

# Transoniq

# Hacker

The Independent News  
Magazine for Ensoniq Users

## KT Mimicry — The KT Set 1

Pat Finnigan



For: KT series.

Product: *KT Set 1*.

Price: \$39.95 (disk), \$97.95 (PCMCIA card).

From: Syntaur Productions, 5402 W. 43rd St., Houston, TX 77092. Phone: 713-682-1960, FAX: 713-682-2072.

This month we explore a new set of Syntaur patches from the emperors of audio animation, Sam Mims and Todd Speer. In case you aren't aware, Sam was the master sculptor of animated pad sounds for the Ensoniq synth line. Where other people (myself included) suggest staggering envelope times, wave start points other than 000, trans-wave modulation thru loop point modulation, Sam is the guy who actually performs these herculean programming feats. His programming prowess borders on legendary (I reviewed a set of SQ patches that turned your SQ into an

SD-1 soundalike in Issue #105), and his sonic powers deserve a comprehensive blow-by-blow precis. So rather than tip the entire hand, here's a few of the standouts:

**Lightnin' Bug:** A cymbal bell attack grafted onto an analog string/brass pad with high-frequency mod wheel "flitter" (in the 25-30Hz LFO range). Very cool, ambient yet out front.

**Atmospheres:** Definitely *not* your General MIDI "Atmosphere." A Shaku pad w/filter sweep up and down on the "Lightnin' Bug" flitter aforementioned. Warm and evocative. Mod wheel controls "chiff" of shakuhachi. Thoughtful animation programming.

**Cross Blender:** An exceptional acoustic six string that melts into an 8va string pad w/light vibrato.

**Wine Glass:** Again, not your GM "wineglass." An animated vibrophone.

**Neutrino Pad:** Analog string pad ala Oberheim w/slow, gentle, not-too-much resonant filter sweep. Just enough animation to capture the imagination without stealing the show in your mix.

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**NeverGreen Pad:** 16' and 8' flute pad with octave beats of transwave sprinkled in with a delayed attack. *Very* cool for arpeggiated chords when held down. Mod wheel removes transwave.

**Aurora Borealis:** 16' and 8' transwave w/filter sweep up and additive octave bell/tine character. A glorious intro pad for those introspective nuage ruminations/compositions.

**Deep Clav Nine:** Just another clever name (actually a muted clavinet w/short decay). Syntaur's idea of a reality check (I assume).

**Brite Rock Organ:** His all-drawbars-out B3: mod wheel *toggles* Leslie on and off. As an added touch, after touch introduces a hint of brightness/brilliance; just enough to add cutting power without destroying the B3 character (as so many clone patches do: by adding harmonics at an improper level, the B3 turns into a VOX). Not this one.

**Mr. Piano:** Sam's obligatory tip of the hat to Ensoniq's piano wavetable: mod wheel up kills fx.

**Mellow ElPiano:** A very, very accurate emulation of our DX7 electric piano with an added twist: mod wheel controls harmonic overtone pitch (modulator fixed frequency ratio in FMspeak, mod-wheel variable). FM never had it so good...

**Tweezy Moog Bass:** *The* definitive Moog bass patch with the best filter action on the mod wheel yet!

**Attitude:** Heavily flanged EP with slow LFO rate and short decay so that the reverb delay becomes a separate flange tone. Spooky programming reminiscent of filter resonance as an alternate oscillator (except this one has effects!). Tre' cool programming here...

**Mora Borealis:** less of Aurora Borealis.

**Tubular Bells:** Mod wheel adds sub 8va bell and longer reverb. Very cool yet subtle animation on an old theme.

**Mad Max Wigs:** All I can tell you is velocity increases filter cutoff frequency; taste this one yourselves...

**Nexus Age:** Low square wave w/16' and 8' plucked attack. Mod wheel removes the low square wave element. Maybe for bands with large hair or something...

Not to give the show away, this is another one of those collections that defy description. It gives different impressions upon each listening (a hallmark of Syntaur collections), and pretty much forces you to realize there's *sooooo* much un-

explored potential in the Malvern box. This is another of Syntaur's collection that doesn't knock you down with its impact; it seduces you with its subtlety of animation. And you'll play with it a while, shut down, and go back to it an hour later hearing the same thing but a different character. I hear new things in this set and I've auditioned it five times: a *very* pervasive collection that, although could be thought of as a pad collection or a nuage collection, defies description *every* time you listen to it. Maybe he's got a random pattern generation in this particular PCMCIA card or something, but I'd swear the sound changes every time I listen. And, unlike previous sets from Syntaur, you'll find some obligatory meat and potatoes string and analogue pads, but with the same refined envelope programming that's become a Mims exclusive. This guy must sleep with the KT to program this well (no offense intended, Sam!).

Sam Mims has an unparalleled handle on the KT architecture unmatched by anyone I've ever met; this collection proves the point.

A must-have from the master of KT ambient programming: no KT owner should be without this collection. Once again, Sam Mims raises the bar on exploratory sound programming, and actually only succeeds in showing what a tremendous amount of programming energy has been expended on this offering. Just when you think you'd created the patch to end all patches, here comes Sam with a twiddle here, a twiddle there, and it's back to the drawing board for those of our ilk. I just hate that, don't you?

It's akin to not seeing the forest because of the trees: the most obvious, overlooked parameters turn out to be the most expressive. More than educational, greater than the sum of its parts, the KT Set 1 represents the "Syntaurization" of another Malvern wavetable way past its design envelope...

As if you'd ever, ever tire of its sounds, it's a veritable tutorial on mondo evocative wave programming just by dialing up menu pages to ask "How in the hell did he do that?" Or just play away and revel in its subtlety: a finer KT offering you'll be hard pressed to find. 'Cause I guarantee you'll be looking long and far: personally, I'd call it a futile search... ■

*Bio:* When not answering broadcast NTSC/PAL video-capture questions for TrueVision, Pat Finnigan is a tech support person for RasterOps, a company that makes video boards and monitors for Mac and IBM platforms. He still uses a B-3 for a keyboard stand and watches the alpha channel.

## RND ( 🎵🎵 )

### Ensoniq News

#### Ensoniq Releases Songwriter's Keyboards

Ensoniq Corp has introduced two new synthesizer keyboards — the *MR-Workstation* and *MR-Workstation Weighted Action*. These new synths are designed for the musician who wants to write songs, with many unique features designed to make that easier than ever.

Available in both 61-key synth-action and 76-key weighted piano-action keyboards, the MR-Workstation uses Ensoniq's SoundFinder interface to make sound selection a breeze. One knob selects the sound category and another knob is used to select the desired sound. Sounds can be quickly located alphabetically, by location (ROM, RAM, expansion board, user etc.), or by musical instrument category. Drum patterns can be located by musical style, and all data types can be located by spelling their name, using the keyboard for quick entry.

The Idea Pad<sup>(tm)</sup> guarantees that no musical inspiration will ever be lost. Everything that is played on the keyboard is recorded, divided into separate phrases by selection of a different sound, or pauses in playing. Any phrase that is recorded can be sent to the onboard 16-track sequencer for further development.

The Idea Pad also works in conjunction with an onboard drum machine, allowing the user to jam along with pre-programmed drum patterns to develop ideas or simply have fun. The drum

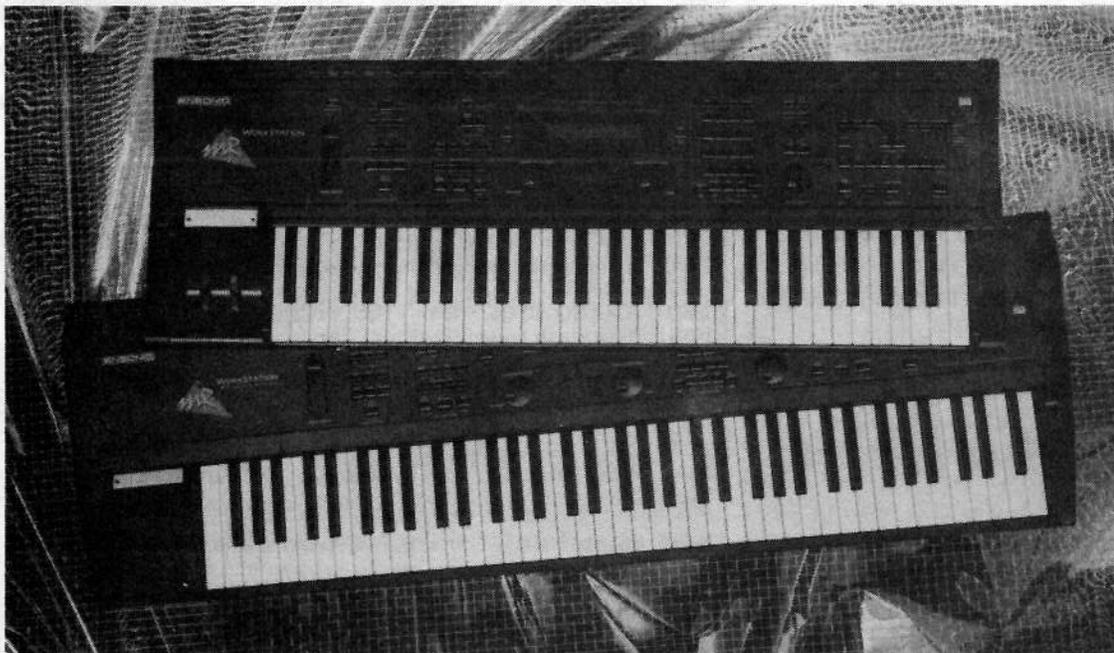
machine offers variations and fills for every pattern. New patterns can be loaded from disk, and patterns and drum kits can be edited to suit the user's needs. The drum machine can work in conjunction with the onboard sequencer, which will record the button presses for fills, variation selection, and rhythm changes.

The MR-Workstation's 16-track sequencer has a resolution of 384 PPQ. Music can be recorded in real-time or step-entry. Tracks can be freely edited, with a number of quantization choices including swing, percentage, and push. Regions can be marked for overdub or add recording, and edited as needed.

Arranging a Song can be done directly from the front panel, building a playlist from the 24 Sequences possible per Song. Dedicated knobs for track volume and panning make it easy to develop a final mix, including global volume changes for fade-outs.

The MR-Workstation supports Standard MIDI Files. They can be loaded from disk, and the user's works can be saved as SMFs to load into computers or other products for playback or further editing.

The MR-Workstation is based on the same sound engine as Ensoniq's MR-Rack. It offers 64-voice polyphony and unsurpassed fidelity, with a 44.1 kHz sample playback rate, four 18-bit DACs, and a hardware design that delivers 103 dB signal-to-noise. It features a 14 MB waveform ROM, with newly-sampled piano, strings, brass, drums, and voices. This is in addition to a full gamut of pop, orchestral, drum, percussion, and synthetic wave data.



It features the second generation of Ensoniq's unique Transwaves<sup>(tm)</sup> — sweepable wavetables for sounds that have movement and a decidedly "un-sampled" quality. Many of the new Transwaves have been created using proprietary digital synthesis and resynthesis technologies that Ensoniq has developed over the past few years.

Wave ROM can be expanded up to 86 MB using three wave expansion board slots. Boards are user-installable, and

each board can hold up to 24 MB additional wave ROM data as well as new Sounds and demos. Ensoniq's plans for a series of EXP wave expansion boards include an 8 MB drum board, a 20 MB Dance/Hip-Hop board, as well as a World board and a Piano board, each offering 24 MB of new wave ROM. Wave expansion boards will be aggressively priced, starting at only \$250 (US) for 8 MB, and offering 24 MB for only \$500 (US).

The MR-Workstation will also support the loading of samples, with the addition of a soon-to-be-released Flash memory option. This 4 MB board can be installed in any of the three expansion slots, and allows the loading of Ensoniq EPS/ASR sample disks and .WAV files. Ensoniq sample disks will play back correctly without needing additional programming. Up to three memory boards can be installed for a total of 12 MB of sample memory. Since the memory is flash, all data is retained even when the keyboard is turned off.

The new voice architecture in the MR-Workstation is a dynamic structure that offers up to 16 layers, each of which is a fully programmable oscillator with many advanced parameters for shaping sound. The full voice programming is easily accessible from computer software, and Ensoniq is providing a special MR-editor/librarian version of Mark Of The Unicorn's UNISYN software (Windows or Mac) to purchasers of the MR-Workstation.

The MR-Workstation contains 393 ROM Sounds, including a full GM soundset. Dedicated buttons for creating splits or layers make it easy to meet performance needs. Any split or layer between different sounds can be saved as a new sound, or sent to the sequencer so your performance needs can easily become part of your sequenced music.

The MR-Workstation uses Ensoniq's new ESP-2, a custom 24-bit DSP chip with 26 MIPS of processing power and 52-bit accumulation. It offers 6 stereo busses: 3 offer independent send amounts into a global reverb, another provides a wet/dry mix into a global chorus and a send amount into the global reverb. The next provides a wet/dry mix into an insert effect, with a wet/dry mix into the global chorus and a send into the global reverb. The last bus is a dedicated stereo dry bus. There are 40 insert effect choices, including high-quality reverbs, choruses, delays, guitar-oriented effects, and many combination effects. Of special note is the unique "Chatter Box" algorithm, using complex filters to create morphing vocal formants.

The MR-Workstation supports the new MIDI Tuning Standard for aficionados of alternate Pitch Tables. It offers 45 pre-programmed Pitch Tables for instant access to a range of exotic tunings.

The MR-Workstation starts shipping in April. The 61-key synth action version has a suggested list price of \$2595 (US) and the 76-key weighted piano action version has a suggested retail of \$2995 (US). For more information contact Ensoniq

Corp, PO Box 3035, 155 Great Valley Parkway, Malvern, PA 19355-0735, (800) 553-5151 voice, (610) 647-8908 fax, (800) 257-1439 automatic fax retrieval, CompuServe: GO MIEN-SONIQ, Internet Web Site: <http://www.ensoniq.com>.

## 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). And — there's always our on-line Interface.

**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. Ensoniq's Fax On Demand line, (1-800-257-1439) can also be used to retrieve specs, OS info, hard-drive info, and the like.

**All Ensoniq Gear** — Electric Factory (Ensoniq's Australia distributor). E-mail address: [elfa@ozemail.com.au](mailto:elfa@ozemail.com.au); their web site at <http://www.ozemail.com.au/~elfa/>; or e-mail their resident clinician, Michael Allen, at [mallen@geko.com.au](mailto:mallen@geko.com.au). Phone calls, Business hours — Victoria. (03) 480-5988.

**All Ensoniq Gear** — The Electric Factory in New Zealand, phone (64) 9-443-5916, fax (64) 9-443-5893, or e-mail [geoffm@elfa.co.nz](mailto:geoffm@elfa.co.nz) (Geoff Mason).

**TS Questions** — Pat Esslinger, Internet: [pate@execpc.com](mailto:pate@execpc.com), CompuServe: 74240,1562, or AOL: BSSLIP.

**TS, VFX, and SD-1 Questions** — Stuart Hosking, [stuh@ozemail.com.au](mailto:stuh@ozemail.com.au).

**MIDI users and ASR-10 Questions** — Ariel and Meiri Dvorjetski, Internet: [s3761921@techst02.technion.ac.il](mailto:s3761921@techst02.technion.ac.il), or [dvorjet@techunix.technion.ac.il](mailto:dvorjet@techunix.technion.ac.il). You can also call Sincopated BBS at (Israel country code: 972) 4-8776035, 24 hours, 28.8K Modem. Please Login as: ENSONIQ, Password: MIDI.

**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](mailto: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, VFX Questions** — Robert Romano, 607-898-4868. Any ol' time (within reason) EST.

**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. (612) 235-9798. Email: [chickenEPS@willmar.com](mailto:chickenEPS@willmar.com).

