overdrive parameter included with this algorithm. To achieve this effect, and make your B-3 sounds more authentic in general, try running your keyboard through a tube amp or tube amp simulator with some very mild distortion added on.

Custom Leslie	
ROTARY SPKR+VERB	
FX-1	12
FX-2	12
Decay Time	04
HF Damping	79
Slow Speed	10
Fast Speed	99
Rotor Center	50
Rotor Depth	54
SpeedMode	Switch
MODSRC	Modwheel

Well, that's it for now. I hope this little two-part excursion into FX was a welcome relief from the usual epic, bloated three-oscillator SQ Hackerpatch article (and a lot less time-consuming to load in, too!). Stay tuned until next time, when we'll get back on our usual track and confront the problem of violins in the media. ■

Bio: In between brief stints as a high school student, Mark Clifton programs and composes jazz, contemporary classical and techno music on his beloved SQ-1, as well as play keyboards for the Washington D.C.-area alternative-type band Grape Hate. His Hardwire Sound Collection, a set of 160 sounds for the SQ/KS-32, is available from Latter Sound Productions.

Past Intense

Robby Berman

Product: *Renaissance/Medieval Collection* — 10 disks of samples.
For: ASR-10, TS's, EPS-16 Plus and EPS Classic.
Price: ASR and TS versions \$69.95. Special versions available for the EPS-16+ and the EPS Classic.
From: Rubber Chicken Software, 4118 SW 61st Ave Davie, FL 33314.
Phone: (800) 8-PRO-EPS.

One of the great things about samplers is that they allow you to wrap your ears around some pretty exotic instruments. I was looking forward to the Rubber Chicken Renaissance/Medieval Collection for the Ensoniq samplers — there's no other way I was gonna be bumping into such ancient music-making equipment.

This is 10 disks full of sounds, with an attitude. It's an especially terrific bargain for ASR-10 owners, who can take advantage of all the samples included. The Collection will be most popular with samplists who don't mind a little hacking — as excellent as many of the instruments are, some editing needs to be done to get the most out of a few of the samples.

There is some eccentricity at work here — I mean, look, would you name your company "Rubber Chicken"? Garth Hjelte, the rooster in this here henhouse, is clearly obsessive about packing in as much good stuff as possible. On the other hand, he's got his own way of doing things.

Take his use of banks. The first bank on every disk concludes by asking you to insert an unknown disk (cartridge?). I called Rubber Chicken and learned that those banks are meant as on-screen disk titles, not really banks to be loaded (though they do load instruments). My advice: skip over them and load the demos listed on each disk's label. Also, note that the banks don't always load in with a bank effect selected, making the demos sound different depending on which Instrument/Track is selected. Switch the FX Select/Bypass screen to BANK.

The Rubber Chicken demos are, however, almost without exception, fantastic. They entertainingly show off what the samples can do, and frankly, I felt handicapped whenever I got to an instrument without one. Good enough to listen to just for pleasure — which I do.

With all these samples, they can't all be winners, and they're not. Still, there's a very healthy ratio of keepers, and even the weaker sounds seem to have had considerable effort put into them. And, these things being as subjective as they are, you and I might very well not agree on which is which.

Hjelte has really put in time taking advantage of the Ensoniq's modulation capabilities, with generally very expressive results. The Patch Select variations add a lot, and his use of key pressure is just right.

Sometimes he's too dang smart for his own good — attempts to employ wavesample start time modulation often cause a lot of unpleasant clicking at the beginning of some samples. This is a tricky feature in the ASR and '16 PLUS — if you don't hit the keys just right, the sample starts in an ugly place. I wound up going into the sounds I liked and disabling the wavestart mod to get rid of the clicks and pops.

Now the fun stuff.

Clearly, one of the showstoppers here is *Hurdy Gurdy*. It's massive, it's complex, it's authentic — I think. The real-life Hurdy involved a wooden wheel bowing a bunch of gut strings, with some of them droning, and some playing melodies. What a weird, wonderful, primeval sound! Add in polyphonic aftertouch — as Rubber Chicken has — and you can twist your head right off your neck.

By the way, if I seem to know anything about these instruments, it's only because I've got Rubber Chicken's impressively authoritative booklet here by my computer. You couldn't learn as much in a long afternoon with a musical encyclopedia. Less fortunate is that the documentation is not horribly accurate in describing which sound is on what disk. Oh, well.

Silver Bells is another standout, though it took me a few minutes to appreciate it. I thought at first that it sounded dull, but as I played the sound, I realized the top was just deliciously subtle (52k sampling rate on this puppy). Then there's *Church Bell*. Again, this sound didn't strike me at first (ouch!); it took the demo to really convey the full hammer-on-metal realism of the samples. Very powerful.

Another big surprise in the percussion realm is *Gong*. As I loaded up the *Gong Demo*, I was chuckling to myself over the very idea of a gong demo. Wrong 'em boyyo — what a cool demo and a great sound! *Gong's* pitch tracks the keyboard; it's a full-fledged melodic instrument.

People may wonder how samples like *Mali Balophone* got into a Medieval set, or the clump of synth-style patches on the later disks. I concede it seems as if Rubber Chicken sorta lost its sense of purpose there for a minute, but, hey, most of the patches are really worthwhile musically, and I happened

to like Ballante, a Balophone from Senegal, even though it has that modulated start point problem.

I also quite liked *Pipe Organ* and *Portative Organ* — the air flowing through them is palpable. This is also one of those sounds with the modulated start points.

The real organ treasure trove here is on Disk 4, courtesy of France's Michal Risse (DBA: Decore Sonore). What an astounding real bunch o' organ-isms. The samples are left a tad raw — little Patch Selecting, etc. — in order for the user to layer one sound on the other, mixing and matching to create your own custom mega-organs. I first thought this was a cop-out, until I heard them and started stacking them myself. All of these samples are crisp, rich and in your face — love 'em. My special favorite is *Harmonium* (I couldn't stop playing the bridge to "We Can Work It Out").

Also worth noting is *Cornet A Bouquin*, which the documentation rightly describes as "touching" — a mellow reed instrument not quite like any other. The *Recorders, High and Low*, are also well done, with a slightly sharpened Patch Select and perfect employment of legato layering, an Ensoniq feature where playing legato calls up layers without an attack, resulting in very convincing wind instrument emulations.

A couple of warnings: Banks occasionally cause serious ugly

noise as they load in (sounds like FX-download problems). I don't think there's any harm done if you remember to be on guard. Also, a few of the instruments have noises in a multi-sample here or there. You can fix some of these — looping anomalies, wrong sample starts — but not all. An example would be C4 in the otherwise pretty pretty Medieval Harp — you'll have to work around these. Maybe they can be cleaned up in future editions of the Collection.

Rubber Chicken's admirable commitment to all of the EPS-family samplers also means that some of the sounds are not ASR-10/16+ clear and sparkly — they're EPS Classic samples. Color me spoiled.

If you can deal with a little editing, and a few eccentricities, I'd wholeheartedly recommend the Rubber Chicken *Renaissance/Medieval Collection*. Chalk the drawbacks up to personality — this set overall has a very high price-to-performance ratio. I've never seen such comprehensive documentation or heard more pleasing or instructive demos. It's a massive offering with lots of fine samples and more than a few unbelievable sounds, at a great price. An excellent collection. ■

Bio: Robby Berman is a musician living in New York's Mid-Hudson Valley, a steamy land of fireflies and bears. His latest album is "Rings and Rings."

15 Ways to Make Money Using Your Ensoniq Gear

Jeffrey P. Fisher

If you have an Ensoniq keyboard and some other gear, you have a moneymaking machine. This list isn't meant to be definitive, but rather just to start you thinking about all the different ways to package and sell your talent. I've done all of these and continue to do many. It comes down to this: Earning \$1000 each month from several small enterprises is far easier than trying to make \$10,000 from one big business.

That's why you need to diversify into related profit centers. All successful business people do it and so should you. Choose several smaller enterprises that you can run easily and profit from quicker. That's the *key* to making it in today's commercial music industry.

Evaluate your talents and then determine the business opportunities available to you. Learn from this example and apply its principles to your own situation. Here's a partial list:

Play In a Band (or Two) — I've never understood why more bands don't have multiple personalities. If you are dedicated to only original music, you may find your prospects severely limited. My suggestion is to go ahead and try to be the next

BIG THING. But also, you should have another band with a different personality — even if it's the same people — who play as a cover or wedding band. That's where the money is. And when you do both, you multiply your chances for success.

Play Solo — If you have decent keyboard or guitar chops, don't forget you can play solo at weddings, small clubs, lounges, coffeehouses, and such. There are plenty of people out there who are starving for live entertainment. You may not get paid a bunch, but hey...how many people get paid to practice?

Play Sessions — Join the Musician's Union and get out there and land those lucrative jingle, album, and other project gigs. The competition can be fierce, but good skills and a willingness to promote yourself relentlessly can pay off handsomely.

Write and Sell Songs — There is money to be made writing and pitching your original songs for others to record and play. And don't think you need go after national acts. There are regional bands, small labels, and more looking for material for their artists. You also might consider managing and promoting other bands and artists.

Sell Soundtrack Scores and Jingles — If you've been following this series, you already know what to do to make it in this area. Just remember the skills you acquired through these articles are completely applicable to running all the micro businesses mentioned in this piece.

Create and Sell Patches and Samples — Many of you already do this. If you can design sounds for a variety of synths and make samples available for various formats, you can run a decent and profitable sideline business.

Create and Sell Sequences — Again, if you can make these sequences available for a variety of MIDI formats, you'll do much better. Also, don't forget that you can offer your sequences on cassette or CD for the karaoke crowd or as accompaniment tapes for weddings, churches, schools, and more.

Sell Related Products Through a Catalog — If you decide to diversify into several areas, you would be better served to create a small catalog of your goods and services. You might even consider offering other related items such as hard drives, patches, samples, books, and so forth.

Sell Your Expertise as a Hacker or MIDI Specialist — If you can develop custom solutions for bands and recording studios, you could parlay that into a lucrative business. Do you write software? Can you install and troubleshoot MIDI and recording equipment? If so, quit giving away your advice and expertise. Start charging for your services!

Engineer Live and Studio Sessions — Maybe you're a more behind the scenes person. There's lots of work out there for those who can push the right buttons. A good live mixer is a much sought after commodity. I know many bands that would kill for someone to run their house mixer. Recording studios always need help, too. You might consider offering to work the overnight shift. You gain some valuable skills, contacts, and make some money as well.

Record Songwriter, Band Demos, and More — Got a decent recording setup? Why aren't you renting time to help pay for it all? A well-equipped home project studio can grow into a viable commercial recording studio where you sell studio and production time. Or you can sell other audio services from your project studio such as audio-for-video sound design. You don't need to go overboard, even a few hours or days a month can put some extra cash in your pocket. Another neat little venture you might consider is offering record production services to schools, bands, theater groups, and others who need to raise funds. For example, why not record the cast album for a school theater production. You front the recording and duplicating costs in return for a percentage of the sale...say 60-40 split. They sell the tapes before, during, and after the shows. They make some money; you make some money.

Teach Lessons — Hey, you worked hard to get where you are,

why not make some money showing others how to play? Don't ignore the older folks out there; kids aren't the only ones wanting to learn how to play.