**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.

**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) 925-8881. EST.

# FM

Tom Shear

## FM: No Static At All?

You've heard me say it before. If you like to program your own samples, there are few items more essential to your EPS/ASR toolbox than the Waveboy disks. One of my favorite is the Resonant Filter disk. I hope whoever the engineer was who convinced synth and sampler manufacturers to stop putting resonance on their filters got fired. It's puzzling how such an essential building block in sound could have been neglected. But I digress. Of course, as soon as this little baby came out, a former bandmate and I ordered it as fast as we could. As if the beautifully snappy filter effect wasn't enough, the Resonant Filter disk comes with another funny little effect called FM+FX. Essentially, it lets you perform the most rudimentary form of FM synthesis using the panning controls to assign samples as a modulator and carrier. Aside from this, the only other FM control you have is setting the FM Index. As cool as this was, a friend of mine pretty much summed it up when he said, "it only makes one sound, but at least it's a good one." It seemed that no matter what you fed in, you got either a variation on the preset sound or a bunch of noise. Not very useful. Or so I thought.

As often happens, I had a happy accident one day while playing around with the FM+FX. And since I'm such an incredibly generous, all around cool guy, I'm going to share it with you this month.

Load the FM+FX effect into memory and dig into your sample library. What you're looking for is really any drum loop, but preferably one with real bassy kicks. Go ahead and load the loop of your choice and make sure it's assigned to the FM+FX effect.

Normally, when using this effect, you'd have two different samples playing at once...one would be panned hard left,

and the other panned hard right, so that one acts as the modulator, and the other acts as the carrier. For our purposes today, however, we're going to use the drum loop as both the carrier and the modulator. To insure this happens, make sure the PAN position of the loop is set to 00 (center). Now all you need to do is hit EDIT-EFFECT and scroll right to the INDEX value, which should be set to taste, but I prefer a full value of 99.

The result is an unusual effect that won't work well with every loop, but can sound phenomenal on the right one. Basically, the effect sounds like a very clean, tight distortion, but with a bonus...certain frequencies are emphasized and others completely disappear. This can take even a totally cliched loop sound like an original beauty you programmed yourself. With some loops, you even get an effect that sounds like the original sounds in the loop are being replaced by analog drums. Very unusual. Like I said, this doesn't work with every loop, so trial and error is going to be necessary, but if you want a unique sound, it's well worth the effort.

As I mentioned before, loops with real bassy kicks (like 808s) seem to work especially well. This can be used for another neat trick. If you have any long, sustaining kicks in your library, try feeding them through this effect, throwing the result down on cassette or DAT, and sample the sound... This essentially turns what was once a lowly kick drum into a cool synth bass. Again, this isn't going to

magically work on every kick drum you have, but then again, nothing truly worthwhile is ever *that* simple, now is it? Now, if I can just figure out how to turn the Waveboy Parallel Effects into a RAM Doubler, I'll be all set.... ■



*Bio: Tom Shear was recently arrested for modulating his carrier in public.*

## eTH — A Faster, Cheaper Hacker

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# TS Native Language

Garry Wasyliw

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Product: Sound Disk TSD-1001, *Altered-Native*.

For: TS-10/12.

Price: \$19.95 (US).

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

Phone: (610) 647-3930 or contact your local Ensoniq dealer.

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If I told you that this sound set contains 120 unique ethnic/world sounds for TS series synths at a very reasonable price you might ask what the difference is between this and the TSD-1005 disk I reviewed in the September, 1995 *Hacker*. I can imagine Nigel Tufnel of Spinal Tap replying "Well....., one's got a five but this one's got a one." The focus is quite similar, but this set has an emphasis on more abstract combinations which evoke the atmosphere of a culture without using emulations of traditional instruments. The programs are not generally grouped into clearly defined categories but a large number could be described as "Plucked," "Wind Instruments" and "Tuned Percussion."

Each program contains the expected patch select variations and generally the Mod Wheel is assigned to vibrato with the Timbre slider adjusting the voice mix (this control makes quite a difference here so click your System button three times and select TIMBRE for the SLIDER parameter). Most have a lot of effect processing assigned, no doubt to emulate the big wash textures made popular by certain other companies, but I also listened through the Small Plate Reverb effect to see how they would hold up. Aside from the cases where the effect is integral to the sound, the TS clarity really came through proving that the sounds have not been covered with sauce to hide a bland flavor; some people just like more reverb than others. There are lots of clever waveform layers creating sounds you may not have guessed could come out of the TS synth section.

With this number of programs one of the weaknesses is that there are many similar sounds. These are no doubt programming variations of each other but all seem potentially useful. I also thought some of the sounds such as the drums should have had more dynamic response but in the thick of a mix they seem fine. I was originally going to

cite some of the sounds as being weak but when I heard them in the context of the excellent demo sequences I changed my mind. The bagpipes really surprised me in particular and there's also an interesting Indonesian sequence using a number of the tuned percussion instruments. After hearing these, I concluded that it is really hard to declare any as unsuitable and, who knows, maybe you have a use for XOTICARIMBA; a combination marimba and dog barking sound.

In the notable category is a nice wind instrument named CLARIDUK "an imaginary single reed dudek" as well as DUDUK, an Armenian wood oboe that sounded good in the demo but even better in a lower register. I hope you can keep all this straight.

GLASSHARMO is a replica of a glass harmonica. The original is not a transparent mouth organ but a huge motorized device that spins glass bowls in a tank of water to be played by finger friction. This was invented by Benjamin Franklin and I'm sure that if he had been able to hear the TS version he wouldn't have bothered.

There are many good drums but the two HYPERPERC programs really address my wish for more dynamic response. Different drum sounds velocity switch in at different places. This can inspire some very unique grooves.

In addition to all of the above there is all of the Hyper-Wave activity including synth pads, chanting monks, rhythms and on and on. If I ever get a job scoring a movie scene where the spy's plane is landing in Morocco, I'll just load up MOROCCO-JAM and hold C-4 for as long as is required.

I can't begin to do this many sounds justice but if you're a TS owner into any sort of world, ethnic or sound track music then this disk is a must. We are talking many fine programs here at a very reasonable price. ■

*Bio: Garry lives in a quiet little town in Canada. His next door neighbour is a well known singer who is commonly believed to have been deceased since 1977.*

# The DP Delay Algorithms

Ray Legnini

Delays have been a popular effect ever since the first cave man yelled into his cave and heard his voice rumbling around its huge spaces. The first true analog delay!

In more modern times we musical humans have come to love our delays. It seems that every musical style has its own unique uses for echoes and delays. Yes, even classical music. It is not uncommon to hear a theme in a classical work acoustically echoed by the use of dynamics or by having the motif played by another instrument several beats after the original. Ambient music wouldn't be as ambient without the DDL. Live singers love delay lines when used to thicken a vocal performance. Guitar players add them to their solo sounds. Studio engineers make clever use of musically timed delays to enhance the groove of a tune. You get the idea..

We are going to look at some of the ways you can use your DP/4 delays to enhance your music. This will also apply to the DP/4+ as well as the DP/2. The algorithms are the same in all of these processors. Many of the delay ideas can also be applied to any effects algo that can display delay times in milliseconds including those found in the TS Series and the ASR-10.

We are going to focus on the delay-only algorithms in the next series of articles. There also effects algorithms in the DP product family that are multi-effects which also happen to include a delay line. The ideas presented here can also be applied to them.

## Today's Math Lesson

It is a good idea to have the formulas for determining musical interval delay times memorized. I've stated this in previous articles, but a quick re-cap is in order for new readers. Here's what you do: Take the number of milliseconds (thousandths of a second) in one minute ( $1000 \times 60$  seconds = 60,000) and divide that by the tempo of your music, expressed in Beats Per Minute (BPM). The result of that calculation is the number of millisecond that it takes for one beat of your music (a quarter note) to pass by. It is then a simple matter of multiplying or dividing *that* number to get any other musical relationship you need. That means that if your tempo is 100 BPM,

60,000/100 BPM equals 600 milliseconds (commonly abbreviated as "ms" or "msec"). If you need to know what an eighth note is, then divide the answer by two; you get 300 ms.

## The Tempo Delay

First we'll look at the Tempo Delay. The layout of this effect is relatively simple. You can adjust the tempo with Parameter 04 to suit your song. You adjust the musical interval with parameter 03. This is great when you are mixing a song and need the vocal to echo rhythmically with the music. If you generally sequence your tunes, simply get the tempo from the sequencer and enter it into the DP, no need to use a calculator. Another cool feature of this effect is its ability to receive incoming MIDI clocks and sync the delays to the clocks. This means that you can have a sequence playing that has multiple tempos with or without accelerandos/ritards and the delays will automatically be adjusted to keep up with the music! To do this you need to set Parameter 06 to MIDI Clocks, and also hook up a MIDI cable from your sequencer to the DP's MIDI in. Make sure that your sequencer is set to send MIDI clocks. (Some PC based sequencers allow you to turn this function on or off as needed.) Be aware though, that the DP is averaging the MIDI clock beats as received in order to determine the tempo. On the DP/4+ and DP/2 there is an additional parameter called "Tempo Delay Smoothing." This determines how fast the unit will respond to incoming tempo changes, whether from a foot switch tapping or from MIDI clocks as in our example. Lower settings respond faster while higher settings make a more gradual transition to the new tempo. If your tempo changes are happening quickly and vary in speed by large amounts, you may find that a lower setting is best for the parameter. Experiment.

## Applications

Here's how to create a wide rhythmic echo effect: Only one DP output is needed for this. Try panning the source instrument to one side of your mix and send the delayed signal (set to an eighth note for starters), with no regeneration, to the opposite side of the mix. Regeneration is the amount of additional repeats you will hear created by an

internal feedback loop which sends the delayed signal back into the delay line to be delayed again. It is Parameter 07; set the amount to "0" for this example.

Our second example will create a '90s version of the old analog tape delay line, minus the ratty recording quality. Recall the original Tempo Delay preset. We can better simulate the old tape style delay machines with the Regen Damping parameter. This feature takes each subsequent repeat and filters it, making it a little darker as it passes back into the delay lines. The higher you set this parameter, the faster the delays will darken. Set the Tempo Delay Time to an eighth note and the Delay Regeneration amount to about "50." Set the value of parameter 09 to "00." Now send a repeating signal into the delay line as you move the value for Regen Damping upward. The repeats will be darker, more "damped" as the parameter name suggests. As you move this parameter higher, notice also how the number of audible repeats seems to change. This is because as you start filtering out the high end of the repeats you will get to a point where they are so dark and filtered that they disappear after only a couple of repeats. To hear more repeats when the damping is set to a high number, raise the value for Parameter

07, the regeneration. Be careful with this because as you change the damping to a lower number, high regeneration settings can cause the echoes to "run away," repeating endlessly. Since you have MIDI hooked up, remember that you can assign a MIDI controller to change any parameter, allowing for real-time creative changes. These moves could also be recorded into your sequencer for an automated mixdown.

Try different settings and save the variations that are useful to you. Of course if you are using a librarian program like *Galaxy* (tm) from Opcode or a parameter editor like *Unisyn* (tm) from Mark of the Unicorn, you can save unlimited variations. You can also save DP/4 sys-ex to any device that can record it, including a computer based sequencer program or an instrument such as an ASR-10. ■



*Bio: Ray Legnini is this year's winner of the Nobel Prize for sampling. He plans to spend the one million dollar prize foolishly.*

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# Tuning on the ASR-10 and EPS Samplers

*Steve Curtin*

The Ensoniq EPS-16 PLUS and ASR-10/88 samplers have the ability to play in different tunings. For many composers and musicians this ability to change the instrument's tuning is as important as being able to change a waveform or a chord progression. This article will explain the tuning capabilities of the EPS and ASR samplers, will mention computer-based editing of these tunings, and where to get more information on the subject of alternative tunings. This is the first in a series on how to use alternative tunings on Ensoniq samplers and synthesizers.

## Alternative Tunings?

Almost all the music we hear is based on twelve equal divisions of the octave. Each semitone is an interval of the 12th root of two — 12 of these add up to an octave. This tuning is known as 12 equal tones per octave, or 12ET. The oscillator chips in a synthesizer can play many pitches between these basic intervals, so that when you bend a note with the mod wheel the pitch bend sounds continuous. An alternative tuning is one in which the base pitch for each key has been redefined to be different than the standard semitone. The unit for measuring the interval between notes is called a cent. This cent is based on the 12ET tuning, and is one one-hundredth of a semitone. An octave spans 1200 cents. Since new tunings use pitches that are "between the keys," this is sometimes called "Microtuning," or "Xenharmonics."

Why would someone want to use a different tuning? One reason is to hear new music, or familiar music in a new way. Chords and scales can be constructed using these tunings that were simply not possible using 12ET. This can create intervals which are purer or more dissonant than 12ET. Experimental tunings can be divided into two categories. "Just Intonation" (JI) tunings specify an integer ratio for each key, such as 3/2. The simpler the ratio, the less dissonant it will sound, although this is frequently relative to other intervals heard in the composition. Changing the key in JI requires retuning the notes of the scale. This is because simply shifting the position of the hands on the keys will give you different intervals, since

each "semitone" now has a different size. Equal Tempered tunings use numbers of equal divisions of the octave, such as 19 or 31 or 8. The reason for these specific numbers is that certain notes of the 19 and 31 tone scales yield close approximations of Just Intonation ratios, but allow the performer to modulate the key. The late xenharmonic composer Ivor Darreg once noted that each tuning can be thought of as having its own mood, much like playing in a different mode or scale or with a different sound. Try taking a piece of music you know, setting up a new tuning, and playing the piece again in that tuning.

Tuning isn't always used for making experimental music. Historical tunings can enhance playing of Baroque and other classical music. Meantone and other temperaments were popular before equal-tempered tuning and in many cases were the tunings used when these pieces were originally played. Many ethnic musics such as Javanese Gamelan have tunings very different from 12ET, and using the tuning from that culture increases the realism of using samples of their instruments. This article and others following it will show you how to explore these new tunings on your Ensoniq instruments.

## Pitch Tables

In a synthesizer or sampler, each incoming MIDI key number is associated with a pitch. One feature of tuning on Ensoniq synths that is an advantage over other synthesizers and samplers is that each key can be tuned to the pitch of any other key and offset independent of the octave of that key. Many much more expensive instruments only let you change an offset for all octaves of a particular note, and then only plus or minus fifty cents from the original pitch.

Pitch information is stored within the ASR/EPS in a pitch table which contains an entry for each of the 88 MIDI keys recognized by the sampler. There are two built-in pitch tables. One is called "Standard" and is the standard 12ET tuning. The other is called "No Pitch" and makes all keys play the pitch normally played at C4, or middle C.

Each note entry in a pitch table consists of two parts — the base pitch, which is expressed as a root key, and a positive offset from that pitch. To tune a note down from the original pitch, use the next lowest root key and add an offset up. For instance, to program the A4 key to play 40 cents flat, specify a pitch key of G# with a positive offset of 60 cents. Just Intonation tuning systems require very fine tuning accuracy, because of the goal of beat-free intervals. The better the tuning accuracy of a synthesizer or sampler, the better you can create just ratios at any frequency. The tuning resolution of the ASR and EPS is different depending on whether you're looking at the tuning display or hearing it. The display has a resolution of one cent. The internal resolution maps this to 127 steps per semitone, so sometimes if you increment cents and miss a step, you can decrement back down to the one you want! This resolution is cut down to 64 steps per semitone during playback. This adds up to 768 steps per octave, which is typical of MIDI synthesizers. Because of the nature of pitch interpolation on the oscillator chip inside the ASR and EPS, tuning accuracy doubles with each octave transposed up and halves with each octave transposed down.

Tuning can affect which sample is played in a multi-sample layer. The pitch part of the tuning table note entry determines which sample is played. For example, if you had a particular sample that was programmed to play from C3 to G3, and the A3 key was programmed to play at A2 with an offset of 14 cents, then the sample programmed to play at A2 would play tuned 14 cents sharp when you pressed the A3 key (whew!). Many of the drum kits on the ASR disks use this to change the key mapping of different drum sounds without having to switch to a different instrument. One example of this is the AS-6 Drum Kits — the user can switch from the Ensoniq drum map to the General MIDI drum map by simply pressing the patch select buttons. How to do this with your own tunings is explained later in this article.