Write Articles, Booklets, Books, or a Newsletter About Music and Gear — I mentioned this earlier as a promotional tool, but use it to make money, too. Got all that knowledge up in your head? Now get it down on paper and share it with the rest of us. Believe me, this part of my life has been very rewarding. You might enjoy it as well. Write to the editor of this fine magazine to see how you might contribute to these pages. Fame and fortune await you.

Sound Designer and Programmer for Studios, Radio, TV, and Film — This area is somewhat similar to patch selling, but targeted at a different market. Here you design the sounds effects and such used by these various audiovisual producers. Occasionally another composer might need your skills to develop sounds for their synths. And that's just another way to parlay your skills.

Release Your Own Independent Record — Hey, a record contract is *not* the summit of the music industry. You can have a lot of fun and make some decent cash with your own record. How about it? You can package your music and sell it as an independent tape or CD. This serves two purposes: you have an impressive demo and an independent, but related, profit center. If you don't want to pursue a record contract, there ARE alternative outlets for your music. More on this in an upcoming Hacker article. Stay tuned, buckaroos!

Okay, I've showed you *what* to do, but not *how* to do it. I'll leave those details to the many information sources readily available through my *Musician's Business Building Bookshelf*. Want a free one year subscription to this quarterly guide to money making music? Just write to me at Jeffrey P. Fisher Music, 8341 Ripple Ridge, Darien, IL 60561 or call me at (708) 971-1641 and I'll add you to my mailing list. ■

Bio: Jeffrey P. Fisher scores, jingles, and sound designs for commercials, business TV, and films. You can learn more from the Completely Revised Third Edition of his information-packed book: Cash Tracks — How To Make Money Scoring Soundtracks And Jingles. It's \$39.50 postpaid available directly from Jeffrey P. Fisher Music, 8341 Ripple Ridge, Darien, IL 60561, or call (708) 971-1641.

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“Effect”ively Using Multi-Effects in the TS-10/12

Brian Hamilton

Although I am officially a Wisconsin Cheesehead, I have settled into the rolling hills of eastern Pennsylvania to work for our dearly beloved Ensoniq. While I am here, it's my mission to help fellow hackers delve through the murky depths of their manuals and learn the TS-10/12, in order to make better music — faster! But enough about me!

A very common question that we get at Ensoniq Technical Support is in regard to using multiple effects in a TS-10/12 sequence preset. Although you may only use one effect algorithm per sequence, some algorithms contain multiple effects that are assignable per track. This is done by use of the different effects' busses (Voice, FX1, FX2, Dry, and Aux respectively). The following example will walk you through assigning a different effect for individual tracks using a multi-effect algorithm.

Meat and Potatoes

- Create a new sequence consisting of four tracks — each with a different sound assigned to it. If you need assistance in creating a sequence, refer to Section 10 of the TS-10/12 *Musician's Manual* on “Creating a New Sequence.”
- After the sequence has been created, select the Seq/Song Tracks 1-6 button. There should be a sound assigned to tracks 1-4 with 5 and 6 “undefined.”
- Press the Track Effects button once. The display now shows the effects bus routing of each track with the default being “voice.” You will notice that by now pressing the up and down arrows, you can change the underlined track's bus routing to either Voice, FX1, FX2, Dry, and Aux. Leave the track's bus routing at “voice” for the moment.
- Now, press the Track Effects button two times only bringing up the Effect Algorithm screen. Some algorithms can contain up to four effects. For this example, use your data entry slider to select effect “08 DDL+PHLANGR+ REV.”
- Our goal is to route track 1 to the Digital Delay (DDL), track 2 to the Flanger (PHLANGR), track 3 to the Reverb (REV), and track 4 to be dry (no effects). Refer to the *Musician's Manual* Section 7 (effects parameters) and find the page that describes ROM effect 08 DDL+PHLANGR+REV.
- Press the Track Effects button multiple times until you get back to the Bus Routing page where each track is assigned “voice.”

- Select Track 1 and use the data entry buttons to change the

track's bus routing to “FX1.”

- Set Track 2's routing to “FX1,” Track 3's routing to “FX2,” and Track 4's routing to “Dry.”

Both the DDL and the Flanger are assigned to bus FX1. How do we separate the two? In this particular algorithm, adjusting the pan of the individual tracks determines whether a track will have only DDL, only flange, or a combination of both effects on it. Panning hard left will give you straight DDL and panning hard right will give you flange only — in the middle gives both effects!

- Press the Track 1-6 button and then select track 1. Now press the Mix/Pan button so that the Pan parameters are on the screen (the defaults are “+00 Stereo”).

- Select Track 1's pan and change the value to “-64” using the data entry slider. Select Track 2 and change the value to “+64.” Now the tracks are panned left and right respectively.

- Press the Track Effects button until you find the page that has “SENDS” in the upper left corner.

- Press the soft button above “B--REVRB=99” and change the value to “00.” The parameter that says “B--REVRB=99” determines how much reverb you want on the flanger. A value of “99” gives you a very wet reverb and a value of “00” gives you no reverb at all.

Dessert

- Now let's enjoy the fruits of our labor! Press the Track 1-6 button and play a few notes on each track. Track 1 will have only a Digital Delay, track 2 a Flanger effect, track 3 has Reverb, and track 4 is Dry (no effect)!

Congratulations! You have successfully assigned a different effect per track. Keep in mind that you may only have one algorithm per sequence/song. To determine how other algorithms work as far as panning and bussing; refer to Section 7 in the *Musician's Manual* where each algorithm is laid out by parameter. I will cover the “VOICE” and “AUX” busses in a future article. Until we meet again...keep makin' music! Go Packers... ■

Bio: Brian is a song/jingle writer who at one time played keyboards professionally in the New England club circuit. He also has done freelance product specialist work for several major keyboard manufacturers prior to working for Ensoniq. Check out his Ensoniq-released demos for the TS-10/12!

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General MIDI For the Rest of Us

Brian Rost

Unless you have been hiding under a rock for the last two years, you have no doubt heard about General MIDI. Unfortunately there is a lot of confusion about what General MIDI is and isn't, and quite a bit of misinformation is floating around.

Simply put, General MIDI is an extension to the MIDI specification that was developed to address compatibility of MIDI devices used in personal computer and multimedia applications. It addresses the problem that many long-time MIDI users have run across time and time again: a MIDI controller, whether it is a keyboard or a computer, has no way of knowing what device is playing the notes. Many of us have had the experience of playing back our sequences and hearing explosions and helicopter sound effects where we expected to hear a grand piano patch, or have a pitch bend zoom off into the stratosphere when we were expecting only a bend of a minor third.

Software developers who want to use MIDI gear to provide music or sound effects for their programs don't want to have to deal with the problem of determining what device a user has hooked up to the computer's MIDI port. One early solution that developers came up with was to support only a single sound module, the Roland MT32, and some older game programs actually included system-exclusive data for custom patches for that synth.

Since the adoption of General MIDI, the market for keyboardless sound modules has exploded. There are dozens of sound boards that plug into IBM-compatible computers and external modules are now offered by most synthesizer manufacturers. Ensoniq has finally jumped on the General MIDI bandwagon with the latest OS for the TS series synths. All TS machines with V2.5 of the operating system are GM compatible, and older units can be upgraded. But what about the rest of us folks with our ESQ-1, SQ-80, VFX, SD, SQ or KS synths? Well, read on MacDuff!

The General MIDI standard has three main components. First there is a set of 128 patches which all GM devices must implement. This patch set is shown in Table 1. Notice that the patch set looks a lot like the factory presets that most synthesizers come loaded with. The most important point to remember is that the locations of the patches must be exactly as specified. For example, any GM device must produce some sort of piano sound after receiving a program change message with a value of 0 (don't forget that MIDI program changes range from 0-127, while we humans usually think of the range as 1-128). There is no requirement for how the

sound is to be generated; sound boards are available with technology ranging from simple 2-operator FM synthesis to 16-bit sampling capabilities. Some of the sound effects patch names leave more than a little open to interpretation (what's "atmosphere" or "brightness" sound like?). The overall map is broken into sixteen "families" of eight patches each (the use of eight patches per "family" is just one example of the Roland influence in the standard).

In addition to a patch map, General MIDI specifies a drum kit which is to be on MIDI channel 10 (more Roland influence). The drum map is shown in Table 2. Finally, General MIDI specifies the minimum performance of a sound module. This is shown in Table 3.

It should be obvious after reading through the tables that non-TS Ensoniq synthesizers can't be one hundred percent compatible with General MIDI, for the following reasons:

1. None of the synths are sixteen-way multi-timbral.
2. None of the synths support 128 patches within a single bank.

After that bad news, you might be thinking that this article is about to end! However, even if our synths aren't truly General MIDI compatible, we can make them somewhat compatible. But why in the world would we want to do this?

Actually there are a few good reasons. When swapping sequences with other players using different synthesizers in their rigs, standardizing on the GM patch set means there will be no need to figure out what patches to use when playing the sequences. When working on demos, GM patches can be used to quickly lay down the music without having to resort to running through your patch archives looking for sounds. Finally, some of us actually use our computers for games and would rather use the synths we own than have to buy a new module or sound board. So let's look into the limitations of the various Ensoniq synths and see how close they can actually come to General MIDI compatibility.

1. The GM Patch Set

It's not the actual patches in the GM set that are a problem, but the fact that there are 128 of them. None of the synths store that many patches without accessing multiple patch banks.

The ESQ-1, SQ-80, VFX, VFX-SD and SD-1 come closest,

since with EPROM cartridges plugged in they have storage for 120 patches. These machines can therefore support all but the eight special effects patches, which should cover almost all musical applications.

The SQ/KS synths fall far short, since they have only 80 patches per bank. While they can hold far more patches across multiple banks, the GM spec does not allow for use of bank change messages. In fact, if patches above 80 are selected, the SQ/KS synths will respond by selecting drum kits! The only way to support the full GM patch set with these synths is to add some outboard gear between the computer and synth, such as a MIDI mapper, which can translate incoming patch change messages into a bank change message followed by a patch change.

A secondary issue with VFX and SQ synths is that the highest program change messages are used to select which memory bank to access for the next incoming program change. This can cause some very bizarre behavior. Using a MIDI mapper to filter out the program change messages will solve this problem.

As far as actually loading the synth with the patches, consider that most of us already have all the patches needed and merely need to organize them into the proper locations. It's also possible to cheat a bit. For example, although the first three patches specify three varieties of grand piano sounds, it's possible to get by with using the same patch in all three locations.

2. Drum Sounds

This is an area where most Ensoniq synths are weak.

Looking at the drum map in Table 2 it's easy to see that the ESQ-1 and SQ-80 are out of the running immediately, since they don't have the capability to create a 47-part drum map. The only solution is to use a second sound source (drum machine, synth or sampler) to support the GM drum map (most Roland drum machines do, and many other brands of drum machines can be set up to be Roland-compatible).

The SQ family is in better shape here because drum kits are supported, but kits are limited to only seventeen zones while the GM map has forty seven. It is possible to create the whole GM map by having multiple drum kits, although this does take up multiple parts. The KS-32, which was introduced after GM was announced, has as part of the factory drum kit set a GM Drums patch and a GM Percussion patch which have the full map already laid out in two parts.