## Layers

Pitch tables are selected from within a layer. There can be up to eight pitch tables in an instrument. Each of the possible eight layers in that instrument can use any of that instrument's eight pitch tables. With eight instruments in memory, each with eight pitch tables, the ASR/EPS can store to 64 different user-defined tunings. Since each layer can play simultaneously, you could play more than one tuning at once, or create one-note chords by assigning each layer's pitch assignment at that note to the different pitches of that chord.

Selecting the pitch table for the current layer is done by

pressing the Edit button, selecting the current layer with the up/down arrow buttons, and pressing Layer to edit the layer. Scroll through the editing options until the display reads "Pitch Tbl = " and then choose one of the available pitch tables with the up-down arrows. This will be the table which is edited with the pitch table commands described below. If there are no pitch tables yet the display will toggle between Standard and No Pitch.

## Editing Pitch Tables

Editing a pitch table is fairly simple. Select the pitch table using the Edit Layer page. Now press the Command and Pitch buttons. Scroll through the options until you see Edit Pitch Table and press Enter. You may be asked if you want to create a pitch table if none already exists. The display will show the MIDI key with its pitch and offset. The pitch will initially be set to the same as the MIDI key and an offset of 0 cents. You can scroll over to the pitch and offset fields using the right arrow buttons, and change the pitch and offset using the data entry slider or up and down arrow buttons. If the cursor is on the leftmost MIDI key field, playing a note with the keyboard will select the note and offset for that note.

For instance, suppose we want to enter in a "quarter-tone" scale, that is a scale with 24 steps per octave or an extra step between semitones. The C4 key would stay the way it is, but the C#4 key, which reads as "C4+," would be set to C4 and 50 cents on the right two fields of the pitch editor display. D4 would be set to C4+ and 0 cents, D4+ would be set to C4+ and 50 cents, and so on until C6 which is set to C5 and 0 cents. This has the effect of stretching the notes of an octave over the space on the keyboard of two octaves.

Most tunings will repeat after an octave. This means of course that after an octave, the next note up is the same as the first note of the scale, transposed up an octave and so on. The Extrapolate Pitch Table command lets you define just one octave of a tuning, and then repeat that same tuning with the correct octave shifting over the entire keyboard, saving a lot of editing. The command takes two arguments, the lower and upper key. For instance, to extrapolate the quarter-tone tuning we just entered, set the range of the command to C4 and C6 and press Enter. This tuning will now repeat after every two of the 12ET octaves.

Since the tuning tables are contained in an individual instrument, if you have a number of instruments in memory you probably want them all to have the same tuning. The Copy Pitch Table command makes this easy by letting you

copy a tuning from one instrument into another. The source tuning is assumed to be the one you're editing, and the destination instrument is specified once you enter the command by pressing one of the instrument buttons.

## Changing Pitch Tables

Sometimes you'll have a number of different tunings stored in an instrument and want to switch between tunings during a piece. The Patch Select buttons can be used to enable and disable layers, and this is the easiest method for changing tunings during a piece.

To do this, copy the current layer by pressing Command Layer and scrolling over to the Copy Layer command. Select the new layer with the up- and down-arrow buttons after pressing the Edit button. Change the new layer's tuning with Edit Layer, and then press Edit Instrument. You will now see a display of the layers which are enabled and disabled by the patch select buttons. Pressing the patch select buttons will change which layers are enabled and disabled — the numbers of the enabled layers are displayed, all others are marked with a dash (-). Enable the first layer with the first tuning on one setting of the select buttons and disable the second, then do the opposite for a different setting of the select buttons. Remember that if you enable both layers you'll get both tunings at once! There are other methods of changing parameters via System Exclusive, but for various reasons these messages can't be used to switch between tunings.

## Computer Editors

Just as there are sample editors available to make creating new samples easier, so there are computer editing programs for tuning. *JICalc* for the Macintosh is a Hypercard stack created by Robert Rich and Carter Scholz that lets you enter in Just Intonation tunings, which are tunings based on ratios of integers, and send them over MIDI to various synths and samplers, including the ASR/EPS. The program is shareware and can be obtained via anonymous FTP from ella.mills.edu in /ccm/tuning/software/mac. If anybody out there knows of a PC or Windows based editor that supports the ASR and EPS, please pass this info on via the *Hacker* web page.

## Resources

This article has been a basic introduction to tuning on the ASR/EPS. Thanks to Bill Mauchly and Bill McCutcheon for ASR information and comments. The subject of tuning itself is very deep and beyond the scope of this article, but here are some places to start:

Scott Wilkinson is the technical editor for *Electronic Musician* magazine, and he frequently writes about tuning in EM articles. He has written a book called "*Tuning In*," which contains information on tunings, many of which can be keyed in to the ASR.

*Tuning In — Microtonality in Electronic Music*

by Scott R. Wilkinson, 1988

Hal Leonard Books

8112 W. Bluemound Rd., Milwaukee, WI 53213

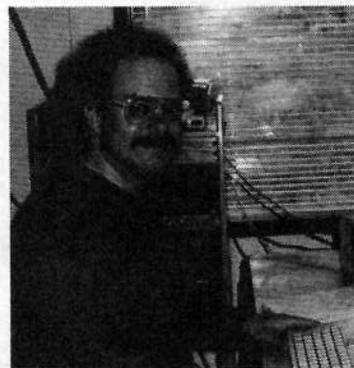
Gary Morrison runs an organization called the *Xenharmonic Alliance*. This organization serves to connect musicians interested in the subject of tuning. Gary also sells the *EPS Xenharmonic Scales Disk*, an ASR or EPS disk of tunings that you can copy to your own instruments without having to enter them yourself. The disk comes with a description of each tuning. It's sold at cost for \$10. To contact Gary, write or call him at:

Xenharmonic Alliance, c/o Gary Morrison  
13036 Staton Drive, Austin, Texas 78727  
(512) 832-0133

The *Just Intonation Network* is another organization which links tuning enthusiasts. It publishes a newsletter called 1/1, sells tapes and CDs of music composed using Just Intonation and other alternative tunings. David Doty, one of the JI Networks's founders, has written a comprehensive Just Intonation primer which can be purchased through the JI Network. You can contact the JI Network at:

535 Stevenson Street, San Francisco, CA 94103  
(415) 864-8123  
<http://www.dnai.com/~jinetwk>

*The Tuning Mailing List* on the internet serves as another link for many tuners including the author. To join up, send email to [listproc@eartha.mills.edu](mailto:listproc@eartha.mills.edu) with "subscribe TUNING" as the message. ■



*Bio: Steve Curtin is a software engineer and tuning evangelist at Ensoniq. In addition to product R&D, he tinkers with his collection of home-built guitars and electronics, and occasionally finds the time to make organized (and disorganized) sound using this stuff.*

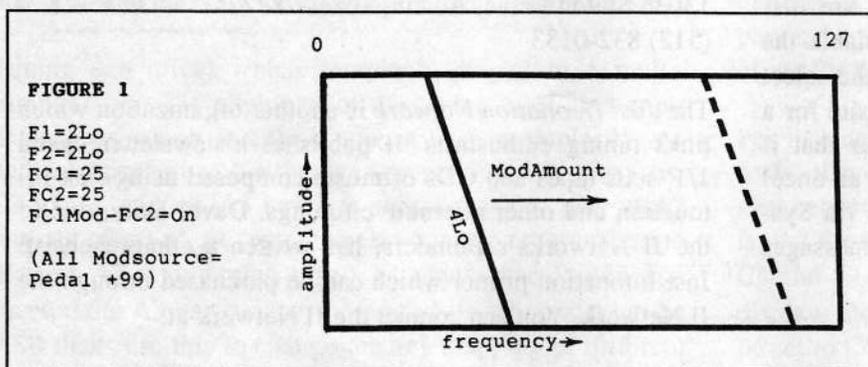
# Fun with Filters

## or Cool, Clear Wah-Wah

Dan Rohde

An effect pedal became available back in the Sixties that enabled guitarists to vary the treble-bass in their signal. The Cry Baby Wah-Wah pedal sounded (sort of) like an infant's wail or a cat's meow, depending on who was putting the pedal to the medal.

Several Ensoniq keyboards, such as the KS-32, are capable of simulating this effect with a little filter and mod-pedal programming. No, your KS-32 won't sound exactly like vintage Telecaster run through a Cry Baby, but it will put out some cool, clear wah-wah, so to speak.



Since we're talking filters, let's remember that the KS's digital filters can only attenuate frequency ranges of a signal in certain ways, a little like curtains on a window can only keep out the light, not make the light source brighter. However, the limitations of this two-filter-per-voice system lie mostly in the programmer's understanding and creativity. In other words, they work as well as you can make them work. Though each Voice's pair of filters also come equipped with Envelope 2 and Keyboard Tracking as hardwired Modsources, we will only be using the Pedal Modsource=+99. So keep Env2=00 and FC1 and FC2 KBD=+50.

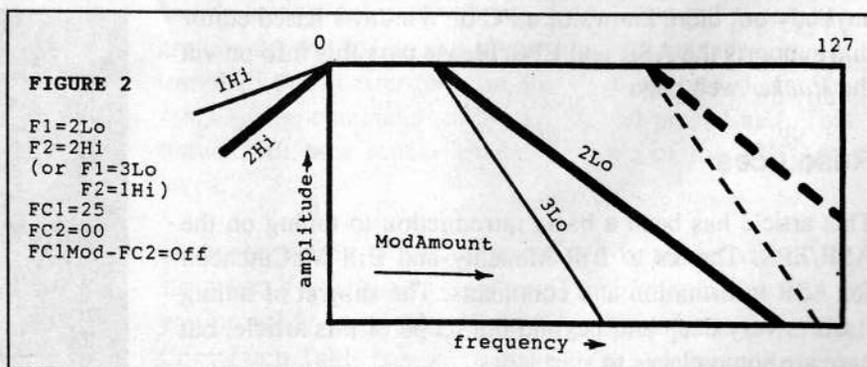
The first pattern we'll discuss is shown in Figure 1. Here we assign both Filters 1 and 2 to Lo pass, combines results in a steep 4 pole slope downward to the right from the 25 cutoff assigned to both filters. When the

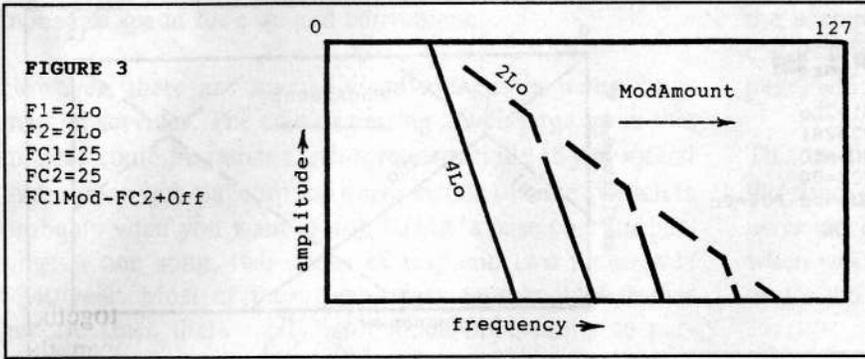
Pedal is pressed, both cutoff frequencies rise together until they reach 127. When both filters are wide open, the signal's volume is also increased, which might require a negative Pedal value at Output's Modsource to compensate.

A similar result comes from the pattern in Figure 2. The difference is that here Filter 2 is set to either 1 Hi or 2 Hi. When set to Hi pass, a 0 value for Filter 2 allows all frequencies through. Since we have disabled Filter 2's Modsource, its value remains constant as Filter 1's cutoff rises. Note that Figure 2 also shows a the variation of F1=3Lo and F2=1Hi, producing a 3 pole slope that allows a few more higher frequencies to pass than the F1=2Lo and F2=2Hi setting.

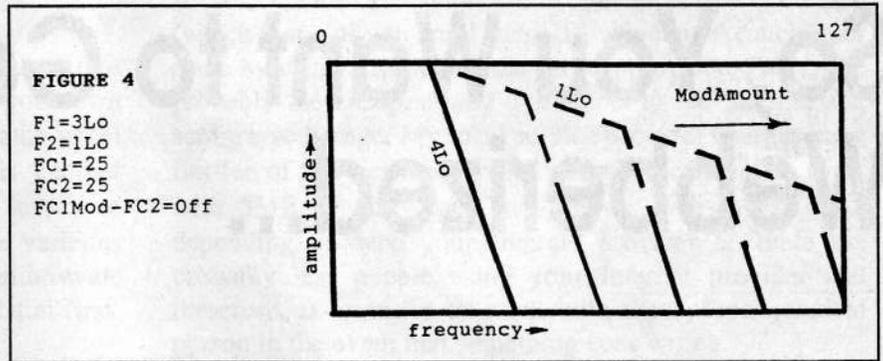
To produce an increase in higher frequencies, we can use the pattern in Figure 3, which is identical to Figure 1 except that we've disabled Filter 2's Modsource from Filter 1 (FC1Mod- FC2=Off). When the Pedal is not raising Filter 1's cutoff, the Filters combine to form a straight 4 pole slope.

However, as the Pedal moves Filter 1's cutoff frequency upward, Filter 2's cutoff remains constant, resulting in a variable slope with an "elbow." Above the elbow is a 2 pole slope; below the elbow — at a point directly below the variable cutoff frequency — the second 2 poles are added, producing a 4 pole slope.

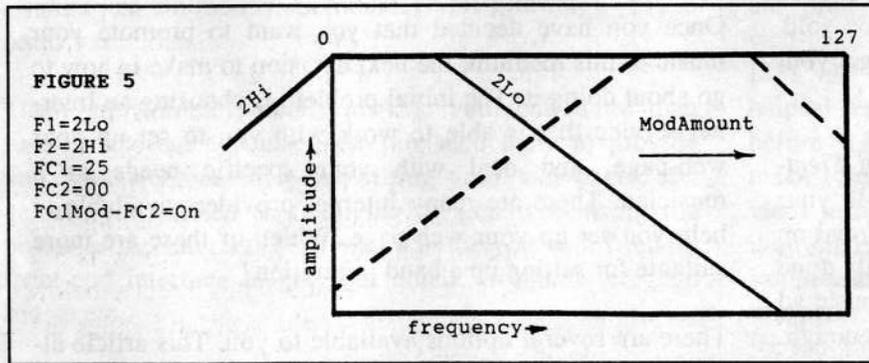




If you want more high frequencies than Figure 3 but fewer than Figures 1 and 2, you can set Filter 2's slope to a gentler 1 pole. This configuration, as shown in Figure 4, works the same as Figure 3. When Filter 1's 3 pole is added to Filter 2's 1 pole, they add up to a 4 pole slope beneath the elbow.



The last of the three patterns we'll look at is called a "bandpass," since it allows a certain range (band) of frequencies to go through (pass) the filters. Figure 5 illustrates a bandpass with a range of 25 at the top of the spectrum. Since its Hi and Lo pass slopes both equal 2, the bandpass allows a large



amount of signal through, especially as it moves through its midrange. When the Pedal is pushed down all the way, Filter 2's cutoff rises to 127, its slope descending left and downward. If you wanted to lower this upper cutoff value to allow more signal through when the Pedal is all the way down, you could reduce the Pedal's ModAmount to +80.

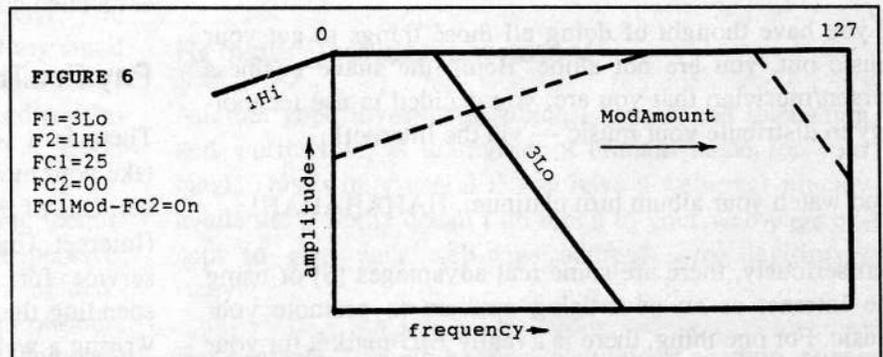
A variation of this bandpass is shown in

Figure 6. The difference here is that Filter 1 is assigned a steeper 3 pole slope, while Filter 2 is reduced to a 1 pole. At its upper range of modulation, this 1 pole Hi slope would allow more of the signal to pass than Figure 5, resulting also in a stronger bass tone.