For the original VFX, the situation is no better than that of the ESQ-1 or SQ-80. For owners of the VFX-SD and SD-1, it is possible to create the full GM kit.

3. Polyphony and Multi-timbrality

The GM spec requires a minimum of 24 voices dynamically allocated. While all Ensoniq synths support dynamic allocation, only the latest models have more than 24 voices. The original SQ and VFX machines have only 21 voices and the poor ESQ-1 and SQ-80 have but eight. Whether or not this is a problem depends on how dense a given sequence is. In many games, eight voices may be enough. The 21 voice synths will do perfectly well in most situations because they are but 3 voices shy of the requirement.

The requirement for having 16 simultaneous timbres, one per MIDI channel is a tough one. The older Ensoniq synths support either eight or twelve timbres. For those lucky enough to own two or more synths, it's possible to beat the polyphony and timbrality issues. For example, I can assign eight MIDI channels to my SQ-R and eight to my SQ-80; this allows covering all sixteen channels with a total of 29 voices.

4. Note Messages

The spec requires only that note-on messages include velocity. Since all Ensoniq gear supports velocity, this is a no-brainer.

5. Controllers

The spec specifies relatively few controllers, most of which are directly supported by Ensoniq gear. The use of controller #11, the expression pedal, rather than controller #4 has a simple workaround. A good way to take care of this is to assign XCTL to controller #11, and substitute XCTL for PEDAL in your patches.

More difficult to deal with is the use of controllers #121 and #123. Ensoniq has traditionally fought against the use of the All Notes Off message because with multi-timbral synths its use is problematic; should the synth shut off all notes on just the one channel or all notes on all channels? Anyway, it's likely that these messages will be sent rather seldom.

6. Other Messages

Since all Ensoniq synths respond to both aftertouch and pitch bend, there are no problems here. We need simply to go in and set the pitch bend sensitivity to be 2 semitones and we're all set.

The bottom line is that users whose primary application for General MIDI is swapping sequences with other people will find the workarounds are reasonable. Using the synth for generating music and sound effects for computer games will work less well, but in many cases performance will be acceptable. For users needing 100% compatibility, upgrading to a TS synth is your best bet.

**TABLE #1
General MIDI
Instrument Map**

P#	Instrument Name
0-7 PIANOS	
0	Acoustic grand piano
1	Bright acoustic grand
2	Electric grand
3	Honky-tonk piano
4	Electric piano 1
5	Electric piano 2
6	Harpichord
7	Clavinet
8-15 CHROMATIC PERCUSSION	
8	Celesta
9	Glockenspiel
10	Music Box
11	Vibraphone
12	Marimba
13	Xylophone
14	Tubular Bells
15	Dulcimer
16-23 ORGAN	
16	Drawbar Organ
17	Percussive Organ
18	Rock Organ
19	Church Organ
20	Reed Organ
21	Accordion
22	Harmonica
23	Tango Accordion
24-31 GUITARS	
24	Acoustic guitar (nylon)
25	Acoustic guitar (steel)
26	Electric guitar (jazz)
27	Electric guitar (clean)
28	Electric guitar (muted)
29	Overdriven guitar
30	Distortion guitar
31	Guitar Harmonics
32-39 BASS	
32	Acoustic bass
33	Electric bass (finger)
34	Electric bass (pick)
35	Fretless bass
36	Slap bass 1
37	Slap bass 2
38	Synth bass 1
39	Synth bass 2
40-47 STRINGS	
40	Violin
41	Viola
42	Cello
43	Contrabass
44	Tremelo strings
45	Pizzicato strings
46	Orchestral strings
47	Timpani
48-55 ENSEMBLE	
48	String ensemble 1
49	String ensemble 2
50	Synth strings 1
51	Synth strings 2
52	Choir aahs
53	Voice oohs
54	Synth voice
55	Orchestra hit
56-63 BRASS	
56	Trumpet
57	Trombone
58	Tuba
59	Muted trumpet
60	French horn

61	Brass section
62	Synth brass 1
63	Synth brass 2
64-71 REED	
64	Soprano saxophone
65	Alto saxophone
66	Tenor saxophone
67	Baritone saxophone
68	Oboe
69	English horn
70	Bassoon
71	Clarinet
72-79 PIPE	
72	Piccolo
73	Flute
74	Recorder
75	Pan flute
76	Blown bottle
77	Shakuhachi
78	Whistle
79	Ocarina
80-87 SYNTH LEAD	
80	Square lead
81	Sawtooth lead
82	Calliope lead
83	Chiff lead
84	Charang lead
85	Voice lead
86	Fifths
87	Bass + lead
88-95 SYNTH PADS	
88	New age pad
89	Warm pad
90	Polysynth pad
91	Choir pad
92	Bowed pad
93	Metallic pad
94	Halo pad
95	Sweep pad
96-103 SYNTH EFFECTS	
96	Rain
97	Soundtrack
98	Crystal
99	Atmosphere
100	Brightness
101	Goblins
102	Echoes
103	Sci-fi
104-111 ETHNIC	
104	Sitar
105	Banjo
106	Shamisen
107	Koto
108	Kalimba
109	Bagpipe
110	Fiddle
111	Shanai
112-119 PERCUSSIVE	
112	Tinkle bell
113	Agogo
114	Steel drum
115	Wood block
116	Teiko drum
117	Melodic tom
118	Synth drum
119	Reverse cymbal
120-127 SOUND EFFECTS	
120	Guitar fret noise
121	Breath noise
122	Seashore
123	Bird tweet
124	Telephone ring
125	Helicopter
126	Applause
127	Gunshot

**TABLE #2
Drum sound map**

MIDI Key#	Drum sound		
35	Acoustic bass drum	56	Cowbell
36	Bass drum 1	57	Crash cymbal 2
37	Side stick	58	Vibraslap
38	Acoustic snare	59	Ride cymbal 2
39	Hand clap	60	Hi bongo
40	Electric snare	61	Low bongo
41	Low floor tom	62	Mute hi conga
42	Closed high hat	63	Open hi conga
43	High floor tom	64	Low conga
44	Pedal hi-hat	65	High timbale
45	Low tom	66	Low timbale
46	Open hi-hat	67	High agogo
47	Low-mid tom	68	Low agogo
48	Hi-mid tom	69	Cabasa
49	Crash cymbal 1	70	Maracas
50	High tom	71	Short whistle
51	Ride cymbal 1	72	Long whistle
52	Chinese cymbal	73	Short guiro
53	Ride bell	74	Long guiro
54	Tambourine	75	Claves
55	Splash cymbal	76	Hi wood block
		77	Low wood block
		78	Mute cuica
		79	Open cuica
		80	Mute triangle
		81	Open triangle

TABLE #3: Other Requirements

Voices: dynamically allocated, 24 minimum for melodic and percussion sounds or 16 for melody and 8 for percussion.

Channels: all 16 MIDI channels, each with a different timbre. Channel 10 is used for percussion.

Instruments (timbres): a minimum of 16 simultaneous timbres. A maximum of 128 instrument presets (patches/MIDI program numbers).

Note on/note off: Middle C = MIDI note 60. All voices respond to velocity.

Controllers:

#1	modulation
#7	volume
#10	pan
#11	expression
#64	sustain
#121	reset all controllers
#123	all notes off

Additional channel messages: aftertouch (channel) and pitch bend Defaults:

pitch bend amount = 0
pitch bend sensitivity = +/- 2 semitones
volume = 90
all other controllers = reset

Bio: Brian Rost continues to slave over his SQ-80 and SQ-R in his basement when not working on fulfilling his dream of eventually playing bass and drinking stout at every Irish bar in the greater Boston area.

Realistic Drum Programming

Part 1 — The Sounds

Paul Bissell

As a percussionist and drumset player, good drum parts coming across the radio catch my ear. As a musician who uses drum sequences in my profession, I understand the time and effort it takes to make a truly realistic sounding part. Knowing what elements make a true-to-life part takes a little knowledge and some trial and error. In the first part I'll explain how to build a realistic-sounding, nuance-filled drumset. The next installment will be effective programming techniques of the sequenced part itself.

One of the first things I fell in love with when I bought my EPS 16+ was the factory sounds that came with it. Especially the disk called "Choice Drums." The disk contains a plethora of different sounding kicks, snares, toms, etc. The only drawback to using these sounds is that the instrument uses up 1498 blocks of memory. A good way to save memory and have the sounds you desire is to copy only the samples you want to another instrument.

Let's start this project by booting up the EPS and loading our ED-014 Choice Drums into track one. Now create an instrument on track two (Command-Inst) and then create three layers within that new instrument (Command-Layer). Layers are cheap in terms of memory...only 2 blocks! Press Edit-Layer and change the PITCH TBL=NO PITCH in each of the three layers. This keeps the sample at the root key and will save us time. Go ahead and change the new instrument's effect to ROM-03 ROOM REVERB. This will make sure that as we copy the samples from Choice Drums the effect will stay the same. While we are still on our new "Unnamed Inst," go ahead and title this instrument "Fusion Drums" under the Edit Inst page. Now back to Choice Drums. Hit Edit, underline WS=All and press the low D (D2) on your keyboard. Once you hit the key the cursor should change to WS=11. What a great bass drum! To copy the sample to our Fusion Drums hit Command-Wave and scroll to COPY WAVESAMPLE. Push yes. Copy it to Fusion Drums-Layer 1. Now play our new copied wavesample. If you didn't change the PITCH TBL to NO PITCH, you'll have to change the root key. If you press edit again, you'll find that our bass drum sample is now WS=1. Remember that wavesamples are numbered in the order they were put into the instrument. You might have noticed that the bass drum is not velocity sensitive. No amount of studio compression can make any acoustic instrument completely mono-dynamic. Hit ENV 3 and scroll back to SOFT VEL CURVE = OFF. Change that to SOFT VEL CURVE = VEL. Now it sounds too soft, right? Scroll over to SOFTVEL=50 50 50 50 50 and change to read SOFTVEL=80 80 80 80. This will add just a slight variation of the dynamic produced dependent on your playing (programming).

Go back to Choice Drums and copy the snare sound on C3 (WS=17) over to Fusion Drums. This sample is already velocity sensitive so we need not change it. Now for the hi-hats. Push edit and the F3 note on the keyboard. See how it says WS=ALL again? That is because the cymbals of our Choice Drums disk are in layer 2. Underline LZR and change it to LZR=2. Now underline WS= and press the F3 key. WS=28 it should say. Copy this wavesample to Fusion Drums layer 1 (yes, layer one). Now change the WS Range to LO=F3 HI=F3. Play our copied hihat (WS=3) for a few seconds and then go back to Choice Drums and play the same note there. Hmmm, sounds different doesn't it? That's because the Choice Drum's hihat is doubled in layers 2+3. (WS=. There is another sample that is triggered in layer 3 that only plays when you strike the key hard. So hit Edit and change the LZR mark to read LZR=3. Underline the WS= and push the F3 key. The mark should read WS=29. Copy this wavesample to Fusion Drums into layer 2. Change the WS Range to read LO=F3 HI=F3.