To create a narrower bandpass that allowed less signal through, you could both lower Filter 1's cutoff and raise Filter 2's cutoff, which, as Figure 7 shows, would eventually

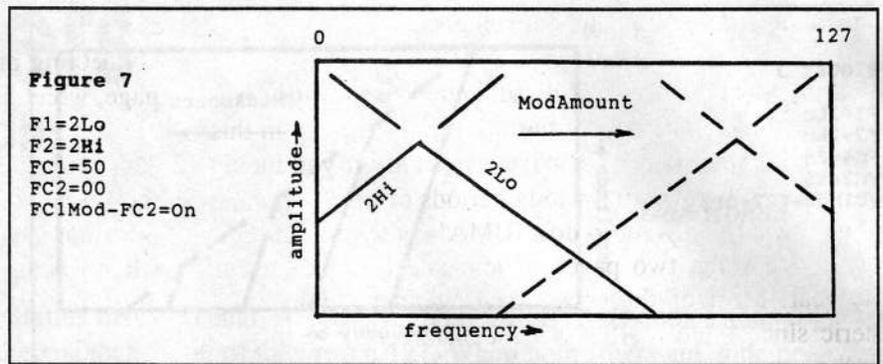
create a smaller triangle bandpass whose peak would no longer touch the top of the frequency spectrum diagram. I like this last pattern best since it gives the most overall frequency variation with the least overall output (loudness) variation.

All of these Filter patterns can work in conjunction with the Pedal (or other Mod-source, such as the Wheel if you're not a pedal person) to create a wah-wah effect. Besides guitar, other samples could also sound good with this effect pedal, such as mute trumpet, trombone, shakuhachi — whatever you can figure out. In any case, I



hope my filter findings function famously for you. ■

*Bio: Dan Rohde is a part-time musician and high school teacher who lives in Muscatine, Iowa. He hopes someday to balance his classic-motorcycle-repairperson self with his romantic ride-the-wind self. He also hopes to win the Powerball and to see the end to all conflicts in the world.*



# So, You Want to Get Webberized...

Reuben Chew

Dig this! You have just finished a great demo and you just know that your band is going to be the next music wave of the future. In fact, *Keyboard Magazine* [1] is going to call your band the next Nirvana [2] / Nine Inch Nails [3]/ Kraftwerk [4]. You are all psyched, and you have 1000 CDs made with colorful inserts just waiting to be sold. However, you have this little problem... you can't get your tape/CD distributed!

So, what is a talent like you to do?! Put an ad in *Electronic Musician*? Too expensive! (You spent all your money on making those CDs.) A half hour infomercial on TV? Too cheezy. (Besides Ross Perot [5] has already done it and the response was less than impressive.) A music ad on the radio? Doesn't reach your audience well enough. How about a 1-800 number for people to call and sample your music (and maybe buy some CDs)? Too risky!

If you have thought of doing all those things to get your music out, you are not alone. Being the suave business person/musician that you are, you decided to use technology to distribute your music — via the Internet!

And watch your album turn platinum. HAHAHAAH!

But seriously, there are some real advantages [6] of using the Internet as an advertising medium to promote your music. For one thing, there is a really BIG market for your music. Since the Internet is an interactive medium, the

people cruising into your web-page are probably your target audience. The web-page also provides some anonymity. Every band — big and small — is on a marketing level-playing field. Most important, it is very cheap.

Once you have decided that you want to promote your music in this medium, the next decision to make is how to go about doing it. The initial problem is choosing an Internet service that is able to work with you to set up your web-page, and deal with your specific needs as a musician. There are many Internet providers available to help you set up your web-page. Which of these are more suitable for setting up a band promotion?

There are several options available to you. This article attempts to give you some ideas on what options are available, their advantages and disadvantages, as well as their associated costs.

## Pay For The Service!

There is a whole industry out there which is willing to take your money to put your band's web-page on the Internet. One of the first companies which did this is IUMA [7] (Internet Underground Music Archive). This is a great service for musicians who need net-presence without spending their time and effort learning the mechanics of writing a web-page, putting their music samples in digital formats for downloading, scanning their band pictures,

etc. In short, this is great for people who have some money to spend for ease and convenience.

However, there are several disadvantages in using commercial services. The cost of putting a web-page up in this manner could be rather expensive, especially if you intend to put your web-page up for long periods of time (which is probably what you want to do). IUMA's base cost for putting up one song, two pages of text and two pictures is \$240/year. Most of these web-pages tend to look rather generic since there really isn't much opportunity to personalize your web-page.

### **Use A Specialized Internet Company!**

Maybe you have decided (in a moment of madness) that you want to tackle putting up a web-page on your own (not unlike the way you try to decipher your patch panel going into your 48-channel mixer, but that is another story). Then, you have to decide which Internet service to deal with. Internet providers comes in two major varieties — local Internet service providers (ISPs) and nation-wide commercial service providers. We will look the latter first.

There are many big, nation-wide commercial Internet companies willing to provide you that service. These companies are rather prominent and they have provided me with countless free diskettes (which I reformat for my EPS-16+ [8], and also use them as coasters for my mugs) — America Online [9], Compuserve [10], Prodigy [11] to name a few.

These companies typically provide you with more than just an Internet account. They are also there to provide you with technical help in writing your web-pages and getting you started to familiarizing you with using the power of the Internet. They will provide you with friendly front-end interface to get your email, web-browser, chat rooms etc.

Another really good advantage of using these nation-wide companies is that you do not need to change your email and web address every time you move to a new city. You would be surprised at how often I have changed my email and web address in the last five years (about four that I can remember) because I have moved or changed my Internet provider.

Even though these services are useful, and having technical support is always a plus, they are also very expensive. Most of these companies charge by the amount of disk-space you use for your web-page, and the number of hours you connect to the service. For example, one company

with the initials of AOL [12]) charges \$9.95 per month for the account, and \$2.50/hour after the first three hours of connecting online. You also get only 2MB for your web-page, which may be insufficient.

This on-line connection time should not be confused with the time your web-page is on-line. Your web-page is *always* accessible to others (theoretically). You pay for when *you* are going on-line (like when you get your email, or use the chat-rooms, whatever).

### **Use An Internet Service Provider (ISP)!**

If you decide that you are technically suave enough (which many of you are, I suspect), you can take a cheaper route by using a local Internet service provider. This is the probably the cheapest way to connect to the Internet and set up a web-page. My local service provider charges me a flat fee of \$25 per month with unlimited connection time, with 5MB of disk-space free for my web-pages. Also, depending on who your Internet provider is, there are probably less people using your Internet provider and therefore, it is easier to work with the sysops/technical person in the event that something goes wrong.

The obvious problem with using an ISP is that their technical support for writing web-pages is rather lacking in general. Also, there is an un-stated assumption that you know what you are doing once you are connected. So, you are pretty much on your own in trying to get your web-page going once you are on your way. Of course, ISPs vary widely in cost and service. Some may be more helpful than others. It really pays to do some groundwork before signing up for a service. When comparing ISPs, make sure you ask these questions: Will they provide services in helping me set up my web-page? How much do they charge per month for keeping big files (like song samples and pictures) on my web-page? How fast is their computer equipment and network (no one wants to wait for five minutes to view my web-page)? Is the link reliable (i.e. is my web-page accessible to others ALL the time)? Will it cost more if I register a domain name?

### **Register your domain name!**

Another good investment, which I have found interesting and worthwhile, is to register a domain name for your band. This is only useful if you have a web-page already available. It really doesn't do much to your web-page except to give your web-page address some legitimacy (maybe).

For example, I would be more cautious of sending money

for a CD to a web-page with the address of...  
<http://www.someuniversity.edu/users/johndoe/band.html>  
than to a more professional-looking address of...  
<http://www.surrender.com> (which incidentally, is my  
band's URL).

Other obvious examples are [www.transoniq.com](http://www.transoniq.com), and  
[www.ensoniq.com](http://www.ensoniq.com). It costs \$50/yr to register your domain  
name at InterNIC. Sometimes, your Internet provider will  
also charge you a little more for maintaining the domain  
name. This cost vary widely between ISPs (as I have  
found out, which made me change my ISP, and email ad-  
dress, and web-page address...).

### In My Humble Opinion (IMHO)!

I hope this article has shed some light on the different ser-  
vices and options available to you for choosing an Internet  
vendor. Depending on your expertise, setting up a web-  
page can be a rather cheap, effective method of promoting  
and distributing your music.

But is this a successful method of distribution? I cannot  
find any statistics to quantify that claim. However, from  
personal experience, my web-page is averaging several

hundred hits a month, which isn't bad for \$25/month  
worth of advertising. I pay that for my email anyway!

#### Endnotes:

- 1 <http://www.mfi.com/keyboard/>
- 2 <http://www.ludd.luth.se/misc/nirvana>
- 3 <http://nothing.nin.net/>
- 4 <http://www.cs.umu.se/tsdf/KRAFTWERK/>
- 5 <http://www.brainlink.com/~nota>
- 6 <http://www.go2pa.com/iqt/benefit.htm>
- 7 <http://www.iuma.com>
- 8 <http://www.ensoniq.com/mid/music.htm>
- 9 <http://www.aol.com>
- 10 <http://www.compuserve.com>
- 11 <http://www.prodigy.com>
- 12 <http://www.aol.com>

There is a htmlized version of this article which includes  
some links where more info is available. The article is on  
his homepage at <http://www.microserve.com/~reuben>. ■

*Bio: Reuben is just a computer geek who sometimes thinks  
that he is a musician, and once in a while, thinks that he  
can write. He can be reached for comments at [reuben@  
surrender.com](mailto:reuben@surrender.com).*



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## Prog: Stereo Strings

By: Jack Carder

Notes: Stereo pan. Play and hold for panning.

WAVE	1	2	3
Select Voice	On	On	Off
Wave Class	String	String	
Wave	StrEns	StrEns	
Delay Time	000	016	
Wave Direction	Forward	Forward	
Start Index	30	30	
MODSCR	LFO	LFO	
MODAMT	-71	-71	
Restrk Decay	51	51	

PITCH	1	2	3
Octave	-1	-1	
Semitone	00	00	
Fine	+06	00	
ENV1	00	00	
LFO	00	00	
MODSCR	Off	Off	
MODAMT	0	0	
KBD Pch Track	On	On	
Glide	Off	Off	
Glide Time	00	00	

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

LFO	1	2	3
LFO Speed	35	35	
Noise Rate	00	00	
Level	00	00	
Delay	00	00	
MODSRC	Wheel	Wheel	
Wave	Tri	Tri	
Restart	Off	Off	

FILTER	1	2	3
Filter 1	3Lo	3Lo	
Filter 2	1Hi	1Hi	
FC1 Cutoff	000	106	
ENV 2	+99	00	
FC1 KBD	00	00	
MODSCR	Off	Off	
MODAMT	00	00	
FC2 Cutoff	000	000	
ENV2	00	00	
FC2 KBD	00	00	
FC1MOD-FC2	On	On	

ENV2	1	2	3
Initial	00	00	
Peak	35	00	
Break	84	00	
Sustain	30	00	
Attack	58	00	
Decay 1	54	00	
Decay 2	54	00	
Release	66	00	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Linear	Linear	
Mode	Normal	Normal	
KBD Track	00	00	

AMP	1	2	3
Initial	88	88	
Peak	99	99	
Break	99	99	
Sustain	86	86	
Attack	30	30	
Decay 1	32	32	
Decay 2	81	81	
Release	52	52	
Vel-Level	13	13	
Vel-Attack	19	19	
Vel Curve	Linear	Linear	
Mode	Normal	Normal	
KBD Track	00	00	

OUTPUT	1	2	3
VOL	76	76	
Boost	On	Off	
MODSRC	Off	Off	
MODAMT	00	00	
KBD Scale	-23	-23	
Key Range	C5-C7	C5-C7	
Output Bus	FX2	FX2	
Priority	Med	Med	
Pan	-98	+98	
Vel window	000	000	

EFFECTS — HALL REVERB			
FX-1	25	FX-2	25
Decay Time	25	Diffusion	50
Detune Rate	38	Detune Depth	12
HF Damping	53		
HF Bandwidth	93		
LF Decay	+07		
MOD (Dest)	Decay		
BY (MODSRC)	Wheel		
MODAMT	+29		

**The Hack:** Just a couple of reminders and ideas for “Stereo Strings” — if you wish to use Envelope 1 (as a modulator), you must turn it *on*. Furthermore, Env1 should employ some time value > 0. Therefore, the Env1 parameter must be turned on *somewhere* in the patch. Try the Pitch page. For Voice 1, let Env1 = -09 and for Voice 2, let it = +08. Still can't hear the effect of Env1? Look at the Pitch Envelope for both voices — time values of 00. For both voices, raise the Attack value to 16. Now, as the sound passes through the envelope you can hear a slight bend or change in pitch as the key is struck.

This patch is really over-the-top. Levels between the two voices seem almost self-defeating. The filter sounds thin and brassy, while the Amp Envelope for Voice 2 seems to go on forever. Perhaps this long envelope would be okay if the filter for Voice 2 could be... er, toned down a bit. For Voice 2, this is easily done by bringing FC1's Cutoff to 58 and Env2 value to -44. Thus, some of the edginess disappears and the voice becomes just a bit more docile. Also, for Voice 1 give the bottom and top ends some balance along the keyboard. Give FC1 Keyboard a value of -35.

Those who don't like the way the Voice 2 envelopes “develop” should try one of the default envelopes like Basic Pad.

Voice 1 seems to *crash* in on Voice 2. True, “Stereo Strings” seems to have been born to be dramatic. Be that as it may, I think it may be more useful to have the voices complement each other. In addition, use some modulation at the output. For Voice 2 use Mod=Noise, Amt=-33. Voice 1 uses Noise2, Amt=+40. (Listen for the sing-song quality in Voice 1.) Then the volume of Voice 1 should be adjusted to between 80 and 90. Voice 2's Volume can now be set to 50.

A patch such as this can also benefit from an abundance of effect. Hall Reverb doesn't seem like enough. Just for kicks, try using Flanger + Reverb2. Give the Flange lots of Depth and Feedback and make sure to set it way off center.

*Bio: Jeffrey Rhoads still believes in magic and longs for city lights.*

**Hackerpatch** is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Once something's published here, it's free for all. Please don't submit patches that you know to be minor tweaks of copyrighted commercial patches unless you have permission from the copyright owner. All submitted patches are subject to consideration for mutilation and comments by Sam Mims and Jeffrey Rhoads — our resident patch analysts. If you send in a patch, *please* include your phone number. Requests for particular patches are also very welcome.

## Bjorn A. Lynne, Jim Grote

Mafik durj, Kevin Crafts, Jim Newton, Alians, The Harland Gospel Quartet

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Tape: Untitled — Various Material.

Artist: Bjorn A. Lynne.

Contact info: Dens Design, Schleppegrelisgt. 10, 0556 Oslo, Norway;

Phone +47-22-352781.

Equipment: Ensoniq SQ-R+, Kawai K1-R II, Roland Juno-2, Art Proverb, Amiga 500, Boss BX-8 mixer, Technics SV-DA10 DAT.

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Bjorn is a freelance musician composing music and jingles, designing soundscapes and sound effects for computer and arcade games, and more recently has been writing material for short amateur movies, commercials and presentations. He describes his music as a “hybrid between Prog-rock and New Age.” Let’s look at a few tracks:

*Communion:* Inspired by the book of the same title, this is a slow-building, very tasteful techno rock soundtrack (over 9 minutes) featuring some really nice synth soloing. Starts out sounding a bit like John Greenland’s *Soft Robot*, but builds to a full-tilt, Yanni-like new age piece, but with better soloing than Yanni.

*Kasei Vallis:* Sound track for a futuristic, sinister computer game. Dark, with Emerson-esque lead lines. Entrancing percussion track, tribal feel.

*Head Held High:* Opening sounds like the Styx river steaming over a chasm into hell. Written for a theater production based on Huxley’s *Brave New World*. A solid new age piece (oxymoron unintended).

*A New Age:* Andreas Vollenweider-inspired classic new age, with a beat.

There is a consistency of style and voicings throughout Bjorn’s work. Although this is a compilation of various projects by Bjorn, anyone who likes new age instrumental synth music would like this tape. A very professionally produced, clean, organic mix without anomalies. All parts blend together seamlessly.

Lesson: Bjorn’s music shows that all-synth production can breathe with life and fluid movement. Bjorn mentions in his letter that he is “interested in job offers from all over the world.” With this demo, he is more than likely to score

some big ones. Best of luck!

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Tape: The Jim Grote Collection.

Artist: Jim Grote.

Contact Info: 3721 Frances Ave, Cincinnati, OH 45211.

Equipment: Ensoniq VFX-sd, Yamaha TG-55, Korg 03R/W, Roland R-8, a couple of guitars, Digitech DSP-256, Tascam 488 8-track.

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Seems like Jim Grote is a collector: everything he does is called “The Jim Grote Collection” — his SD patches advertised in the Hacker, his self-produced tape...but the title fits: this is a collection of instrumental songs Jim has written. It isn’t clear if he produces his music for purely personal enjoyment (although his enjoyment clearly comes through in his energy), or if he has a wider agenda. At any rate, this is classic, unashamedly ELP-inspired prog-rock featuring balls-to-the-walls guitar, kickin’ (real!) bass, real baby grand piano, and the ever-present fanfare-ish synth driving the show, all performed by Jim “live” to sequencer or tape, with no quantization and minimal editing. A quick tour:

*What I Think* — This reminds me of Mister Mister without vocals. Wonderful dive-bomb guitar effects, very tastefully used to create an exciting ambiance. The reverb is a little wet for my tastes, but it lends to a more live, concert hall feel.

*Acoustic Thing* — Very nice, energetic acoustic guitar chops. Reminds me of some of the Narada or Windham Hill guitar collections.

*Video Resonance* — This is a very short piece composed for a video: Jimi Hendrix feedback meets ambient new age. A guitarist’s wish-fulfillment: to go crazy on top of ethereal synth pads.

*Polymorphism* — As Jim notes, this track is noticeably ELP-influenced, but more like the Emerson, Lake and Powell album. Great polyrhythmic piano chops on a real baby grand. The middle section, dreamily sinister, is reminiscent of Karn Evil 9’s Second Impression.

*Thanatos* — Jim’s “favorite ethereal piece, a very dark study of the sounds and passions of life and death.” A tall

order, but it does capture some transcendent moods.

*Seven Eight* — As the title implies, this is in 7/8 time. Another ELP-ish tune, but the ballsy bass and guitar sound more like Yes.

*And God Spoke* — Jim says, "I love to play guitar harmonics with tons of echo." A truer word was never spoken! This is the most tasteful use of free-form guitar I've heard in ages. If Hendrix did an update of the middle section of "1983 A Merman I Should Turn To Be," it would sound like this.

*The Basement Slime: Live at Virtual Hall* — Loads of fun! Jim's sampled cheering arena crowd really adds live energy to this plank-pankin' garage rocker guitar fest.

It would be nice to know how Jim miked the piano, and how he recorded his bass and guitars. All are excellently recorded, showcasing the character of his instruments without any recording artifacts; in other words, transparent. The Jim Grote collection of lessons: (1) Don't quantize if you don't have to. There is a very human feel to this tape that captures tons of personality and energy. (2) Call everything you produce "The Jim Grote Collection" so when people order it, you can send them tapes, CD's, synth patches, souvenir teaspoons...

## Short Takes

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Tape: Mafik durj (c) 1992, 1993.

Artist: Mafik durj (Ben Ruth, Mark Setlik, David Varga).

Contact Info: Stuyvesant Station, P.O. Box 2435, New York, NY 10009.

Equipment: Ensoniq EPS, EPS 16+, SQ-1

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Mafik = "exuberant celebration." Durj = "grievous lament." Thus the name of this threesome is explained oxymoronically, a reference more to the manic-depressive history of the band than to its music. This four-song tape is an excellent demo of classy, up-tempo danceable music with wonderful vocals that sound like a cross between Eric Clapton and an in-tune Greg Lake (yet another oxymoron!). Lyrics are deep, dark, poetic and contemplative. In all, an excellent blend of top-notch production and well-honed composition chops.

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Tape: The Fundamental: Elements of a Lifetime (c) 1993.

Artist: Kevin Crafts.

Contact Info: 2575 Tamora Way, Colorado Springs, CO 80919, phone (719) 522-0583.

Equipment: Ensoniq VFX, Kawai K3, Boss SE50, Mac IIfx with Opcode Music Shop.

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The styles on Kevin's self-produced tape range from up-tempo dance-groove semi-trance to moody slow ballad to another ambient Hendrix "1983" redux using Transwaves. For the woodshed: repetitive arrangements don't take the listener anywhere, staying in the same groove without relief, but not sufficiently penetrating even to induce a nice trance. The vocals are decidedly off-pitch where it really counts, and the tape suffers from inconsistent level and EQ mixing: the percussion tracks slam on some tracks, drowning out the muffled vocals. On the positive side, Kevin uses some really nice synth sounds to set some wonderful moods, and in spite of pitch problems, his voice is very pleasant, sounding like Kurt Valaquen of Information Society.

---

Tape: Canciones del Corazon.

Artist: Jim Newton.

Contact Info: Nightwind Sound, 170 Mar Monte Ave, La Selva, CA 95076.

Equipment: Jim lists many different, ostensibly acoustic instruments, but most are apparently sampled or synthesized versions of the listed instruments.

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Jim was a contributor to the *Hacker Compilation Project*, so it is with pleasant nostalgia that I listened to his *Canciones del Corazon*. These songs are very personal, lyrically focused, with Peter Gabriel-esque vocals weaving emotional messages. Jim states that this is a "departure from his previous work," but my memory of his earlier work is that of a sensitive human using the canvas of music to portray the angst of the human condition. A number of styles are represented here, from experimental tracks featuring samples of different people's phone answering machine messages, to robot-layered pseudo rap, to hispanic flavored heartbreak songs. Jim's strongest songs are those with a definite focus, where rather than using every imaginable Ensoniq sound, the style is narrowed to hispanically-influenced composition. The production and engineering are rough around the edges, but one lesson gleaned from Jim's project is that heart--corazon--covers a multitude of engineering sins.

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Tape: A Couple of Minutes (p)1993.

Artist: Alians.

Contact Info: Ken Picha, 2224 S. 61st Ave, Cicero, Ill. 60650, phone 708-652-0436.

Equipment: Ensoniq EPS 16+ with Waveboy, Korg T3, Roland D50, Roland GR50, Digitech GSP21, dbx 563X, J.L. Cooper MSB+, Alesis ADAT, Tascam M-208, Mackie CR1604, Cakewalk 4.0, various basses and guitars.

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True to their name, Alians presents 12 tracks of haunting

experimental/sci-fi soundscapes on their tape "A Couple of Minutes." This ingenious music creates a dark mood overall, crossing over the line to Orwellian nightmare scenes and morphing into children's bad-dream soundscapes from a haunted nursery. Wonderful real bass and guitars embellish other-worldly synth tracks and Magical Mystery Tour keyboard comping.

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Tape: Child of the Lord (c) 1993.

Artist: The Hartland Gospel Quartet.

Contact Info: P.O. Box 302, Hartland, MI 48353, phone 313-227-3928.

Equipment: Ensoniq SD-1, Tascam 688, Ensoniq DP-4, bass and guitars, mixed to Tascam 103 cassette.

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This folksy gospel quartet presents a Christmas collection of original songs mixed with traditional holiday tunes. I imagine this tape finding a home with the quartet's listeners who might want a keepsake to document a down-home evening church concert. What this project lacks in polish, it makes up for in its simple charm and sincerity of purpose. Cassette is available for \$10. ■

[TH — For the next several months, Hacker Basement Tapes is going to be in "catch-up mode." We've divided the column into two sections: A main review section, in which we'll try to have at least a couple reviews per

month. A "Short Takes" section. This will just be a few sentences on some of the submissions that have been piling up the longest. If your music falls into this category, and you'd like to have a more thorough going-over, please feel free to re-submit.]

### Tapes Recently Received

*Untitled* — Allegra Music (John Bolles)

*On the High Road* — Pangaea World Orchestra (Duane Frybarger)

*Freedom Drive* — Bix Beitelman

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



*Bio: Steve Vincent produces demos and CDs at his home-based Portent Music, and can be reached via email at [vincents@harbournet.com](mailto:vincents@harbournet.com) or at his website at <http://www.kspace.com/vincent>.*

## Hacker Reinitialization

## Newbie's Corner

One of our most common requests from new subscribers (new owners) is for more basic tutorial information. We've all been there. Unfortunately, the *Hacker* is usually "there" when a new instrument first makes its appearance — and then we move on. While back issues can answer many questions, not all are still available and they do represent an additional expense for the new reader. Hence, "*Hacker Reinitialization*" — yup, old goods in a new wrapper. We feel a little funny about the whole reprint thing — so we're going to keep it small. Clark's series on the SQs is the most requested, least available, and the most generally applicable (KSs & KT's in particular — and he's checking 'em for freshness), so here we go...

### More Envelope and Filter Fun with the SQ's

*Clark Salisbury*

Welcome back. This time out, we'll be continuing with the last installment's discussion of filters and envelopes.

As we have seen, the filter is used primarily to shape the harmonic content of the voice(s) used to make up an SQ sound. There are two basic filter types in the SQ synthesizers, low-pass and high-pass. In addition, these can be combined to create a third filter type, band-pass. Let's take a look at some applications.

First, we'll need to select a sound. Let's try ROM sound 04, "Today's Organ."

The first thing to do is change the effects processing to something

a bit more generic than the "Rotary Spkr+Verb" setting used in this patch. This is accomplished easily enough — simply hit the "Edit" button, then hit the "Effects" button. The display should be showing "ROTORY SPKR+VERB." If it's not, simply hit the "0" button. You can select among the preset effects by making sure that the effect type (in this case, "ROTORY SPKR+VERB") is selected (flashing), and then using the data slider or up/down buttons to scroll through the preset effects. For now, let's use the "Warm Chamber" effect — in its default state, it adds very little coloration to the sound, and we can always change it later.

Next, a little quick analysis of the current sound. First we'll need to find out how many voices are used in the sound, and what wave is assigned to each voice.

Move to the "SelectVOICE" page (press "Wave" and "0"). You'll see that all three voices are being used to create this sound. To get an idea of what each voice is doing, you can "solo" each of the voices; that is, you can listen to any one voice by itself (the other voices are muted) by setting its status to "SOLO." Select the voice

you want to solo and press the up button (or move the data slider up). Soloing each of the three voices reveals that each is tuned to a different pitch — voice two is tuned a couple of octaves above voice one, and voice three is another fifth above that.

Selecting a voice and then pressing the “1” button takes you to the “Wave” page — here we can check out which waves are assigned to each voice. We find that voice one uses the “ORGAN VARIATION2” wave, and that voices two and three both use the “SINE” wave. If you’ll recall, at the beginning of this series we did a little experiment adding sine waves together to create an organ-like sound. Well, a very similar process is being used here — although the program uses a sampled organ wave as its basis, the sine waves have been added at higher octaves to add punch and brighten up the sound.

At any rate, what we’re after is a two-voice sound, with both voices playing the same wave, and in the same octave. We could set the relevant parameters for each voice separately, but there’s a handy shortcut we can use instead — and I’m all for handy shortcuts.

First, head back to the “SelectVOICE” page and turn voice three “OFF.” Now set the “SelectVOICE:” parameter to “ALL” (as opposed to “ONE”). Now any changes we make will affect all active voices (in this case voices one and two), rather than just the selected voice. Set both voices to the “Square” wave. To do this, press the “1” button, and select the wave class (it should be reading “Waveform.” Now use the data slider — not the up/down buttons — to change this to any other waveclass, and then back to the “Waveform” waveclass.

There’s a reason that we’re doing this in this particular way. When a group of voices are edited at together, moving the data slider will set the current parameter to the same value for all active voices before affecting any change. In other words, whatever parameter you edit in this fashion will end up set to the same value for all voices. If you’re editing the octave of a group of voices that are initially all in different octaves, they’ll end up all set to the same octave — whichever octave you’ve selected.

If, however, you use the cursor buttons to change values, the value set for each voice will be incremented the same amount, relative to its starting point. So if you start with three voices tuned to three different octaves, then press the up button once, each of the three voices will rise in pitch one octave. The voices will still have the same relationship to each other, octave-wise, but the overall sound will be an octave higher.

So; by selecting a parameter, using the data slider to change it to something, then using the data slider to change it back to its original setting, we’ve guaranteed that all voices will be set to the same thing — in this case, the “Waveform” wave class. Using this same technique, select the waveform (“Organ Variation 1” should be showing) and set it to “Square” — we can now be relatively assured that both voices one and two are using the “Square” wave.

Next, we want to make sure that the two voices are at equal volumes. Hit the “Output” and then the “0” buttons. Use the data slider to set “Vol” to “90,” and use the data slider to set “Boost” to

“On,” then to “Off” again (this is done to guarantee that both voices have the “Boost” parameter turned off). Now scroll to the numeric parameter associated with “Mod=” — it should probably be showing “+00.” We can make sure that this is set to “+00” for all current voices by selecting it, then pressing both the up and down arrow buttons at the same time (this shortcut — pressing both the up and down buttons simultaneously — can be used to set any value in the SQ to a default setting, usually 0).

Next we’ll make sure that we’re using the same “Amp” envelope for all voices. Hit the “Amp” button, then the “3” button. This will bring us to the default envelope page.

To recall a default envelope, hit “Enter” and scroll to the envelope you wish to select. For now, let’s use the “BASIC PAD” envelope — scroll until you see it in the display, and hit “Enter” again, and we’re set. Now let’s add just a touch of spice by de-tuning the two voices.

Since we want to vary the tuning slightly for each of the two voices, we’ll need to head back to the “SelectVOICE” page and take the current sound out of “All” mode. Hit “Wave” and change the “SelectVOICE” parameter from “All” to “One.” Now scroll to select voice one (it should be flashing).

Hit “Pitch” and then “0.” Select the “Fine=” parameter (fine tuning), and set it to “+03” — this will have the effect of tuning voice one slightly sharp.

Now move back to page “0” of the “Wave” menu and select voice two (it should begin flashing). Once again, move to page “0” of the “Pitch” menu, but this time set the “Fine=” parameter to “-03.” This, as you might imagine, will have the effect of tuning voice two slightly flat. Using two similar voices in tandem, but slightly de-tuned, is a common programming technique often used to thicken a sound — particularly when the sound is based on the rather more static-sounding synthesizer waves.

Let’s return to the “Waves” menu, and set the “SelectVOICE” status once again to “All.” We want to globally edit the next few parameters.

Press “Filter” and then “0.” Use the data slider to select “2Lo-Pass/2HiPass” for the filters — this is the filter mode we’ll be working with for now. Hit the “1” button to move to the next page of the filter menu. Select the “FC1=” parameter, and set it to its midpoint, “064.” Select “Envelope2=” and set it to “+00,” its midpoint. The display should be showing:

```
FC1 Cutoff = 064
Envelope2 = +00
```

You’ll note that the sound mellows out quite a bit — filter 1 is currently functioning as a low-pass filter and we’ve brought its cutoff point down quite a bit, filtering out a lot of the upper harmonics.