Now we need to tell our Fusion Drums to play this sample only when the key is struck hard. Press Edit-Layer and scroll to Layer Velocity (in layer 2). Change these values to read LO=90 HI=127. Now only notes played loudly will trigger this layer. Let us call this sucker "Loud Layer."

Ready for some real nuance programming? Many drumstick manufacturers produce sticks that are "pitched," meaning that both sticks resonate at the same pitch. However even the most well-tuned sticks lack intonation after being slammed into drums for a few hours. Thus one stick or another will be slightly higher in pitch than the other. Also a heavy hand will produce a slightly different sound than a weaker hand. Now in order to mimic this physical phenomenon and to provide another key which the keyboard performer can use to play fast hihat passages, we are going to place slightly out-of-tune hihat notes on the F# key above it. Since we already have the two samples we need in our Fusion Drums, we can copy only the parameters of the samples thus saving memory. Go back to layer 1 and find our WS=3 which is the F3 hihat note. Copy this wavesample to Fusion Drums layer 1. Be sure to copy the parameters only. Once this is done press Edit-Pitch and change the WS Range to LO=F3+ HI=F3+ in our new WS=5. Now we need to change the root key to ROOT KEY=C4 Fine=+40. This slightly raises the pitch of this sample, just enough to add a little nuance to the sound. Now obviously we need to do the same thing with the loud sample. So copy WS=4 in layer 2 (still the F3 key) to Fusion Drums layer 2 (again, just the parameters...) Now change the root key of our new WS=6 to C4 Fine=+40 and change the WS

range to LO=F3+ HI=F3+.

We're going to need an open hihat sound in our Fusion Drums as well so back to Choice Drums we go. The person who put together the Choice Drums disk put two samples of the open hat (one loud — one soft) in layers two and three. We're only going to take one however and copy it to save memory. Go to layer 2 and press the G#3 key and get WS=26. Copy this to Fusion Drums layer 1. The only thing missing from this sample is the initial "tick" of the stick hitting the cymbal as it opens. So let's give it a tick shall we? Select our Fusion Drums WS=3 which is the closed hihat in layer 1 at F3 and copy parameters only to layer 3. Be sure to change the WS Range to LO=G3+ HI=G3+. I recommend every drumset having a hihat closed with the foot sample. Many times when a drummer plays a rhythm on the ride cymbal, the hihat will play quarters or eights. Since the Choice Drums disk doesn't come with one, you can take one from another good sample of a drumset, or use a sound from a sample CD, CD-ROM, etc.

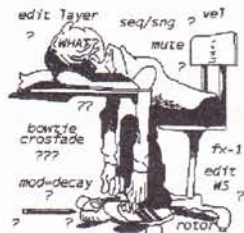
Anyway, on to the last trick. Many drummers will play unaccented notes on their snare to "fill" in between the accented more important notes. These are called "Ghost Notes" by most musicians. You can hear a lot of these in Jazz/Fusion recordings and some of the more contemporary rock as well.

We need a Ghost Note sample so let's alter the snare we have in our Fusion Drums. Copy the snare sample WS=2 to Fusion Drums layer 1 parameters only. Change the WS Range to LO=A2 HI=A2. Now in order to mimic a snare being hit softly closer to edge, we need to remove the initial attack and soften the whole sample. Our new snare sample is WS=9. Press Edit-Wave and change the SMPL START to 445 (2). Press ENV 3, turn off the Soft Velocity Curve and set the HARDVEL=50 40 25 10 0. Set the TIMES=0 20 20 20 20.

One last edit before I go this time. The panning of the hihats are a little too "left" for my taste. Try this, change the two closed hihats in layer 1 to a pan of -20 (Edit-Amp) and change the accent (loud) hats in layer 2 to a pan of -40. Now when you hit them harder the hats have a bit more presence as the loud samples in layer 2. Go ahead and bring the open hat closer to center as well, to -25 or so.

Okay, enough for now. Next time I'll show you some tips on the programming of the drum part itself and how to use the effects to help get a realistic sound. ■

Bio: Paul Bissell is the percussion instructor for La Tech University. He has been there-done that, and composes run on sentences in his home studio, Go Fish Music, where he lives with his beautiful wife Kim and their cat "Kitty."



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Prog: MYSTIC PIANO

By: Jack Carder, Springfield, VT

WAVE	1	2	3
Select Voice	On	On	Off
Wave Class	TunedPerc	Breath	
Wave	PianoPing	ChiffFit	
Delay Time	0	0	
Wave Direction	Forward	Forward	
Start Index	0	0	
MODSCR	LFO	LFO	
MODAMT	0	0	
Restrk Decay	42	42	

PITCH	1	2	3
Octave	+1	0	
Semitone	+05	0	
Fine	0	0	
ENV1	0	0	
LFO	0	+01	
MODSCR	LFO	LFO	
MODAMT	0	0	
KBD Pch Track	On	On	
Glide	Off	Off	
Glide Time	0	0	

ENV1	1	2	3
Initial	00	53	
Peak	99	00	
Break	99	00	
Sustain	99	00	
Attack	20	00	
Decay 1	20	00	
Decay 2	40	00	
Release	20	00	
Vel-Level	0	0	
Vel-Attack	0	0	
Vel Curve	Linear	Linear	
Mode	Normal	Normal	
KBD Track	0	0	

LFO	1	2	3
LFO Speed	43	20	
Noise Rate	66	0	
Level	0	72	
Delay	0	46	
MODSRC	Wheel	Wheel	
Wave	Tri	Tri	
Restart	On	Off	

FILTER	1	2	3
Filter 1	2Lo	3Lo	
Filter 2	2Hi	1Hi	
FC1 Cutoff	127	031	
ENV 2	+50	+19	
FC1 KBD	+25	0	
MODSCR	Env2	Wheel	
MODAMT	+29	+30	
FC2 Cutoff	029	0	
ENV2	0	0	
FC2 KBD	0	0	
FC1MOD-FC2	On	On	

ENV2	1	2	3
Initial	99	00	
Peak	75	99	
Break	37	74	
Sustain	00	27	
Attack	50	47	
Decay 1	50	44	
Decay 2	99	67	
Release	50	48	
Vel-Level	46	13	
Vel-Attack	0	0	
Vel Curve	Linear	Convex	
Mode	Normal	Normal	
KBD Track	0	0	

AMP	1	2	3
Initial	99	86	
Peak	50	99	
Break	00	88	
Sustain	00	87	
Attack	43	35	
Decay 1	50	56	
Decay 2	99	33	
Release	30	55	
Vel-Level	33	13	
Vel-Attack	0	0	
Vel Curve	Linear	Linear	
Mode	Finish	Normal	
KBD Track	0	0	

OUTPUT	1	2	3
VOL	77	97	
Boost	Off	Off	
MODSRC	LFO	LFO	
MODAMT	0	0	
KBD Scale	Zone	0	
Key Range	C3-C6	A0-C8	
Output Bus	FX1	FX1	
Priority	Med	Med	
Pan	0	0	
Vel window	0	0	

EFFECTS — CHORUS AND REVERB

FX-1	15	FX-2	15
Decay time	31	HF Damping	99
Chorus Rate	20	Chorus Depth	20
Chorus Center	50		
Feedback	0		
Chorus Level	53		
MOD (Dest)	FX1 Mix		
BY (MODSRC)	Pedal		
MODAMT	0		

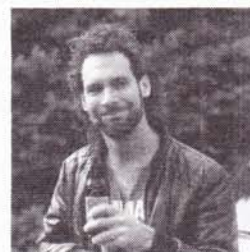
The Hack: The title Jack's given to his patch, "Mystic Piano," may cause you to ask, "Hey, like, where's the piano?" (Just kidding, Jack.) Like, not to worry. Once again, there's no reason we can't assign some piano or keyboard waveform to this sound using the hitherto dormant Voice 3. I've chosen DIGITAL PNO TINE because it seems to blend well with the other two voices.

Using the third voice opens up a whole lot of programming options. But, as luck would have it, there's just a few generic ideas to keep track of for Voice 3: 1) In the Pitch Section, set OCT to +0. You can adjust Fine to +08. The detuning will help to spread or widen the patch some. 2) Default Env 1 to Full On, while setting Env 2 and the Amp envelope to Piano Decay. 3) Set the Filters to suit your taste. I'm using a 2LoPass-2hiPass configuration. FC1 Cutoff is set to 015, Envelope 2=+49. FC2 Cutoff=079 and Envelope 2=+00. These filter values give Digital Pno Tine a thin timbre with an ac-

cent on high-end frequencies. 4) In the Output Section, be careful not to overuse Voice 3. Keep it relatively low in the mix — adjust its Vol to between 60 and 70.

Now, you can detail "Mystic Piano" using some of the many remaining parameters like velocity lvl + atk's and modulation routings. *Very New Agey.*

Jeffrey Rhoads



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

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SD & VFX Prog: VIBRASLAP

By: Brett Mehre, Milwaukee, WI

NOTES: This is an original SD-1 patch that I have created. The Mod wheel closes down the low-pass filter, and the timbre slider pulls out the lower frequencies.

THE HACK: This is a great use of the somewhat-intimidating Multi-Wave in the VFX and SD-1. This "waveform" is, in essence, all of the keyboard's sampled waveforms played back-to-back. By setting the loop length to 1 (on the Waves page), Brett has isolated just one percussive hit, which loops quite rapidly — sounding exactly like the little dealieboppers bouncing around inside a vibraslap. Quite clever! Pushing the Timbre slider all the way up axes the

low frequencies from Voice 1, which sounds much more realistic to me. If your ears agree with mine, you may want to set the timbre value (in the Performance section of the keyboard) to 99, then re-save the sound. This way, if you ever want those lows back, they are just a flick of the slider away. Just for fun, solo one of the voices and scroll through different Start parameters on the Waves page. (This selects which waveform gets rapidly looped.) You can get some great sci-fi effects. But even better, you can add some other flavors to Brett's vibraslap. Try, for example, setting the Start parameter of Voice 2 to 30 for a vibraslap with more rattle noise. — Sam Mims

WAVES	1	2	3	4	5	6
Wave	AllWaves	AllWaves	AllWaves			
Wave Class	MultiWave	MultiWave	MultiWave			
Delay	000	005	005			
Start	027	027	027			
Length	001	001	001			
Direction	Forward	Forward	Forward			

MOD MIXER	1	2	3	4	5	6
SRC-1	-	-	-			
SRC-2	-	-	-			
SRC-2 Scale	-	-	-			
SRC-2 Shape	-	-	-			

PITCH	1	2	3	4	5	6
Octave	+0	+1	+1			
Semitone	+08	+00	+01			
Fine	+00	+00	+00			
Pitch Table	All-C4	All-C4	All-C4			

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

FILTER 1	1	2	3	4	5	6
Mode	LP/2	LP/2	LP/2			
Cutoff	000	000	000			
KBD	+00	+00	+00			
MODSRC	Wheel	Wheel	Wheel			
MODAMT	-99	-99	-99			
ENV2	+99	+99	+99			

FILTER 2	1	2	3	4	5	6
Mode	HP/2	HP/2	HP/2			
Cutoff	+00	+00	+00			
KBD	+00	+00	+00			
MODSRC	Timbre	Off	Off			
MODAMT	+99	+00	+00			
ENV2	+00	+00	+00			

OUTPUT	1	2	3	4	5	6
VOL	99	99	99			
MODSRC	Off	Off	Off			
MODAMT	+00	+00	+00			
KBD Scale	+00	+00	+00			
LO/Hi Key	-	-	-			
Dest Bus	FX1	FX1	FX1			
Pan	50	00	99			
MODSRC	Off	Off	Off			
MODAMT	+00	+00	+00			
Pre-Gain	Off	Off	Off			
Voice Prior	Medium	Medium	Medium			
Vel Thresh	+000	+000	+000			

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

SELECT VOICE

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

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	99	99	99			
Peak	70	70	70			
Break 1	50	50	50			
Break 2	19	19	19			
Sustain	00	00	00			
Attack	54	54	54			
Decay 1	46	46	46			
Decay 2	54	54	54			
Decay 3	19	19	19			
Release	00	00	00			
KBD Track	00	00	00			
Vel Curve	Cvnx-1	Cvnx-1	Cvnx-1			
Mode	Finish	Finish	Finish			
Vel-Level	25	25	25			
Vel-Attack	00	00	00			

ENV3	1	2	3	4	5	6
Initial	99	99	99			
Peak	99	99	99			
Break 1	99	99	99			
Break 2	99	99	99			
Sustain	99	99	99			
Attack	0	0	0			
Decay 1	0	0	0			
Decay 2	0	0	0			
Decay 3	20	20	20			
Release	58*	58*	58*			
KBD Track	00	00	00			
Vel Curve	-	-	-			
Mode	Finish	Finish	Finish			
Vel-Level	00	00	00			
Vel-Attack	00	00	00			

PGM CONTROL

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

EFFECTS (1)

Effect	Roto-Sprk+Delay
Delay	120
FX1	05
FX2	00

EFFECTS (2)

Effect	Hi-Rotor
Slow	05
Fast	50
Lo-Rotor	On
MODSRC	Velocity
Mode	Contn

EFFECTS (3)

Effect	Feedback
Lag	020
Release	+15
Amount	00
Stereo Width	99

PERFORMANCE

Timbre	00
Release	00

TRISKADECAPHOBIA

Kirk Slinkard

I have been reading about some very ingenious ways of approaching the subject of making a synthesizer patch (primarily in the pages of the *Transoniq Hacker*). One example I have learned about is using a computer program to generate random values for the various parameters. Another one is generating corrupted data through various means, which not only gives unpredictable parameter values, but usually some illegal ones as well.

In this article I thought I might scratch the surface of using numerology in synthesizer programming, in this case on my SQ-80. Unfortunately, this is one of those sounds that more modern Ensoniq synthesizers just aren't capable of duplicating, so there are no translation patches included here. My dictionary says that numerology is "the study of the occult significance of numbers." Although some might argue that synthesizer programming doesn't qualify as an occult science, the result of this particular application certainly has a spooky enough sound.

Anyway, with this example patch, I used the simplest numerological approach. I plugged one number into all the parameters and then went through the patch to see what needed to be changed in order for the patch to work. I thought that in this particular case I would make reference to a popular superstition by using the number thirteen. Some of the parameters really needed a higher value, so I made up a rule about allowing multiples of thirteen where needed:

- 1 X 13 = 13
- 2 X 13 = 26
- 3 X 13 = 39
- 4 X 13 = 52

Hey, don't worry — it's not actually cheating. Sometimes a little imagination and flexibility in the application can make something interesting out of something that would otherwise be useless. On some parameters, however, I found that I had to abandon the thirteen concept entirely. For example, the thirteenth waveform didn't sound anywhere near as cool as the SQUARE wave. And where an LFO was used to modulate the oscillator and filter, a maximum depth of 1 turned out to be a lot more practical than anything higher. Also, I couldn't use thirteen in any of the OSCILLATOR 3 pitch values and still have a standard pitch. So there are some parallels here to starting out with random numbers. I find that on a random-generated patch, I usually have to go through and turn the DCAs, amplitude envelope, and filter all the way up before I can start hacking. I actually have to remove some of the randomness before I can do anything with a random

patch. So likewise, I don't believe that there is any one number that you can plug into all the parameters and have a finished patch that doesn't require any hacking.

So now turn the mod wheel and mod pedal all the way on and try playing a very slow monophonic melody in the middle octave or the next lower one. If you have no mod pedal, just reassign LFO2 to the mod wheel along with LFO1. Wouldn't you say that the number thirteen produced an eerie sound befitting this context? It reminds me of *Night Of The Living Dead*.

Of course there are many different ways to juggle the parameter values around using just thirteen and its multiples to get different sounds. And, of course, there are many different numbers and combinations of numbers to use. You could start by plugging your telephone number, birthdate, or measurements into a patch, for example. Just don't be afraid to use your imagination, and keep in mind that it might take a little patience to get just one usable patch.

Mod you later. ■

ESQ-1 PROG: TRISK										By: Kirk Slinkard	
Note: This patch works best at night with the lights off.											
	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH			
OSC 1	+1	3	13	VOICE2	OFF	+13	OFF	+13			
OSC 2	+1	3	13	VOICE2	OFF	+13	OFF	+13			
OSC 3	-3	00	00	SQUARE	LFO1	+01	OFF	+13			
	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH					
DCA 1	13	OFF	OFF	+13	OFF	+13					
DCA 2	13	OFF	OFF	+13	OFF	+13					
DCA 3	52	ON	KBD2	-13	OFF	+13					
	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH				
FILTER	026	13	26	LFO2	-01	OFF	+13				
	FINAL VOL	PAN	PAN MOD	DEPTH							
DCA 4	52	13	LFO2	+52							
	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD			
LFO 1	26	ON	OFF	TRI	13	13	13	WHEEL			
LFO 2	26	ON	OFF	TRI	13	13	13	PEDAL			
LFO 3	13	OFF	OFF	TRI	13	13	13	PEDAL			
	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK	
ENV 1	+13	+13	+13	13	13	13	13	13	13	13	
ENV 2	+13	+13	+13	13	13	13	13	13	13	13	
ENV 3	+13	+13	+13	13	13	13	13	13	13	13	
ENV 4	+39	+52	+52	13	00	13	13	13	39	13	
	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC			
MODES	OFF	OFF	OFF	13	OFF	OFF	OFF	OFF			
	SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY				
	OFF	MIRROR	OFF	BLKCAT	OFF	FRIDAY	26				

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Hooks and the Lack Thereof

Tape: *Demo tape.*

Artist: Bill Janakos.

Contact: 3170 North Sheridan Road, Suite 316, Chicago, Illinois 60657.

Equipment: Ensoniq SQ-2, SC-3 sound series card, Alesis HR-16 drum machine, Tascam 424, Sony TCW-7R.

Kudos to Bill for this was an exceptionally crystal clear recording. Bill has a strong background and formal education in percussion. This is definitely a strong first effort.

Unnamed is a great starter that lacks vocals, but is an excellent backing track. This tune is so hummable I almost made up my own lyrics on the spot. We're talking catchy, pop-sounding (and I mean that in a good way) with some nice strumming and piano vamping. The instruments are well balanced with the piano riffs in the foreground. The drum fills are a bit severe for this slow a ballad. The sections are nicely differentiated by a tambourine's entrance and exit.

2 Bleu is the second offering. Bill describes it well as a "simple soft blues style vibe soloing over an ostinato. The solo part was sequenced using a melodic percussion controller called the 'KAT. "The unit is set up like the vibes and is struck with mallets." This is a beautiful piece. The solo instrument starts out a bit heavy-handed, but then as the jam continues, a less sequency feel takes over.

Roses On The Doorstep is next with a nice music-box electronic keyboard arpeggio, some airy backing pads and a very keyboard sax solo, which is not very prominent in the mix. Later a more appropriate flute-whistle sings a counter lead. Unfortunately the keyboard sax returns and snorks out a few more notes on top. Once again what could have been a wonderful song is nearly ruined by the un-sax-like lead. When will they learn?

Fire is credited to Mike Koog and is entered here as a sequencing challenge for Bill. It is a choppy, crunchy and very percussive piece. Here the key-"bored"-sax is not quite so difficult to stomach. The vibes sequencing is fascinating, and the mix gets full and dramatic, taking interesting twists and turns with great mix-it-up drum parts stabbing in and out. The ending is well calculated.

Country Song is just that. It gets a bit too generic here. If you were trapped in a barn, you could waltz to this, no problem. There are very simple instruments here, and not a lot to sustain interest past the first three count.

This is a very nicely done demo tape. Please send the finished version of the "unnamed" song and, this time, include the lyrics.

Tape: *Go Back to Holy.*

Artist: Greg & Debi.

Contact: Greg Worley Rt. 1 Box 589, West Plains, MO 65775; Debi McMurray, 3966 E. Bentree Pl. Springfield, MO 65809.

Equipment: It was all sequenced on a VFX-SD with a little help from a Roland U-20.

Once again Greg & Debi come out swinging with a strong, professionally recorded collection of songs. This is Greg & Debi's second visit to the Basement Tapes.

Prepare For War bursts out of the tape with very solid vocal performances from both Greg and Debi.

Waiting For You is a sugary ballad...

Warriors Of The Lord opens with my favorite instrument [not] — that ever-present key-bored sax.

U R My Body. What's this? Are Greg and Debi sporting Prince- esque titles? This song uses a nice drum-and-fife type bridge that breaks up the verse chorus pattern nicely.

Go Back To Holy, the title song, is a sparsely populated place. Congas and tambourine fill out the percussion, with a background bed of breathy vocals and a chord progression spelled out by piano and sparkling synths. Greg and Debi once again put their all into their vocals, which are given the spotlight rather well here.

Prepare Ye The Way Of The Lord seemed to be stretching Greg's upper range. This piece has gaps where the background music didn't quite carry, so that when the vocals dropped away, the sequencing sounded a bit canned. A nice live lead instrument on top would have been a good fix.

Only One Name is all about strings and horns. Once again here the background mix is a bit too background, however here when the vocals drop out there is an interesting break and oboe solo to grab us and move us on to the next section.

It's All Or Nothing is a much better example of bringing the vocals and the music together in the mix. Here Debi and Greg

answer and respond their way through this song.

Standing brings back the band. Here the piano, drums and chunka-chunka guitar are standing right next to our vocals. The piano has some tasty licks and the guitar percolates right along to make this a really fun song.

Honduras Song stands out as a very well-crafted melody. While no real hook reaches out to grab you, the tune is beautiful and well sung by Greg. This song is dedicated to the work of missionaries everywhere. This song modulates more than every Barry Manilow song put together, but still manages to maintain interest. Uniquely, it fades away with Greg's voice alone singing the chorus.

While Greg and Debi are two mature vocalists, and the keyboards are supporting acts, the music often doesn't carry strongly enough. There are not many hooks on this collection.

Once again the Christian message comes through again quite clearly. I miss the good songs from their first tape. On the cover Greg and Debi stand leaning against the wall of a house, near the front porch with arms crossed over their chests and pensive looks on their faces. Could it be that this photo was taken after Greg and Debi heard the final recording? ■

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

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



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ESQ-1 ROM cartridges still available! Only a few left: \$30 and less. VFX, VFX-sd, SD-1 ROM cartridges: \$40 and less. Also, EPS, EPS-16+, ASR-10 samples. Call or write for info. Cesium Sound, 1442A Walnut St., #300, Berkeley, CA 94709. Phone: 510-548-6193, Fax: 510-540-1057.