Press “2” to move to the next page of the filter menu. Using the technique of pressing both the up and down buttons simultaneously, set both the “FC1 Keyboard=” and the “Mod=” numeric values to “+00.” Hit the “3” button to move to the next page and use the

data slider to set "FC2 Cutoff=" to "000." The sound should get subtly thicker — remember, filter 2 is set to high-pass operation. Hit the "4" button to move to the next page of the filter menu, and set "FC2 Keyboard" to "+00" and set the "FC1 Mod->FC2" parameter to "OFF." (Don't sweat it if you're not sure what each of these parameters does — we'll cover them all soon enough.)

Hit the "Envelope2" button, and you should be at the default envelopes page. If not, hit "4." Press "Enter," scroll until you see "RAMP UP" in the display, then hit "Enter" again. This will select a default envelope that starts at 0 (minimum), and gradually moves to 99 (maximum) for envelope 2, which is the envelope normally associated with the filter.

Now head back to the "Filter" menu, page 1, and select "Envelope2= +00." Change this value to "+99," and listen to the results. This is what's commonly referred to as a "filter sweep" — the cutoff point of filter1 is being "swept" upward, under the control of envelope2. And as envelope2 moves to greater values, the sound brightens up.

We can also sweep the filter the other direction — try setting the value for "Envelope2=" to "-99." Notice that now the sound gets darker as you hold a note or chord. Now set "FC1 Cutoff=" to "000." notice that no sound is produced when you play a note. With the filter cutoff for filter1 set to "000," and filter1 in low-pass mode, all the frequencies in the sound are being filtered out. And even though envelope2 is set to sweep the filter downward, the filter's already set as low as it can go, so envelope2 has no detectable effect on the sound.

Now set "Envelope2=" to "+99," but leave "FC1 Cutoff=" set to "000." You will now have the upward filter sweep effect back, but this time the sound starts from silence, and takes a longer time to build.

Actually, the envelope sweep is occurring at the same rate as before, but instead of starting with the filter half-way open already, (as it was when we had its cutoff set to "+064"), we're starting with the filter completely closed, so it takes the envelope a longer time to open the filter.

Now try setting "FC1 Cutoff=" to "127," its maximum value. Sounds pretty bright and buzzy, doesn't it? Notice again that envelope2 now has no effect on the character of the sound — since the filter's already completely open, envelope2 can't open it any further. But if you set the "Envelope2=" amount to "-99," you'll hear the filter sweep downward.

The point to all this is that when you're using a modulator with the filter, (in this case envelope2 is the modulator), you need to be aware of the filter's initial cutoff setting. If it's set too high, a modulator may not be able to sweep it much higher. Or if the filter's cutoff point is set too low, you may not be able to modulate it any further downward.

As you may have guessed, filter2 can be modulated in the same way as filter1. Remember, we set filter2 up for 2-pole high-pass operation, so it might be worth checking it out, as long as we're on the subject. But first, let's tweak filter1 into a more-or-less generic

setting. Set "FC1 Cutoff=110," and set "Envelope2 = +00." Hit "2" to move to the next page of the "Filter" menu. From here, set "FC1 Keyboard=+50" — this is the keyboard tracking parameter that you might remember from earlier discussions. A setting of "+50," as you may recall, causes filter cutoff to track the SQ-1 keyboard. Now hit the "3" button to move to the "FC2 Cutoff" page.

Looks just like the page we were dealing with a minute ago, doesn't it? And in fact, it is programmed in exactly the same way. The results will be a bit different, though, we're using a high-pass filter this time.

We can use the same envelope, envelope2, to run through some experiments with filter2 (remember, envelope2 is unchanged from the "RAMP UP" preset envelope we originally selected). First, try setting "Envelope2=+99" — this will give us an upward filter sweep. But since we're using a high-pass filter now, the effect will be that the sound gets thinner as the envelope forces the filter cutoff higher. Likewise, we can reverse the effect by setting "FC2 Cutoff= 127," and "Envelope2=-99," producing a sound that starts out real thin and gets fatter as the envelope drives the cutoff point of filter2 downward.

You can create some interesting effects by sweeping both filters at the same time. For example, we can set up a pretty cool band-pass filter sweep by setting the cutoff point for both filter1 and filter2 to "000," and setting envelope2 amount to "+99" for both filter1 and filter2. Of course, you needn't stick to these exact settings — a number of different effects can be achieved by varying these few parameters.

Once you're done playing with filter cutoff points and envelope2 amounts, you might want to check out what happens when you use envelopes other than the simple "RAMP UP" preset we've been using. A good way to get some broad ideas about what's possible is to try out some of the other default envelopes for envelope2. For example, using the settings we've just developed to do band-pass filter sweeps, hit the "Env 2" button, then the "4" button to return to the default envelope select page. Hit enter, and scroll until you see "SLOW LFO" — it's at the very top of the page. Now hit "Enter" — pretty cool sound, huh? Just for fun, hit the "Effects" button, then the "0" button, and scroll to the "PHASER+RE-VERB" effect. Want a surprise? Hit the "Compare" button and play a few notes (this will temporarily restore the original patch). We seem to have come quite a distance from where we started.

Anyway, that's about it for this time out. See ya' next time. Keep on chooglin'... ■



*Bio: Clark Salisbury is sound designer and technician with Music & Sound Associates, a musician, and a technical writer.*

## Classifieds

### HARDWARE/SOFTWARE

**Wanted:** I own a TS-10 and I have discovered what frustration is. I would like to purchase a TS-10 video tape (Covert Videos.) Call me collect, Roy: 706-745-8076.

**WANTED:** Digidesign's Sound Designer software from around 1985. Call Kirk at (303) 979-6837 or E-mail at PROTIST@AOL.COM.

**WANTED:** Used Ensoniq EPS OEX-8 Output Expander, EPS SCSI Interface, and EPS 4X Memory Expander. Phone Cheryl (912) 745-2006 or page 1-800-624-7243, PIN#1798960 - list area code and phone number.

**WANTED: 4X Memory Expander for the EPS!** Call Mike in Germany (Collect!) at 011-49-9843-2713. Pleeezzz hurry!

**SCSI HARDDRIVE BLOWOUT!** 80 Meg Hard Drive now available for just \$199.99! Compatible with SCSI Keyboards and Computers. Perfect for the road or the studio. Call MANCO Audio Electronics Now! (516) 978-0670.

For Sale, A.S.A.P: New condition Ensoniq SQ-R+32 rack, with two ROM soundcards, best offer. Call Tony F at 215-742-0738, or E-mail me at "102504.167@compuserve.com."

### SAMPLES/PATCHES/SOUNDS

DinosaurRemains — vintage sounds for EPS-16+. New Mellotron multi-sample disks. Two-disk sets of violins, choir, brass. Sets are \$19.90 each + \$3 s/h. Call for free brochure. 713-481-1256.

### If you're selling your gear...

Please be sure to pass along how absolutely vital it is to have a subscription to the *Transoniq Hacker*. And — we're always happy to do a sub transfer. No charge, and it's a nice extra to help close the deal.

ASR-10 Sounds: Synth Collection 1. Hand-drawn and additive synthesis. Crisp, metallic to warm, analog sounds. HD, 10 disks — only \$30 plus \$3 s/h. Send certified check or money order to: G. Bolton, 19 Third St., Ayer, MA 01432-1844.

**CUSTOM ASR-10 VOCODER SAMPLES!** Yes, indicate what phrase needed (up to 12 syllables) and I will create/sample the robotic voice. These aren't vocoder samples, rether Kraftwerk "music nonstop" voices. \$10/phrase, 5/\$40 pp. For info write: Wayne Schroeder, 573 Scott St., Studio L, San Francisco, CA 94117.

ASR-10 samples of the TS-10. Hi fidelity, fully programmed. \$6 per HD disk, \$30 for all six (36 sounds). Check or M.O. Or send SASE for complete documentation. James Samp, 90 N. Bell St., Fond du Lac, WI 54935. Phone: (414) 922-4337.

TH's Jack Tolin presents SYNTH-BITS! Classic HR-16 drums (2 disks; 49 sounds), M1 synth-textures (5 disks; 50 sounds) come in easy to manage samples that turn your EPS-16+ or ASR-10 into a synthesizer! Star-Trec SF blurbs (2 disks; 20 sounds). Only \$3 per disk. SF blurbs for your PC: \$2 per disk, 12 disks available. Jack Tolin, 9314 Myrtle Ave., # 186, Kansas City, MO 64132.

Your ultimate source for synth samples for your Ensoniq Sampler. Moog, Korg, Oberheim, Yamaha, Sequential! Send SASE for free catalog: Tom Shear, 805 Fifth Avenue, Williamsport, PA, 17701.

### MUSIC

"Resonant Dwarf" forges original electro-acoustic & electronic samples for EPS16+. ARP, Korg, Moog, Hohner, Paiste, Roland, Sequential & assorted sonic surprises. Catalogue = \$1 or free with SASE. \$4 per disc. Andrew Faltonson, "Resonant Dwarf," 903 NE 50th St. #2, Seattle, WA 98105.

### OUT-OF-PRINT BACK ISSUES

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

cost of materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4 Productions, PO Box 615TH, Yonkers, NY 10703. Attn: TH Back Issues. Phone: (212) 465-3430. \*\*\* Folks in the New York City area can get copies of unavailable back issues of the *Hacker* — call Jordan Scott, 718-983-2400.

### FREE CLASSIFIEDS!

Well — within limits. We're offering free classified advertising (up to 40 words) for your sampled sounds or patches. Additional words, or ads for other products or services, are \$0.25/ word per issue (**BOLD** type: \$0.45/word). Unless renewed, freebie ads are removed after 2 issues. While you're welcome to resell copyrighted sounds and programs that you no longer have any use for, ads for *copies* of copyrighted material will not be accepted. Sorry — we can't (we won't!) take ad dictation over the phone!

### Current Ensoniq O.S. (Disk/EPROM)

EPS	2.49/2.40
EPS-M	2.49/2.41
EPS-16 PLUS	1.3/1.00F
MASOS	2.0
MIRAGE	3.2
ESQ	3.5
ESQ-M	1.2
SQ-80	1.8
VFX	2.30
VFX-SD	2.1/2.00
SQ-1	1.11
SQ-1 32	2.03
SQ-1 PLUS	1.15
SQ-R	1.20
SQ-R 32	2.03
SQ-R PLUS	1.15
SQ-2	1.2
SQ-2 32	2.03
SD-1	4.10/4.10
SD-1 32	4.10/4.10
DP/4	1.15
DP/4+	2.02
KS-32	3.10
ASR-10	3.53/1.5
ASR-88	3.53/3.50
KMX-8	2.00
KMX-16	1.50
TS-10/12	3.05
KT-76/88	1.62
Soundscape	1.3.03

# 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, Internet: interface@transoniq.com. In many cases a quick answer can be obtained by posting to our interactive, on-line Interface at our Web site (<http://www.transoniq.com/~trnsoniq/interface.html>) or calling Ensoniq CS at 610-647-3930.

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.

TH -

I am trying to import some sounds from a Roland S-760 formatted zip cart. I have imported sounds from a CD-ROM many times with no problem, but when I try to import from the removable drive, the ASR-10 gives me a "bad device id" message. I thought I read somewhere that I would be able to read any Akai or Roland SCSI device. Is that true? Anyone else tried to do what I am doing?

Thanks,  
Brian Albritton  
gutrecords@aol.com

[CS - I'm afraid I have no experience with this setup. I'm passing your question along to Ensoniq - hopefully someone there will have some info.]

[Club Internet - I have done the same thing with my ASR, but with a 44-Meg removable cartridge (Dynatek and a S-770 cartridge of 45 meg). It worked.]

[Ensoniq - While we have not directly tested importing from a zip drive we do know that it responds to SCSI commands somewhat differently than other SCSI devices. We could see where the ASR might have trouble dealing with it, but have not tested it.

We had successfully tested Syquest removable media, Bernoulli drives, and fixed hard drives when developing the Version 3 import feature. The Zip is a special case unto itself. We'll look into it further.]

TH -

After several years of avoiding the issue altogether, I decided to hook my computer to my SD-1. No problems except...

When trying to transfer a sequence from the 'pewter to the SD, the keyboard will not record. I have followed instructions to the letter. ALL the parts play fine, but the SD never leaves MREC pause.

Any help out there? Thanks in advance.

Jeffrey P. Fisher -- Fisher Creative Group  
fishercg@mcs.com  
<http://www.mcs.net/~fishercg/>

[CS - Sounds to me like you've got the SD set to sync to an external clock, but your computer isn't sending one. Check your computer sequencer's documentation to see if there might not be a particular process for enabling transmission of MIDI clock and/or MIDI real-time information. It's also possible that your MIDI interface enters into the equation (some interfaces can be set to filter out or otherwise re-direct MIDI clock information). If you're still having problems, write again and tell me what hardware and software you're using.]

TH -

Hi, first off I'd like to say that I just purchased my ASR-88 and I totally LOVE it!! Awesome!

The question: I want to get a CD-ROM for my Ensoniq that is called "The Ultimate Piano Collection." It is designed for an Akai sampler but I am well aware that the ASR-88 can do this. However, every one of the samples requires 32 MB of RAM and some ask for 64!! Since 16 MB is the farthest you can expand to on the synth, is there ANY way that I could still load the sounds? Like say, buy a fixed hard drive for the synth, and load the sound onto that instead of the RAM?

Please help me out here!! Thanx.

Totally Inspired,  
Steven Potaczek  
potaczek@misslink.net

[Garth Hjelle - If you are referring to W.D. Coakleys pianos, he has an Ensoniq version that hangs around 16meg. I have a copy that I would like to sell and a cut-rate cost - please call or e-mail me at Rubber Chicken Software: [chickenEPS@willmar.com](mailto:chickenEPS@willmar.com)]

[CS - You can't play an instrument back directly from a hard disk; you'll need to be able to fit the entire instrument into RAM. It is possible to import portions of a sound into your ASR, though. You can import a portion of a sound by key range. Once you've partially imported a sound this way, save it to your hard drive (or floppies, if you're a masochist), and import some more of the sound. Once you've imported all of the parts of a sound, you can listen to each individual piece to see where you might be able to trim it down. With

a piano, for example, you may be able to delete some of the samples, stretching the remaining ones to fill in the gaps left.]

Hi,

1. I was wondering if it is possible to make a CD-ROM from a ASR-10 formatted harddisk using a PC and a CD writer. Is there anything that I should be aware of before trying and is it possible at all?

2. Is the Apple PowerCD or CD-150/300 compatible with the ASR-10?

Many thanks,  
Mattias Roos/Sweden  
roos@pub.mil.se

[CS - 1. Yes, it's entirely possible. All that's involved, really, is to create the CD image you want onto your ASR formatted hard disk first, then use your CD software to make a device image of that hard disk.

2. The word is that the Apple PowerCD will not work with your ASR, there are questions about the CD-150, and the CD-300 works like a charm.]

[Ensoniq - 2) The PowerCD is not compatible with any Ensoniq product. The Apple CD-150 works fine for loading sounds, but does not work for importing Akai or Roland sounds. The CD-300 works fine for all operations.]

TH -

I'd like to ask Ensoniq why they use a non-commercially available floppy drive in their products. I believe it's \$150 to get it replaced at a service center, whereas a normal 3.5 DS/DD or HD costs around \$30-\$40. Is this hindsight, or is there a design reason involved?

Great Interface/Web site!

Garth Hjelle  
Rubber Chicken Software Co.  
Willmar, MN 56201 USA

[Ensoniq - Our designs are based around certain specific hardware and software codes that aren't directly compatible or even applicable to Intel-based PC's, hence the need for these

specific drives. This comes from the fact that we designed our disk systems years ago – we were the first company to include a 3.5 floppy in a music product – the Mirage! We would like to get our design more in sync with these cheaper drives in the future, reducing costs for all of us.]

TH –

I have printed and read the *Hacker* article explaining the offloading of patches to floppies (and through MIDI) and am a bit confused about what is involved to make this work on the VFX family. I believe two products were mentioned, EDM and EPSDisk. Isn't the EPSDisk for the EPS family? I would really like to get my hands on a shareware type utility for the VFX, preferably one that will allow editing the individual patch information. And mainly as a transfer between my pc and the VFX via a dump to floppy disk.