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The Interface

Letters for The Interface may be sent to any of the following addresses:

U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221

Electronic mail - GENIE Network: TRANSONIQ, CompuServe: 73260,3353, Internet: interface@transoniq.com.

This is probably one of the most open forums in the music industry. Letter writers are asked to please keep the vitriol to a minimum. Readers are reminded to take everything with a grain of salt. Resident answer-man is Clark Salisbury (CS). Letter publication is subject to space considerations.

Dear Transoniq Hacker,

I intend to soon buy a SCSI interface for my Ensoniq TS-12. But before I do (CD-ROM drive or Syquest), I have some questions I suppose you can answer - I have a computer with a non-SCSI CD-ROM drive. I know that the SCSI interface for the TS-12 is read-only, but:

- If I connect a Syquest to the SCSI interface of my computer, is it possible to transfer the CD-ROM data to the Syquest (directly or with a utility similar to Giebler's EDM), so I can read them with my TS-12?

- Is it possible (using the computer and a utility...) to transfer the files I have on 3.5" disks to the Syquest?

This questions may seem strange but I prefer to buy a Syquest, so I can use it for my computer AND for my TS-12. If I were rich...

Thank you, goodbye!

Christophe Pochon

Switzerland

CS: 73513,3642

[CS - Unfortunately, there's really no way currently to do any of the things you outline in your letter. First, the TS-12 will not be able to access your CD-ROM drive, because it's non-SCSI. Second, there's no way I know of to transfer files from an Ensoniq formatted CD-ROM (which your computer will not recognize) to a Syquest cartridge. Currently, Gary Giebler's software does not handle SCSI transfers - maybe someday. Third, you have no way to format a Syquest cartridge for use with the TS-12. Until things change, your best bet would be to go with a CD-ROM drive for your TS-12; at least you'll have convenient access to a large library of sounds.]

[Gary Giebler replies - Our Ensoniq Diskette Manager (EDM) now has the capability to read Ensoniq's CD-ROMs on an IBM-PC. We will be adding the ability to read Ensoniq formatted SCSI hard drives on the PC shortly. Once the SCSI capability is added, EDM will support transferring files between floppies, CD-ROM, SCSI, and the PC's hard drive. Watch the Hacker for availability.]

Dear Hacquer -

First, let me be another voice in the crowd

that applauds Ensoniq. Three times.

They've consistently built excellent instruments at affordable prices, they've shown real care and concern for their customers, and I really do believe that they take a great deal of pride in their work. Bravo number one.

Second, my ASR-10 just passed its first anniversary. And the more I use it, the more I really appreciate the thought that went into its design. What a wonderfully intuitive interface. What a logically laid-out command system. What nice "extras" (like Performance Presets - to anyone playing in a live situation, they're a godsend, and typical of something Ensoniq didn't HAVE to do, but DID do, and did WELL). Bravo number two.

And finally, bravo for supplying us users with three operating system upgrades AT NO COST. I doubt any other sampler company would do that.

And that brings me to the first of my questions. I've seen much written about O.S. v2.51's ability to do DAT backups. But I'd love to know specifically what bugs 2.51 addresses.

Second, a question about WaveBoy's Voder (nice review in the latest issue): are the consonant phonemes they list in their ad (B, L, M, N, R, V and Z) the only phonemes available? In other words, how can I get my ASR to sing my name to me softly and sweetly without a soft "g" sound?

And while I'm handing out the bravos, thanks to you TH folks for continuing to provide a first-rate publication. It is much appreciated.

Gerry Leone
Victoria, MN and other fine cities
g.leone@genie.geis.com

[Ensoniq - O.S. 2.51 addresses the following items:

ENTER PLAYS KEY: The Edit/System - MIDI, ENTER PLAYS KEY parameter incorrectly defaulted to C4+ after power-on, with no Instruments loaded. The value was skewed by a semitone and the range incorrectly went from A0+ to C8+. The parameter now correctly defaults to C4 and the range has been corrected to from A0 to C8.

Error 129 on Undefined ASMPLNAME: Hit-

ting the down arrow button would cause a system error 129 when on the ASMPLNAME parameter and the parameter showed ASMPLNAME=UNDEFINED. This problem has been fixed.

COPY PITCH TABLE: The COPY PITCH TABLE Command did not permit you to make additional pitch tables. Instead, the command overwrote the current pitch table with a copy of itself, but with the name PITCH TABLE 3. This problem, which was introduced in Version 2.01, has been fixed.

Invalid Sequencer Locate (GOTO) Requests - With Audio Track Data recorded, the first time you selected the Edit Seq-Song, Bar or Beat value, and pressed Enter-Yes twice (to goto the last locate point - but you have never used goto before, so this last locate point should default to 01.01), the unit hung on ...LOCATING.... This problem has been fixed.

With Seq Track data (no Audio Tracks) recorded, the first time you selected the Edit Seq-Song, Bar or Beat value, and pressed Enter-Yes twice (to goto the last locate point - but you have never used goto before, so this last locate point should default to 01.01), the unit located to an invalid location (Bar 384.04). Pressing continue caused the Bar count to run on to 999. This has been fixed.

Potential delay before entering SAMPLING or CREATE NEW INSTRUMENT: If the ASR has to SHUFFLE memory before entering Sampling, no message was being displayed. The ASR remained frozen on a display while memory was being shuffled, though it did collect button presses. Until the shuffling completed, the unit appeared to be locked up (though it would recover and post-process the button presses). A shuffling data message has been added and the system is placed into an orderly shutdown while the shuffling takes place.]

[TH - We didn't get your Waveboy question to them with enough time for them to provide an answer - but there is one (a long one), and we should have it in next month's issue.]

Subj: The Interface

I am a new subscriber (just received my first issue) and am impressed that such a news magazine exists dedicated to the needs of a small, yet select audience. Please keep up the

good work but always remember that there are a good many of us out there that are new to MIDI and the great many things that you can do when a synth is connected to a computer. The possibilities are endless.

I recently purchased an Ensoniq KT-76 and, while I realize that this particular piece of equipment is brand new, I look forward to some discussion in the *Hacker* about the unit.

Thanks again and keep the issues flowing!
John J. Miriello, Jr.
[73300,3056]

[CS - I'm sure we'll have plenty of coverage on the KT-76 in the coming months, but for now you may want to check out some of our back issues. For the most part, any of the articles published regarding SQ-series or KS-32 programming and usage will apply equally to the KT-76, and believe me, there've been a lot of words on these subjects.]

Dear Interface:

I have owned a TS-12 now for about 9 months and my sample sound collection on floppies now consists of over 50 floppies. This collection is getting a little cumbersome to manage and I would like to transfer the data to a hard drive.

Of course everyone who has read the Interface at all over the past few months knows Ensoniq's standard line, "Sorry the SCSI port is read only and intended primarily for use with CD-ROM libraries." However, I had a few ideas on how to work around this limitation, and before I spend any money I'd like to know whether or not this will work.

I have an Amiga with an internal 40meg SyQuest drive and an external SCSI port. There is a program for the Amiga called EPSread which will allow me to read low density sound disks on my Amiga and copy the data to my SyQuest drive. If I plug the SCSI port of my TS-12 into the SCSI port on my Amiga, will the TS-12 be able to load the sound files from the SyQuest?

If this won't work, then what if I buy an external SyQuest drive? Then I could load up the SyQuest drive with sound data on my Amiga and then plug the SyQuest drive into the TS-12. Could the TS-12 load the data from the SyQuest? I've been told that the SyQuest drives have their own disk format independent of the computer they are plugged into. That is, a SyQuest drive formatted and written to on an Amiga should be readable on a Mac or an IBM. If this is true, then I would think that the TS-12 should be able to read

the data from the SyQuest drive even if the drive was not formatted by an Ensoniq machine.

Assuming that one of the above options will work, how can I transfer sound files from high density disks onto the SyQuest drive? Will any of the software from Giebler Enterprises do the job? What about sound files that take up more than one floppy, such as the excellent 4-meg 9-ft Baldwin recording from Ensoniq? The sound comes on three high density disks. If I copy it to the SyQuest will it show up as one file or as three? If the Baldwin recording is split into three files on the hard disk will this confuse my TS-12 when I try to load it?

Thank you,
David Hurtubise
hurtubis@math.stanford.edu

[CS - I don't think you'll be able to do what you want to, and here's why:

It's not true that all Syquest cartridges are formatted the same. A Syquest formatted for the Macintosh is not readable by the TS-12, and vice-versa. While I have no experience with the Amiga, I would be very surprised if Amiga-formatted Syquest carts were readable by your TS-12. The only hope I can see is if your program, "EPSread," includes the ability to format Syquest cartridges to Ensoniq specs.

Perhaps another option might be to see if you can find someone with an ASR-10 (or EPS-16) who will allow you to use their machine to format carts and copy sounds; maybe the dealer you bought your TS-12 from would be helpful in this regard. This would also give you a way to consolidate sounds from multiple floppies and/or from HD disks onto Syquest carts (sounds will show up as single instrument files, even though they may originally have been stored on two or three separate floppies).]

[Ensoniq - Also, check out Giebler's response to Christophe Pochon above.]

Dear Transoniq Hackers,

I have a problem that somebody there or maybe one of your readers with a bit of electronics knowledge may well be able to help me with. I bought my Ensoniq ESQ-1 secondhand three years ago and it has become my main keyboard.

What I really want to know is, does anybody have a circuit diagram or wiring diagram for the Voice Expansion cartridge? I understand

that it's a single EEPROM chip though I don't know which type of size or which pins to wire where.

These crystals are now no longer available at all in the UK and to order one from the US will apparently cost me 70 quid (which is four weeks dole!) So anybody who can help would be doing me a massive favor, but please write to me at: Flat 12, 411 Fulwood Road, Ranmoor, Sheffield, South Yorkshire, England S10 3GF.

Keep tweaking,
Daniel Warren
South Yorkshire, England

[CS - No one around here seems to know; perhaps Ensoniq might be able to help...]

[Ensoniq - The only E2 Prom chip that will work is a SEEQ 52B33 8K x 8 E2 Prom. These are not readily available anymore, hence the steep price. Giebler Enterprises has a description of the pinout and layout for the ESQ-1 (and SQ-80) cartridge. Contact them at 26 Crestview Drive, Phoenixville, PA 19460, (610) 933-0332 voice, (610) 933-0395 fax, for the information.]

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Dear Hacker,

In Issue #111 you wrote that the bug "deleting all wavsamples when you want to delete one" was fixed in the ASR-10 update 2.51. This is not true. It has happened to me several times since I have updated to 2.51.

There is another bug which I can report. When sampling vocals with the ASR-10 I always use it to play the rest of the song at the same time. The notes etc. are sent via MIDI from an external sequencer. When pressing the Enter button you normally read PLAY ROOT KEY OR ENTER. But if I forget to stop the sequencer before - which I very often do - the display says ERROR 144 - REBOOT? I hope Ensoniq will fix both bugs in the next update.