Second part of this question: would it matter any if I was talking about individual patches or banks of 60 patches? Hopefully I won't confuse anyone too much. This function is fairly new to me as I have just started to toy around with the VFX-SD.

Thanks for any help,  
Bob  
bdbriley@citynet.net

[CS – As Garth Hjette mentions in "From Cyberspace to Your Ear" (which, I assume, is the article you downloaded and printed), there are several programs – mostly shareware and freeware – which can be used to send and receive sysex messages via your PC. One of these should do the job for you; you shouldn't need a program designed specifically for the VFX to be able to transfer sysex data to and from your instrument. EPSDisk (as you've surmised) is for the EPS, and won't do you much good. EDM (Ensoniq Diskette Manager) is a commercial program, available from Giebler Enterprises. It allows you to use Ensoniq disks on your IBM-PC compatible computer (read, write, format, copy and so on). You might also want to check into Giebler's Ensoniq MIDI Manager software. This software allows your PC to send and receive MIDI data, and supports the VFX, as well as the KS-32, SQ-1 and 2, and ESQ-1. You can reach Giebler Enterprises at 26 Crestview Drive, Phoenixville, PA 19460; Phone (610) 933-0332, Fax 933-039.

I don't know of any shareware app that'll let you edit VFX patch data, but that doesn't mean that one doesn't exist. Perhaps one of our readers knows of something...]

TH –

I am a frustrated ASR-10R user – frustrated because I have just attempted to format a fourth Zip drive by Iomega, and all I can get out of it is a File Operation Error message. I have done some research on compatibility problems between these two products – apparently some newer Zip drives do not work very well with the ASR-10. I have received two replacement drives and none have worked, even those produced before the alleged "cutoff number" for Zip drives.

Iomega is apologetic, Ensoniq assures me that the ASR-10 is not at fault, as the Zip begins flashing at format time, and almost completes its cycle before sending an error message to the ASR. I really need to get this SCSI problem resolved; I am considering trading the Zip drive for a Bernoulli, which may have a better success rate with the ASR-10. If you have any suggestions, including any Mac/IBM zip trick which may allow me to format a Zip, it would be very appreciated.

Thank you very much,  
Tim Pasch

[CS – As you know, there have been some problems using Zip drives from Iomega with Ensoniq samplers. Iomega has been working to resolve these difficulties. I grabbed this recent press release while poking around at Ensoniq's Web Site:

Date: 1/31/96

Subject: Audio Video (A/V) format problems with the Zip drive.

To: ENSONIQ audio equipment users who have experienced a problem with their Iomega Zip drives.

Iomega Technical Marketing has identified and resolved a compatibility issue with certain versions of the Zip drive. This problem is evident when a FORMAT COMMAND is issued to the drive without using the IOMEGA drivers. The problem has been resolved and the corrected/updated product should be in the distribution channel in 3-5 weeks.

If any Ensoniq customers are having problems with their Audio equipment and the Zip drive please contact IOMEGA by PHONE or FAX at the following numbers:

IOMEGA Customer Service (801) 629-7630  
Customer Service Fax (801) 778-3461

Be sure that the A/V code is referred to during the call or fax. This will alert Iomega Customer Service to their specific needs.

If the customer returns the Zip drive to the factory without notifying Customer Service about the A/V failure it is possible they could receive the same vintage or drive in return.

Iomega appreciates your assistance in resolving this issue and apologizes for any inconvenience this has caused.]

[Jimmy123@aol.com – Hi there,

About that ZIP drive formatting problem – I will be receiving EPSm (by Terje Finstad) in a few days... (hopefully today). One of the main reasons that I am getting it is that it will allow you to format ZIP drives.

Look around some of the Ensoniq pages... I'm sure you'll find his address around somewhere. (I'm at school right now so I can't get to it.)]

Hi All –

Does Ensoniq, or anybody else you know of, make a 44kHz effect file for the ASR-10 that provides reverb and chorus, with a separate bus for reverb but no chorus? EQ or DDL as well would be a plus, but not required for my immediate need. ROM-06 (built in) does this but runs only at 30kHz. There's a wonderful 44kHz reverb, chorus and delay effect included with OS rev 3.00 disk, but it doesn't provide a separate reverb-only bus.

Tankses!  
Gary Morrison  
Austin, TX

[CS – Unless Waveboy makes such a beast, I know of no 44k effects available in the configuration you want. If worse comes to worse, though, you might be able to simulate the chorus effect with some clever layer programming, and use the 44k reverb of your choice (obviously, this won't be much help if you're trying to process external audio)...]

Greetings,

It seems as if you are my last resort!! :-)) I have, for some time now, tried in vain to obtain service literature on the ESQ-1.

Please, if anyone can help, I am certain it is you guys.

Thanks!!!!!!!  
Lloyd S. Mandula  
Gideon Film Group  
zappa@icanect.net

[CS – We're posting your plea, but I wouldn't hold my breath. Have you tried talking to Ensoniq Customer Service? I'm sure they would be helpful.]

[TH – Actually, Ensoniq has traditionally been fairly "private" with regard to service literature. They may loosen up on an older synth like the ESQ, but you might also try to find a friendly tech at their nearest Authorized Service Center – Ensoniq will tell you where that is.]

[Ensoniq – Our policy is that we provide service through a network of Authorized Repair Stations. We do not provide service documentation to end-users. We recommend that if you are having a problem you take your ESQ-1 into a repair station. If you need to find the one nearest you call 1-800-553-51515 and we'll help locate one for you.]

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TH –

Hello everyone. I'm a university student and I'm writing a paper about the Ensoniq company. I'm especially looking for in-depth information on the technological aspect, like the transfer by the founders of the Commodore chips and VLSI technology to their new enterprise, as well as the technological strategies, opportunities and problems of Ensoniq. Some corporate stuff, like financial and marketing info would also be greatly appreciated. Thank you.

Patrick Doss  
bj191896@merlin.si.uqam.ca

[TH – Ensoniq's a privately-held company so a lot of the corporate/financial material will be hard to come by. There are some "PR Packages" that you can get from Ensoniq (610-647-3930) that contain a little on the history and maybe some news clippings and such.]

[CS – There's also some corporate (and other) info at their web site – <http://www.ensoniq.com/>.]

[Jeff Jetton – There's a small amount of interesting Ensoniq history in Mark Vail's "Vintage Synthesizers," which is published by GPI books.]

[Ensoniq – Being a privately held company I doubt that we would be willing to release as much "in-depth" information as you may be asking. Why don't you contact us directly with a list of questions and we'll look them over to see what we would be willing to answer. (Actually, we're saving all the good stuff for

when Bruce, Albert, and Bob write that "tell-all" book!)]

[TH – Gee, will it contain service info?]

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TH –

I have a problem with my SD-1 receiving controller data in multi mode.

It receives volume control messages just fine but any other controllers such as pan don't seem to have an effect. I have several other keyboards connected after the SD-1 and they react to all of the controllers just fine. If anyone can tell me the magic button that I didn't press, it would be greatly appreciated.

Thanks,  
Frank Ford  
frank.ford@mail.wdn.com

[CS – I didn't think the SD-1 would respond to MIDI pan messages (controller #10), so you better talk to jmarkworth (whose e-response appears below). As far as problems with any other messages, you might want to check the MIDI implementation chart in the back of your owner's manual to find out which ones your SD-1 responds to. For any additional information, you might want to try contacting Ensoniq Customer Service directly.]

[jmarkworth@fetch.com – I am a long time SD-1 user. I am running Cakewalk Pro 3.0 and am using a MOTU MIDI Express. I have successfully sent Pan Controller Messages to the SD-1 in Multi Mode from Cakewalk and even watched the keyboard respond to them on the display, so it can be done. Are you using a multi port MIDI interface or are you daisy chaining devices together? What are you using as a controller?]

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Hi Clark,

A question regarding the Syquest EZ-drive (135M) and an ASR-10: Are they compatible? Simple question, I hope.

Cheers,  
Tom Fryer  
barfry@xs4all.nl

[TH – Well, Rubber Chicken is selling Syquest EZ-135 for ASR users. So I suppose the answer is yes.]

[CS – Remember, you can check on the most recent version of Ensoniq's "Approved SCSI Device List" at their Web Site.]

[martin.pittard@fujitsu.com.au – I Have tried the Ensoniq Web site for the approved SCSI drive list and can't find it. Any hints?!]

[CS – If you mean you can't find Ensoniq's list of approved hard drives, I'm not too surprised. You've got to drop through several menus to get there (the URL is <http://www.ensoniq.com/mid/scsi.htm>).

If you mean, however, that you can't find the Syquest EZ-135 drive on the list, that's because it isn't there. This doesn't mean that it won't work, though. It probably just means that it hasn't been tested yet. As you know, Rubber Chicken Software markets the drive for use with Ensoniq products. If you have any questions, you might check with them.]

[Ensoniq – We have just finished testing the EZ-135 and it works fine for all functions except advanced audio recording (bouncing tracks etc.).]

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TH –

I bought a TS-12 when I first arrived here from Australia. I have tried out some serious sequencing now and find it great. However, I can not get the TS-12 to do dynamic mix-downs on more than one track. It is possibly a software/user or hardware fault. I have followed the instructions in the manual to the letter and it is starting to frustrate me as I want to be able to fade things in and out (obviously).

Thanks in advance,  
Anthony Carpenter  
tcmax@usa.pipeline.com

[CS – The information you provide is a bit sketchy, but a couple of things come to mind.

First, dynamic mixdown using the data slider can only be applied to song tracks, not sequence tracks. Attempting to write fades into sequence (using the data slider) tracks will definitely result in frustration.

Also, did you realize that you can use a volume pedal to control fades in sequence tracks? The Ensoniq CVP-1 pedal (at least, I think that's the model number) is recommended (and inexpensive), but other pedals may work, too. Just use the pedal to control volume for a track while in over-dub mode.

If neither of these suggestions provides you any relief, you may want to write again, and explain in more detail what you are doing. Or, you might just want to contact Ensoniq Customer Service directly, or via e-mail at music-

support@ensoniq.com.]

TH -

I am interested in the new MR Rack, and have tried calling Ensoniq's 1-800 number to get info on the World expansion module, to no avail.

Does anyone know if there is a list of the sounds that will be available on the World expansion module for the new MR-Rack? I heard they will ship in the spring, but I was hoping to find out what the sounds will be.

I just want to know what sounds will be on it and whether they are recording new sounds from scratch, or just copying existing waveforms. I want some killer world percussion stuff and want to buy the unit if they are gonna do it right.

I want some usable tabla drum and other percussion sounds and just want to know if they are really taking world sounds seriously. Even the Alesis DM5 and Roland R8M-ethnic card doesn't go far enough, in my humble opinion, to provide the number of samples necessary to produce believable tabla rhythms and African drums etc... But as a didjeridoo and djembe player, I have a critical ear. The tabla sounds on the Korg Trinity are good though, so I'm hoping for something equivalent before I make the investment.

Michael Le Bien  
ml@webspace-designs.com

[CS - Although I can't tell you what sounds might be included in the World expansion module for the MR, (because I don't know), I do know that Ensoniq has spent a whole bunch of time and money sourcing new samples for this project. So a lot of what you'll hear in the module will be brand new, never-heard-before stuff. Of course, that doesn't mean you'll like it, just that you haven't heard it before.

I'm sure Ensoniq will have a much more detailed and informed response than this, so watch for your copy of TH to get the real low-down.]

[Ensoniq - We are still finishing development on the World Board (called EXP-1 The Real World). We can tell you that it contains 441 waveforms, all newly-sourced material that we have collected from around the world over the last three years. It contains a lot of great percussion - I quickly looked over the developer's shoulder and found the following Tabla waves: Table Bend Up, Tabla Hits 1-2,

Tabla Mutes 1-3, Tabla Open 1-2, Tabla Pop Hit, Tabla Slaps 1-2, Tabla S Roll, Tabla SoftHit 1. Now don't write in next month asking for another specific instrument - as soon as we can we'll put up a full list on the Web, and ship the Board so you can hear it for yourself!

Another way to preview the nature of our sounds is to go to Keyboard Magazine's Web Site (Keyboard Central) - we have shared some of our source recordings with them in support of their World Music article. Their URL is <http://www.keyboardmag.com/key-board>.

P.S. OK - we also have Djembe Flam, Djembe Heel, Djembe Mute, Djembe Open 1-2, Djembe Slap, Djembe Tap and three different Digideroo rhythm waves.]

Dear Transoniq Hacker,

We are attempting for the first time to transfer some downloaded SysEx files from the PC to the SD-1 via MIDI, but we've run into a snag and hope you can shed some light on what went wrong. Since we're not sure exactly what went wrong or where, let us outline the equipment and the steps we took, and the results.

Equipment: Packard-Bell Pentium PC with PB Sound 16A sound/midi card (says MPU-401 compatible), 14400 baud modem with Netscape. MIDI/joystick adapter cable is connected to the SD-1 MIDI In/Out jacks. We grabbed SoundLib 1.01 and MDF off of the net in hopes that one of them would work.

Procedure: Went to one of the FTP sites listed in a recent issue of TH and saw a couple of interesting-looking SysEx files we decided to try. They were sd1\_int.uue and vfxsddem.uue. We FTP'd them, then used xferpro to uu-decode them to the gz zipped files. Then used WinZip to unzip the files, which yielded: sd1\_int.syx (63607 bytes) and vfxsddem.60p (63607 bytes). So far, so good (we think).

Now that we were ready to transmit the SysEx patch bank set to the SD-1, we hooked up both MIDI cables (also tried this with the keyboard out/computer in cable unhooked, as it said somewhere that this could give problems) and ran the SoundLib program. We selected VFX mode. After setting the SD-1 to "SYS-EX REC STATUS=WAITING" (on the STORAGE page), we asked the computer to send the file. The first file we sent was the vfxsddem.60p. Immediately the SIZE= went from 0 to 1 and stayed at 1 during the upload. After the computer was finished sending, the

SIZE= went to 125.

Now, that doesn't sound right since the size of a patch bank set should be 63, so I figure our problem has already occurred. Anyway we saved the info from sequencer memory onto disk and then tried to load it into INT RAM. There was no change in the contents of INT RAM! We tried this again by downloading the sd1\_int.syx file from the computer. Same everything. We saved this to disk also and attempted to load it into INT RAM. It never changed anything, though one time it loaded a bunch of strange (garbage) characters into the first nine banks of INT RAM.

Then we tried the same events with the MDF program instead of SoundLib. The results were essentially identical.

So, what's wrong? Hopefully we've given you enough information for you to suggest what the problem is or what we did wrong. One thing we wondered about is that this sound card says MPU-401 compatible, while the program mentioned MPU-801. Would that matter for a simple MIDI SysEx dump?

One other question - Can SysEx data be loaded directly into INT RAM on the SD-1 instead of into sequencer memory first? This would be convenient if it could be done, and if so please tell us how that would be done.

Yours truly,  
Ben Barnes and Al Smith

[CS - I'm not familiar with the programs you're using to do the SysEx transfers to your SD-1. However, you are making at least one incorrect step during this process.

You should not set the SD-1 to "SYS-EX REC STATUS." This is the mode you'd use if you wanted to record SysEx from a device other than your SD-1 (such as a drum machine or MIDI effects processor) into your SD-1 for storage to a floppy disk.

If the data you downloaded and decoded is valid SD-1 SysEx, you should be able to send it to your SD-1 simply by sending it; you don't have to do anything special with the SD-1 (apart from making sure that the "SYS-EX=XX" parameter in the MIDI menu is set to "ON," that is). The SD-1 will automatically receive SD-1 SysEx data, should it encounter it.

Anyway, try sending the data again, but this time, don't put the SD-1 into SYS-EX REC STATUS before sending the data. If you're still having trouble, you might consider contacting Ensoniq Customer Service, and seeing

*if they have any thoughts on the matter.]*

TH -

Do you know of any PC software program that will allow me to send a wave file from my computer to my ASR-10 and let me play it back on the keyboard?