Yours,
Christian Ismer
Hannover, Germany

[CS - Sorry, Christian, you're right. We jumped the gun when reporting that the bug described was fixed in OS 2.51. What we should have said was "With the release of OS 2.51, we WISH the 'deleting all wavsamples

when you want to delete one' bug was fixed." At any rate, Ensoniq is working on it. In the meantime, reports have it that bug is primarily a problem with layer link, so if you turn STEREO LAYER LINK off when performing this operation, things should go OK. Of course, you can turn layer link back on once you've deleted the sample(s) in question.

The other problem you describe probably relates to asking the ASR-10 to do too much at once; error 144 usually means the ASR has run out of buffer, which could be happening if the ASR's receiving a lot of MIDI data while trying to execute sampling. Best advice for now is to get into the habit of turning your sequencer off before exiting sampling, or perhaps using a stripped down sequence that's not sending so much data to the ASR.]

Dear TH

Recently my EPS-16+ has acquired the nasty habit of sending a very rude buzz out my headphone and stereo outs while instruments are loading with a bank load.

Once the bank load is complete, the noise disappears as quickly as it came.

Any ideas about what this might be and, more importantly, how it can be eliminated?

Thanks,
Robert L Wertz
Freeport IL

[CS - The problem you describe is definitely not normal, but without more info I can't imagine what might be happening. I'd suggest contacting Ensoniq Customer Service (215-647-3930) directly and running your problem down to them.]

[Ensoniq - It would also help greatly to know what Operating System you are running, and whether this is happening from floppy loads, SCSI, or both. It's very important when explaining a problem you are having to give us as many details as possible. Please have that info ready when you call us. The current O.S. for the EPS-16 PLUS is 1.30.]

Dear TH,

It seems I have finally acquired the nerve to approach the most revered instructors of Ensoniq equipment. Having owned my first piece of equipment, a TS-10 for about a year and a half, I also often wonder if I've "wandered into a grad student class" as A.L. Deb Puddy put it in his letter in the September issue. And I also would like to see more

about the TS-10/12 in your magazine. Overall, though, I have greatly enjoyed your publication and the great tips and instruction you have provided. And I absolutely love my TS-10. It has been a perfect instrument.

The reason for my correspondence is that I am approaching step 2 - acquiring a computer. I talked with my Ensoniq dealer and he was pretty brief: "Get a Mac." The Mac dealer had no clue what I needed. So... HELP! My primary musical uses will most likely be scoring music (for piano, chorus, instrumental ensemble) at least at this point. But I am sure there are future applications that I'm not aware of right now. How do I build a system that works for me, works for my TS-10, is expandable, and does everything I need (even though I don't know what that is right now). What exactly do I need to get started? And how does one dig through the many software packages to find one that is user friendly and "competent?" Is there a resource handbook/person/company who can set me up?

As you can see, I'm quite lost. Hacker, please turn on the light. I would also welcome input from any experienced fellow-hacker technogeniuses out there.

Desperately seeking,
Sharon Bradfield
105 Windsor Rd
Burton, SC 29902

[CS - The question "What computer should I buy" is one that strikes fear in my heart every time I hear it. There's just no way anyone can responsibly answer that question for you. It's like asking "What college should I attend?" or "What tax deductions am I entitled to?" - although neither school nor tax preparation is all that frustrating compared to dealing with computers.

Still, there are a couple of things you can do to move forward. Perhaps the best is to talk to everyone you know who currently uses a computer in endeavors similar to those you wish to be involved in. Find out what they do and don't like about the hardware and software they're using, and bear in mind that some people can be a bit chauvinistic about their own equipment, tending to minimize flaws and accentuate strengths in the system they use.

Next, read everything you can get your hands on. Good sources for up-to-date info are recent electronic music publications such as Keyboard and Electronic Musician, as well as computer publications targeted at Macintosh and IBM users (I'd recommend staying away from Amiga and Atari computers).

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Once you've done this, you should start developing an idea of the kinds of things you may want to do with a computer. You already know you're interested in computer-aided scoring, but it's important to have at least some idea of other types of applications you may be interested in. Once armed with this kind of info, you can go back to the various dealers and ask for demonstrations of applications you are interested in. If the dealer can't (or won't) demo an application for you, find somebody else to do business with. Also, you might want to attend user group meetings for advice from other users.

Thanks for writing, and good luck!

[Ensoniq - A good rule of thumb is to find the software that does what you want and works the way you want it to, then buy whatever computer that software runs on. At this point in the development of MIDI software there are many good scoring/sequencing programs. You may even find that the program you like the best is available for both the Mac and the IBM. Then you're free to choose whichever platform without fear.]

Dear TH,

I've owned an SQ-1+ for two years now. I am thoroughly impressed with the quality and features that this board turned me on to. I mainly use my SQ-1+ to perform mainstream rock from '80s band like Foreigner, Journey, Asia, etc., along with original material I compose. I have a couple of questions to ask:

1. Can I still upgrade my 21-voice SQ-1+ to 32 voice? At what cost?
2. Does Ensoniq plan on replacing the SQ series with a new synth line in the near future?

Thanks for listening and if anyone wants to drop a line on music or your SQ-1, please feel free.

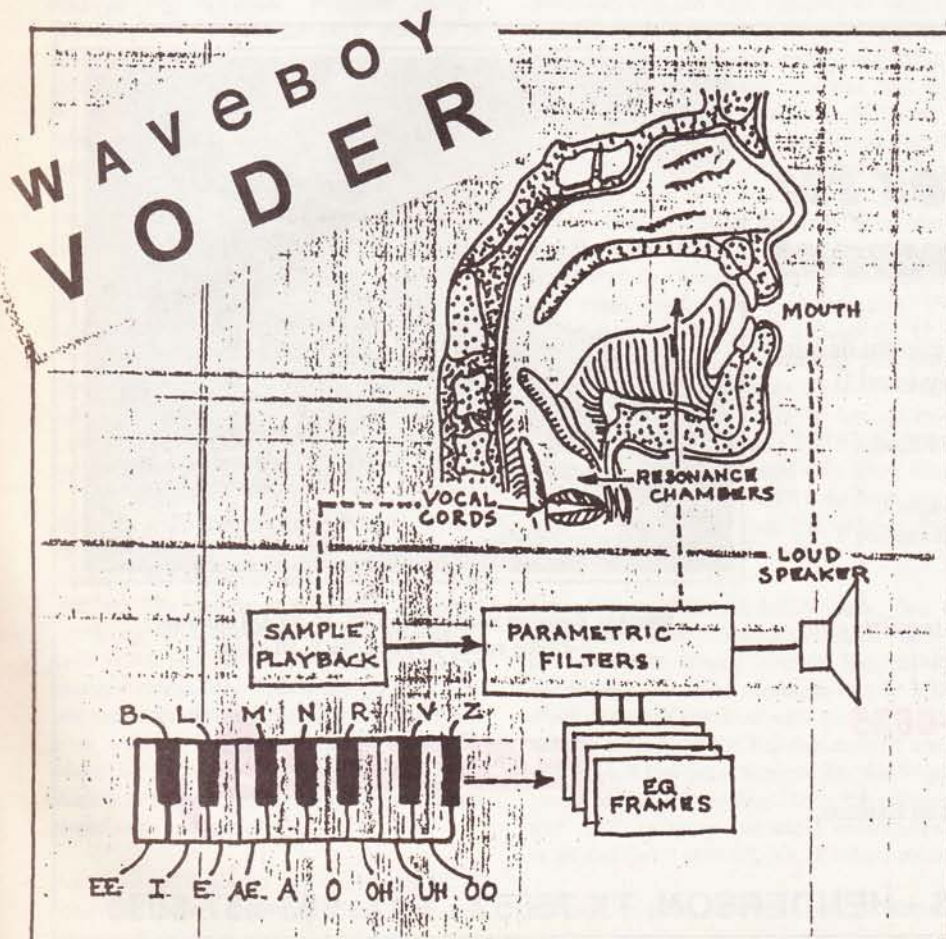
Frank Gonzales
4916 Blossom
El Paso, TX 79924

[Ensoniq - The SQ 32-voice upgrade is still available, performed at Ensoniq only. The cost is \$499.00 plus freight. It will take about two to three weeks. If you're interested, call our Customer Service department at (610) 647-3930.]

Dear Hacker,

In the Sept. '94 *Interface*, Todd Spear quotes from my *Ethereal Pop* library review the statement: Leave the sheezy, cheezy sounds to the digital FM synths," then proceeds to defend FM synthesis. Todd, I love FM synthesis! My "top ten" favorite samples include a DX-7 tine piano I originally sampled on a Mirage and converted to an EPS instrument (and it still sounds fantastic!) and a DX log drum sample that rules. My point in the review was not to put down FM synthesis but to register my subjective preference that third-party sound developers use analog synths for what they do best (fat, resonant timbres) and FM synths for what they do best (tine pianos, log drums, and shimmery stuff) and sample accordingly. Anyway, thanks for your response. It keeps us on our toes.

Now, a few words on SCSI. Back in the May '94 *Interface* Daryl Jeffords mentioned that his SCSI drive took 30 seconds to load a back to his EPS; a bank which loaded in only 9 seconds on a different SCSI setup. The interleave ratio could have a lot to do with the difference in load time. I recently cleaned out and reorganized my entire EPS library and



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reformatted my SCSI drive to start from scratch. While I was at it, I decided to test some different interleave ratios for their effect on file load times and was surprised to discover some significant differences. My test file was the Optical Media Int'l demo disk (3-disk set), a 4063 block file. I formatted my SCSI drive four different times, with a different interleave ratio each time, with the following results:

Interleave 0 = 38.7 seconds loading time
Interleave 1 = 38.4 seconds loading time
Interleave 2 = 11.1 seconds loading time
Interleave 3 = 15.1 seconds loading time

If you think your SCSI drive is a little slower than it should be, try experimenting with different interleave ratios (one of the parameters you set when using the FORMAT SCSI DRIVE command). Some hard drives (like my Seagate) may perform much better with a setting other than the default.

let me close with an open request to all EPS OS hackers: if one of you were to write a de-fragmenting program (like Disk Optimizer) for our EPS SCSI drives, you would not get rich but you would definitely win the undying love, worship and grovelling of all

EPS/SCSI users.

Steve Vincent
Tacoma WA

[CS - Point well taken on the interleave factor, Steve. Thanks for writing!]

Dear Transoniq Hacker, Ensoniq, and fellow hackers,

I own an SD-1 32 running 4.10 OS. The sequences I have developed on it provide the sound for a working duo I am in here on the Jersey shore. Congratulations to Ensoniq for giving me the keyboard I always dreamed of but never thought I'd see developed in my lifetime.

I was saddened to learn that all the SD-1 sequences I spent hundreds of hours developing won't run on the TS-10 without obtaining third party support. Upward compatibility should be a primary consideration for any computer-based product, regardless of what market you are in. Imagine an author who starts writing a book in Word 2.0 and later finds he can't edit it if he goes out and buys Word 6.0! Think he might switch to another

word processor next time he wrote a book? Of course, this isn't the case - major software companies like Microsoft know they wouldn't survive if they didn't give the latest version of their product the ability to read (import) documents developed in previous releases. I can only hope there will still be Gieblers around to provide sequence/song conversion software from SD-1 to whatever future Ensoniq's Model X is being sold when and if my SD-1 ever quits.

Anyway, here's my question. I am considering purchasing a Digitech VHM-5 Vocalist, but only if I can use the SD-1 to send MIDI instructions to the VHM-5 so it will switch between vocal harmony interval programs "on the fly" during an SD-1 song/sequence. I have absolutely no clue whether the two machines will get along with each other and, even if they do, whether the VHM-5 program switches will be quick enough to maintain the continuity/integrity of the live vocal harmonies it produces without encountering dreaded drop-out.

Can Ensoniq, TH, or fellow SD-1 hackers shed some light on whether the SD-1 will provide live performance patch change instructions to a vocal harmony device like the



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VHM-5 Vocalist from within a sequence/song and, if so, basically how is it done? Has anyone out there had any good or bad results with this configuration?

A second question on the SD-1: I see internal drives for other Ensoniq gear offered in the *Hacker* ads, but are there any third party internal hard disk drive modifications available for the SD-1 to make songs/sequences more immediately available for live performance? And while on the topic of media, is it true that you should only use DS/DD floppy disks and not DS/HD floppies in the SD-1?

Thanks for the help,
John Gross
Bargaintown, NJ

[CS - I think that you should direct this question to Digitech (or your Digitech dealer). I suspect that you can use MIDI information (MIDI notes, program changes, etc.) to control what the VHM-5 does, but it really depends on the VHM-5. The SD-1 sequencer will, of course, send all the aforementioned information, so if the VHM-5 responds to it in the way you want, you're in.

As far as program change messages go, the SD-1 can send program changes at the beginning of any sequence. Program change messages will be sent for each track in a sequence, and if sequences are chained together into a song, program changes can be sent at the beginning of each new song step. Additionally, program changes can be inserted into a sequence at any point by sending them to the SD-1 from an external device while the SD-1 is recording. If you have no external devices, you can work around the problem by plugging the SD-1's MIDI out to its MIDI in, and send it program changes from itself.

There is no known way to outfit the SD-1 with a hard drive - internal or external. And yes, it is true that you should only use DS/DD and not DS/HD floppies in the SD-1.]

[Ensoniq - We appreciate your concern, but we must point out that the TS-10 is a different product, not an upgrade to the SD-1 (or VFX-sd). The sounds of the TS-10 are completely different, being based on a new waveform ROM, and the Track parameters have changed extensively. This made the new system markedly different from the old. But there is a solution available (Giebler's utility), which we helped to distribute to all of our dealers to be able to help you. So we did pay attention to your need.

You also will always have the option of recording your sequences into the new

product via multi-track record, or to an external sequencer. Since we're talking MIDI, you'll never be out of luck.

1) The VHM-5 does respond to MIDI program changes and note data, so we can't see any reason why the SD-1 wouldn't be a good match. In fact, we do know that LB Music (regular *Hacker* advertisers) and other third-party sequence developers offer SD-1 sequencers designed to work in conjunction with the VHM-5. Only someone who uses the VHM-5 can report on the speed it responds etc.

2) Hard drives require a SCSI interface or IDE interface, neither of which are available for the SD-1. That's the hardware side: without software to instruct the SD-1 to save/load to this non-existent hardware the SD-1 wouldn't recognize it anyway. Sorry.]

Dear TH,

Hey guys, great mag.

I'll get right to my dilemma. I'm the often proud owner of an ASR-10, Bernoulli 150, DrumKat 3.5, Yamaha RM-50, and an EPS. I'm a keyboard/drummer and have failed on every occasion to successfully record live drum data into the ASR's sequencer from the DrumKat's pads/pedals. I've tried triggering ASR samples and have tried going through (the sequencer) to record data and then trigger the RM-50 drum module. No luck. I thought I'd try trial-by-elimination to find the culprit. So I took my DrumKat and RM-50 to the music store where I bought the ASR and tried it with an ASR in the store. Same story. The Kat works flawlessly when triggering the RM-50 alone. I've tried every possible OS and mode configuration combination. I've called Ensoniq five times at least (at \$7 to \$10 a call). They said I had all my parameters dialed in correctly but hadn't actually used a Drum-Kat with an ASR-10 so had no more suggestions except to use a MIDI-merge box. I believe that the box would only allow me to not have to switch the MIDI cord from out to thru to "hear" what data I'm playing back thru the RM-50.

I tried three different MIDI cords, two of them brand new. It seems to me that there's too much data coming from the Kat, perhaps continuous controller messages etc, or MIDI clock data that conflicts with the ASR. I did use the outjack on the Kat that doesn't transmit clock. I can get it to work fine for four to seven bars of sequencing... then the sequence (the ASR) locks up and sticks on measure 7 or so and won't shut off, out of record mode.

If I only do about four measures it'll stop and

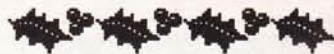
play back fine. And if I just play sounds from Kat/ASR, they will trigger fine for two or three minutes and then start chopping out and back in at random or stop completely, although I get no error messages on the ASR.

I've called Kat many times (for free). Their phone-man says he tried to do the same at a session with no luck until he bagged the ASR sequence and used a regular computer with the Kat. He also said that numerous people called with the same complaint in circumstances such as mine. Yet Ensoniq will not admit they've encountered similar calls. Coincidence? I think not.

And here I thought I was buying "state of the art" gear. Why is it nobody has used this stuff together? My ASR has 16 Meg of RAM and the correct RAM chip. It's not a polyphony problem because I've tried "creating an instr" (about 2 blocks) only, with no other onboard sounds in an attempt to trigger the RM-50.

The guy who sold me the ASR is supposedly Seattle's guru Ensoniq guy. No answers. Called Sam Ash who sold me the Kat. No answers. Called Garth at RCS. You guessed it. The guy at Kat said he'd check into asking the company's VP to call Ensoniq for a loner

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ASR so he can personally figure out the problem, since many have called, I'm guessing, as frustrated as myself.

I'd planned to buy a Mac with Emagic Notator Logic Audio and a Session 8 in the near future, but wonder what surprises lay ahead when hooking my ASR and EPS. I realize the "everything in one box" workstations do amazing things for the money and have to cut corners somewhere, but come on Ensoniq... I'm a gigging stiff and work for years to save enough to acquire what I've managed to get. I love your products when they're working and buy new Ensoniq gear in good faith based on what you say it'll do. You boast of your onboard computers yet there's many limitations you fail to mention like not being able to sync the hard disk recorder to a "real" computer or that all EPS sequences won't back the same unless they're re-recorded in multi-record mode. They still require tweaking, by the way.

We all need to call you for help from time to time. I'm guessing many of us would pay an extra \$50 on top of your MSRP to have an 800 number or even a yearly private optional fee. I wouldn't even mind *not* having an 800 number if the person I end up talking to was an experienced answer man who actually uses the stuff in all kind of applications like us gigging/studio guys do, instead of flipping to the page in the manual that I've read numerous times.

I wouldn't mind an extra \$500 to make the products more reliable with the "Mackie" philosophy of only including features most people actually use. Up until now I've been an exclusive Ensoniq guy and hate to rag on the company I want so much to do well, but hey guys, a lot of us need more answers to problems or we may jump ship.

Thank God for the *Hacker* to apply some pressure for all us little guys. Please somebody out there - help me!

Thanks,
Daniel Weirich
Snoqualmie, Washington

[CS - Weird problem, Daniel. My best guess is that the DrumKat might send note-off messages in some non-standard way, which might be causing your ASR to run out of polyphony after a certain number of notes.]

Tell you what; see if you can't get someone with a computer (preferably a Mac running Vision software) to record the output of your DrumKat while you are playing it, and send me the file (if you can't send this type of file, my next preference would be a MasterTracks

Pro file, and if you can't get me that, send me a standard MIDI file in Mac. IBM, or Atari format). Send the file to c/o the Hacker. I'll take a look at it and see if I can't find anything in the data that might be causing your problems.]

[Ensoniq - All of our Customer Service representatives are professional musicians in addition to being professional communicators. Many of them still play on weekends, do sessions and conduct training workshops (all with their Ensoniq gear). Each cubicle in their department is loaded with keyboards, rackmount devices, a computer and more. We try hard to simulate our customer's working situations, but there are so many possible combinations that we can't cover them all.]

We contacted Mr. Weirich after reading this letter (we had his warranty card on file - see, it really does help!) and did hear back from him. We offered to look at his DrumKat here at the factory, and he said he would let us know. We really haven't heard about this problem, and not from the people at KAT, whom we know. We are contacting them to get a loaner unit to look into this further. We want to solve this problem, and aren't "hiding" it from anybody. Stay tuned...]

[TH - Actually, not to make too fine a point about it, but pressure is not something that we apply - or have to. We just provide a forum.]

To the Interface:

I have seen how Ensoniq made it possible to save ASR-10 *parameters only* data on its TS-10 & TS-12 synthesizers (when saving an instrument to disk after some editing that doesn't change the sample data). So, please tell me, why not on the ASR-10 itself? I have not tested OS 2.5 yet, but as far as I know, this is not a feature in the new version.

Thanks again,
Angelo Zucco
Santiago, Chile

[Ensoniq - Sorry, but we have no plans to add this feature to the ASR.]

Dear Mr. Interface,

I have a few additions to the Computer Program list that was printed last month:

Get/Put EPS.
Original, 16-Plus, ASR-10.
Sends/Receives .wav (RIFF) files to/from the EPS/ASR. Runs on DOS command line.

Author: Arno van Goch, CIS: 100145,1021.
Source: CIS MIDI/Music Forum Library, Online FTP: oak.oakland.edu:pub/eps/utills/ msdos.
Cost: Freeware.
Never Reviewed.

Convert1.2B.
Original, 16-Plus, ASR-10.
Converts "foreign" disk format files to/from EPS/ASR disk images (.efe, compatible with Giebler's EDM).
Author: Jesus Villena, INTERNET: jvillena@ dsic.upv.es.
Source: Online FTP:oak.oakland.edu:pub/eps/ utills/ msdos.
Cost: Freeware.
Never Reviewed.

SampleWrench.
Original, 16-Plus (working on ASR version).
Sample Editor - loops, time compression, Digital EQ, more - communicates through MIDI, ASR_SCSI a possibility, but it hasn't been tested with the Amiga yet, to our knowledge.
Author & Source: Dissidents, 10325 Woods Rd., Utica, NY 13502. Phone: (315) 797-0343.
Cost: \$299.
Reviewed in *AmigaWorld* (sorry, don't know the issue).

Also, the source for scEPSi was incorrect - source: Online FTP - oak.oakland.edu:pub/ eps/utills/mac. Another program for the Atari is SampleWrench, but I haven't got any further information on it. Anybody know about it? Write in!

There is much more to say about the computer programs listed in the article. If you have questions, don't hesitate to call me over the T-Net - I'll be happy to answer any question you might have.

Also, a question for Ensoniq: Jupiter Systems says they don't sell/distribute ASR_SCSI, your Mac program that enables SCSI communication. Will this be made available separately from you or elsewhere, so that other users can benefit from it?

Sincerely,
Garth Hjelte
Rubber Chicken Software Co.
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[Ensoniq - The code that we licensed to Jupiter is not available as a stand-alone application at this time.]



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