Thanks,  
John Newton  
JADZ27A@PRODIGY

*[Herman / Hong Kong - Rubber Chicken will introduce you SoundVert 1.03 & Giebler EDM, very economical, no fidelity loss, and kind-man Garth will answer more if you ask.]*

*[CS - Also, you might want to download a copy of Garth Hjette's "From Cyberspace to your Ear," available at the Hacker's ftp site. In it, you'll find several programs mentioned, some of which are shareware, I believe.]*

TH -

When I want to send Sysex dump to the 486/Win95/sequencer via a joystick MIDI cable, my computer hangs, and I have to turn the power off to restart.

The same thing happens when the TS-12 is switching to GMIDI mode, but normal MIDI transmission like notes and program changes work alright. It seems too much MIDI data stuck the computer? Please help!

I use Ensoniq Soundscape, TS-12, SOUNDVERT, Giebler, MAUI, and Micro Logic.

cousins@asiaonline.net

*[CS - I'm afraid this is a bit outside my normal turf. I'm passing your letter along to Ensoniq (you may want to consider contacting their customer service department directly). Perhaps they (or one of our readers) will have a suggestion or two...]*

*[Ensoniq - This is too difficult to try to answer in the Interface - we have to troubleshoot your system better with you. Please contact us directly so we can help you.]*

TH -

First of all, I have some answers for someone named "MARTIN" who asked about an editor for the KT-76 for use with an Atari computer. First of all, the program that was mentioned by CS (X-or) is still available from: Toad

Computers, 570 Governor Ritchie Highway, Severna Park, MD 21146-2925. Phone: (800) 448-8623 (orders), (410) 544-6943 (general information). E-Mail: info@toad.net. WWW: http://www.toad.net. They sell XoR (v. 2.0) for \$149.

He might also try a company called SOUND QUEST INC. They sell universal editor/librarians for the PC, MAC, Atari, Amiga. The program is called MIDI Quest, and the Atari version costs \$299 (Canadian). They also sell individual editor/librarians for specific synths. They call these SOLO QUEST, and they go for \$129 (Canadian), which is currently about \$99 (US). It says right in their ad (in Electronic Musician) that the programs work with the KT-76. They can be reached at: (800) 667-3998 (US), Internet: 76702.2205@Compuserve.com.

And as for my question, where can I find a SCSI adaptor for use with my original-flavor EPS? I've got a 2x memory expander cartridge from Ensoniq, and it has a little "cutout" on the end, which I was told enabled that cartridge to be used with the SCSI adaptor. Also, about what should I expect to pay for it? And, I've got an extra Maxtor 127meg SCSI hard drive lying around, do you think it would be compatible with the EPS? By the way, my ROM version is only 2.0, so would I need to upgrade that?

Thank you, and continued success with the Hacker. I've been a reader and subscriber since around 1989.

Paul Nurminen  
Nurmix@ecn.com

*[CS - I think you can still order SCSI kits directly from Ensoniq, and I think they run about \$250, and it shouldn't be a big deal to upgrade to current software (the current disk OS is version 2.49; EEPROM is version 2.40). But don't take my word for it; contact Ensoniq Customer Service directly. Hey - they might even know if your Maxtor drive will work (if you can figure out what mechanism your Maxtor drive uses, you might want to check out Ensoniq's approved drive list (<http://www.ensoniq.com/mid/scsi.htm>).]*

*[Ensoniq - Clark is correct. We still sell the SP-1 for your EPS; it retails for \$199.95 including installation. We don't know directly about that Maxtor drive but since you already have it why not try it out? Then write back and share your results with the rest of us.]*

TH -

Why aren't Ensoniq products ever featured in the music mail order catalogs (Sam Ash, American Music Supply, Musician's Friend, etc...) that I always receive in the mail?

jbf@pipeline.com

*[Ensoniq - We do not allow our dealers to advertise our products in catalogs that go outside of the dealer's local area. We believe that you should work with your local retailer to not only get a good price, but also get good support and service - things that cannot be done from afar. This does not mean that a given dealer does not carry our products - we do business with Sam Ash in the New York/New Jersey area, for instance.]*

Hi all -

I have a strange problem with ever-diminishing volume every time I select certain instruments with their Instrument\*Track button on my ASR-10. This occurs only...

... on instruments with MIDI STATUS set to MIDI, not set to LOCAL. (My sequencer requires local to be turned off, and it reflects everything it receives back, sometimes modifying it. But the sequencer isn't doing this, because it still occurs when I loop MIDI OUT directly back to MIDI IN.)

... on instruments whose volume, either in the Edit:Track page or as selected with the data entry slider while in (non-blinking) Load mode, is significantly lower than full-bore (99).

Here's an example: When I set such an instrument for a volume of 70, and then use my sequencer to record what the ASR sends each of several times I select that instrument, here's what I see: Each selection sends out, among other MIDI messages, a Controller 7 (volume) message. On successive selections, the volume it sends out is 62, 43, 30, 21, 14, and so forth.

These numbers are, as it turns out, 127 times powers of 70%. So clearly, each time it receives a MIDI volume message from the looped-back MIDI channel, it MULTIPLIES the current volume BY 70%, rather than SETTING it TO 70% (of the max value of 127), until the instrument is no longer audible.

So, is there any way either to get it to stop accumulating the effect of MIDI volume messages, or stop sending volume messages upon selecting an instrument?

Here are some potentially relevant Edit:Sys-

tem\*MIDI settings: MULTI CONTROLLERS=ON, MIDI SONG SELECT=OFF, MIDI PROG CHANGE=OFF, MIDI SYS-EX=OFF, MIDI CONTROLLERS=ON, MIDI IN MODE=MULTI, and TRANSMIT ON=INST CHAN.

Thanks for the help!  
Gary Morrison  
Austin, TX

[CS - Your problem is the MIDI loop you've got happening between your ASR and sequencer. What happens is this: you send a volume message to your sequencer from your ASR; the sequencer "echoes" the message back to the ASR; the ASR receives the volume message from the sequencer, and sends it back to the computer, and so on.

The solution is to turn your sequencer's MIDI echo (sometimes called "MIDI Through") off, so that the sequencer is not echoing messages back to the ASR. If you can't do that, try setting up a MIDI Instrument on the ASR (create an Instrument with no samples), and using only that Instrument to record into your sequencer (use the sequencer to set playback MIDI channels, volume, panning, and so on for the tracks you record using your MIDI Instrument). This allows you to echo the data you're recording on a different MIDI channel than the one you are transmitting on, circumventing the MIDI loop.]

---

Dear Hacker:

Thank you for being here...

I have a question or a request that would probably be best suited for Ensoniq. I compose and produce a lot of Hip Hop and Dance music. My primary instrument is an ASR-10. One of the most valuable functions that the ASR sequencer has to offer is the Edit/Seq.Song page. In Hip Hop the mix is everything. I often utilize the mute and solo functions manually. I would like to be able to record them in real-time to Song Tracks. Punching a mute or solo in to a track is often determined by feel and natural timing. This cannot be accomplished by writing them as a step in a given sequence because often the mute may be desired for only a beat or two in a particular bar; furthermore it would be redundant. The sequencer already allows you to record the mix and pan functions in to a Song Track, how much harder would it be to add this capability to the mute and solo functions? I am currently using the mix function but it doesn't allow me to be as precise because the levels fluctuate. Perhaps this is something that could be addressed in the de-

velopment of the next O.S.

Thank you for your time and consideration.

Sincerely,  
Bunnfest@aol.com

[Ensoniq - Thanks for the input - this does sound like a good idea. We cannot make any promise as to adding new features to the ASR, but we will certainly keep this idea in mind in case we do. If not we will keep it in mind for future products.]

---

Dear Transoniq Hacker:

I have been following the dialog concerning the Iomega Zip drive and the inability of some of the models to format to the Ensoniq format.

With help from Garth Hjelte, I was able to get my Zip drive to format its disk while connected to my EPS-16+. In order to get the Zip drive to work at all, I first had to include my Syquest 105 meg removable drive in the SCSI chain. Setting my Zip drive to Device #5, termination off and then terminating the SyQuest 105 (device #2), I was able to get the EPS-16+ to recognize the ZIP drive. From what Garth tells me, the above procedure has nothing to do with the Ensoniq/ZIP/Formatting problem.

For those of you who do not have the luxury of a second SCSI drive, you must get a SCSI sentry (of which I know nothing about) to get the Zip drive to work by itself.

The serial # of my ZIP drive is RA952441EU and it is old enough that it properly formats to the Ensoniq standard. I hope this information will help those owners of a Zip drive in determining the vintage of their Zip drive.

If you go to the Rubber Chicken Software WEB page, you will find valuable information about how to contact Iomega and go about getting an exchange for a Zip Drive that doesn't properly format to the Ensoniq format.

Just trying to be helpful.  
James Rosand  
jrosand@olympus.net

---

TH -

I just started using EPSm, which I got directly from Terje Finstad. It works great and I'll be registering this program today. My question: where are the best places on the Internet to download samples for the EPS-16+? Also, are

there shareware programs designed to edit samples on your computer (in my case a PowerMac)?

Thanks,  
John Palermo  
(jpalermo@haven.ios.com)

[CS - I don't spend lots of time looking for sounds and samples on the net, but it seems to me that you could get a good start by checking out Michael Hyman's most excellent "Ensoniq Resources on the Internet guide" (<http://www.netaxs.com/~mikeh/ensoniq.html>). Perhaps the best-known site for all EPS (and some other Ensoniq keyboard stuff) is Oakland University's EPS archives. (<http://www.acs.oakland.edu/oak/eps/eps.html>). Also, you'll find some factory sounds at Ensoniq's Web Site (<http://www.ensoniq.com/>). And you might also check in with some of the other magazine's web sites - such as Keyboard magazine's site, (<http://www.mfi.com/keyboard/>)]

---

TH -

I would like to know how to accurately time compress or expand an 85 bpm sample to 140 bpm and vice versa.

What are the mathematics to calculating this? The time this takes to process drives me nuts so I'd like to get it right at the first try. I've got the ASR-10 manual but it doesn't seem to explain this.

Thanks,  
Hugo Bugg  
troccoli@wchat.on.ca

[CS - The formula's pretty simple, really. Divide the original tempo by the destination tempo, and multiply by 100. So, to go from 85 to 140 bpm, the formula looks like this:  $85/140*100 = 60.714$ , or a compression factor of 61% (rounded up).]

---

Hi TH and readers,

I recently purchased my first Ensoniq synth ever, a TS-10, and so far I'm very pleased with it. Especially the effect processor and the track parameter controllers are great. However, I have one problem; the string programs provided "on board" don't work very well in the kind of music I do. They're simply a bit too realistic, I think. What I need is something more warm and rich like old Oberheim or Roland patches. I've been through the rest of the TSD library, but nothing really differs significantly from what I already have.

By layering strings with sine-waves (and some other waveforms) and cutting the top frequencies, I've been able to come up with something quite good but as you'll probably agree, quite good is not always enough. So if any of you readers have some programming tips you would like to share, I would be very happy.

Recommendations to commercial programs (Ensoniq as well as third-party products) are very welcome too, but since I currently don't own a CD-ROM drive we're talking floppies.

Thanks,  
Michael Skaanning-Hansen  
e-mail: FVMSK@dnu.dk

[CS - When layering synth waves with your string samples don't neglect some of the more robust waves; sawtooth and pulse waves, for example, combine beautifully with string waves if they are first filtered to take off some of the edge. Other candidates: Transwaves, particularly "X-WAVE Z"; brass waves, both solo and ensemble (good for adding body - filter to taste), and vocal waves.]

[Lj Garrett - Hi Michael... I've had very good success with other Ensoniq synths replicating Roland Juno 106 string sounds. First, look at the fundamentals of the synth you are trying to imitate. With a Juno 106 the sound I had was based on a saw wave and square wave (sub-oscillator). Add a rather mild slow vibrato to these, adjust the filters to taste, and the envelopes to a slow string shape. Okay, now to get the old Roland chorus use the 8-voice chorus. The most important thing is this chorus.

I've been able to get exactly the same thing without the analog hiss!!

Good luck...]

Greetings from Bermuda,

I just tuned in tonight and hope that someone will help guide me through this MIDI stuff. Basically, I can program the kinds of drum sounds I need on my TS-12 or Yamaha RY30 separately. However, after MIDI connections, I seem to be missing some drum sounds from the RY30. Not all trigger pads produce sounds and the demo songs sound incomplete. I thought I was following the manual (both) fairly well. I hope someone can offer some advice.

Thanks much,  
George Simons  
gsimons@ibl.bm

[CS - I'm afraid I'll need a bit more info before I could hazard a guess about what's going on. I need to know what your setup is - which instrument is the controller, which is the slave, what other MIDI stuff you might have hooked up - and a few specifics about the problem, such as: are the drum sounds "missing" from the TS-12 or from the RY30? Are they missing during live performance, or during sequence playback?

Write again, and fill me in; I'll see what I can do then...]

TH -

I would like to know if there is any way to archive my own samples onto CD-ROM to be used by my ASR-10? I have complete access to digital recording, editing, and CD-ROM archiving on my Macintosh, but what format does the disc have to be in for the ASR to read it? There should be a way that I could record all of my samples into the computer and then burn a CD for the ASR...

Thanks in advance!!  
Tom  
Tcushing@Iquest.net

[CS - You should be able to create your own CD-ROMS for your ASR-10, but you don't need to worry about transferring samples to your computer. Just make an exact image of the final CD on an ASR-10-formatted hard disk (take care to put your files and directories in the order you want them on the final disk), and use your CD-recorder to make a disk-image of that.

Of course, there are a couple of things to keep in mind when making the original image on your hard disk, i.e. create directories and sub-directories first, and avoid fragmenting files. Also, if you are using banks, create them with the hard disk set to the same SCSI ID that you intend to use with your ASR-10 CD-ROM drive.

Other than that, it's all pretty straightforward.]

TH -

The problem: I need to get a sequence on my computer recorded into my EPS for a live performance. I have tried simply setting the EPS to record and syncing up the clock devices, but it appears that the EPS only records what is actually played on the local keyboard.

Question: Am I doing something wrong, or is

this not possible without some third party software as a go-between? If so, what PC software is available to convert my type 1 MIDI files to EPS classic sequences. Does this solution also allow for writing the file onto an EPS formatted disk?

Any help would be appreciated.

Sincerely,  
Tom Magee  
tcmagee@canuck.com

[Tom Magee (follow-up) - Thanks to anyone working on this problem, but I figured it out myself. I'm still going to purchase some software that can save and format EPS files and disks, but for the limited use I need right now, my solution is adequate.]

[dfisher@maui.com - What was your solution, Tom?]

[TH - Yeah, we were kinda wondering, too. Here's Clark's response...]

[CS - You should be able to record sequences into your EPS classic from an external source. Two things need to happen, though. First, any tracks you wish to control from an external source need to have their MIDI STATUS (press Edit, Instrument, then scroll) set to something compatible with reception of external MIDI signals - either LOCAL, or BOTH, I believe. Next, you'll need to record tracks one at a time into the EPS (multi-record functions didn't become available in Ensoniq products until later). My recommendation is that you set your EPS MIDI IN MODE to POLY (edit, system, and scroll). Choose a MIDI BASE CHANNEL, such as channel 1. Select the first Instrument/Track you wish to record (its LED should be glowing yellow). At your computer, mute all but the track you want to record into the EPS Instrument/Track you've selected. Set the computer-generated track so it's transmitting on the MIDI channel you've set for the EPS base channel. Make sure the EPS and your computer are synchronized, and record the track into the EPS. Repeat this process for each additional track (select the track to record on the EPS, and mute all but the track you're sending at the computer), until all tracks are recorded into the EPS, and save the finished sequence.

If this all seems like too much trouble, software to convert standard MIDI files into EPS files is available from Giebler Enterprises, 26 Crestview Drive, Phoenixville, PA 19460. Phone: (610) 933-0332. (<http://members.aol.com/giebler/>). Giebler also has utilities which allow you to manipulate EPS disks in a variety of ways using your PC.]

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