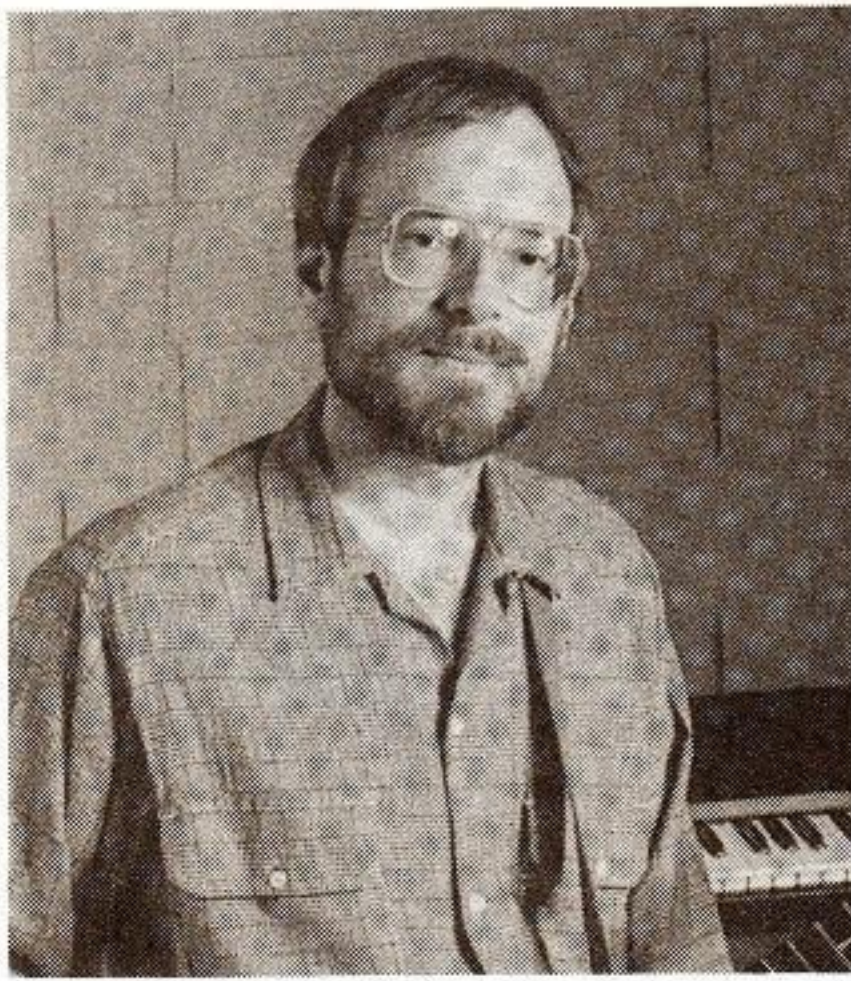


Jupiter Systems' Infinity Looping Tools

Craig Anderton



For: 68030-based Macintosh & ?????
Product: *Infinity* (software).
Price: \$495.
From: Jupiter Systems, 59 Crother,
Applegate, CA 95703-0697, phone: (800)
446-2356.

There's already a buzz about *Infinity*, a sample editing program for the Macintosh; but as is often the case with a product that is different from the norm, there are also some misconceptions floating around. Let's sort out fact from fiction.

What It Does

Looping is not easy under the best of circumstances, but some sounds seem downright impossible — like cymbals, guitar power chords, piano single-cycle loops, etc. *Infinity* offers several looping tools to help create seamless loops in AIFF, Sound Designer, or Sound Designer II files. Any

other functions are very basic (mix, merge, reverse, invert, cut, copy, paste) — don't expect fancy stuff like EQ, normalization, compression, pitch-shifting, or distributed audio networking. Most importantly, there are no drivers for any type of sample transfer protocol except communications with SampleCell I and II via Apple Events.

The lack of drivers means that if you want to blast *Infinity*-looped samples into your sampler, you need either *Sound Designer* or *Alchemy* to import the processed AIFF files, then send them out in a format your sampler can recognize. Considering that *Sound Designer* is de-emphasizing sampler compatibility and *Alchemy* is no longer in production, this could be *Infinity's* appeal, which would be a real shame.

That's the bad news. The excellent news is that this program is nothing short of miraculous in its ability to loop the un-loopable. Not only does it do the job, it does it quickly and almost painlessly. Not since the original *Alchemy* put a window into the EPS have I encountered a sample editing tool with such vision and efficacy.

When I first got to know the program, I threw sound after sound at it and was able to get decent loops just about every time. I was starting to wonder if I had by some fluke managed to pick only sounds that worked well with *Infinity*, so I called Tim Tully (editor of *Studio Software Report*) who was also working with the program.

Here's a transcript of the conversation:

In this issue

Articles:

Understanding Envelopes — Part V <i>Robby Berman</i>	6
Creating Pads <i>Sam Mims</i>	9
Transforming & Other EPS/ASR Remix Effects <i>Tom Shear</i>	11
The TS-10 as Wavestation <i>Steven Smith</i>	14
DP/4 "Hackerpatches" <i>Dave Kelly</i>	19

Reviews:

Jupiter Systems' <i>Infinity</i> — Samplers <i>Craig Anderton</i>	cover
Basement Tapes: Glaspie / Keller <i>Daniel Mandel</i>	4
The KS-32 Talking Owner's Manual <i>Pat Finnigan</i>	13
The <i>Real Voice</i> Crystal Review — Samples <i>Pat Finnigan</i>	17

Regular Stuff:

Random Notes	3
Hypersoniq	3
Classifieds	18
Hackerpatches <i>Sam Mims & Jeffrey Rhoads</i>	20
The Interface	23
Hacker Booteeq	31

Me: Hey, Tim, is this program really as cool as I think it is?

Tim: Yes.

Equipment Requirements

Infinity requires a Mac running System 7.0 or higher, 4 Megs of RAM (8 Megs is more realistic), 68030 or better processor with 68881 math-coprocessor, and 32-bit addressing. (*Infinity* will run on 68020-based machines, but you pay a heavy speed penalty.) The hard disk serves as virtual memory so you can work on long samples, but you can process only the part that fits in available RAM.

Infinity uses key disk copy protection and allows for two hard disk installations, although these can not be to a removable drive. Samples can play back through the Mac or the various Digidesign DSP cards.

About The Algorithms

There are four main looping algorithms. The SPR and Rotated Sums algorithms are designed for fairly long, non-periodic loops (choirs, strings, power chords, etc.) and essentially distribute any loop anomalies over the entire loop. If you've been able to get okay loops up to now, you'll get exceptional loops with SPR and Rotated Sums.

Freeze loop is a replacement for the traditional "single-cycle" looping approach. This averages the spectral energy in a selected region, and turns it into a periodic waveform. If you've ever tried to single-cycle loop the end of a piano note, you'll love this algorithm. To avoid the "oh-oh, we've just a loop!" effect, you can crossfade the loop with the beginning of the sample so that the sample merges seamlessly into the frozen loop. This is very cool, and what's more, can serve as an excellent generator of unusual waveforms — just Freeze loop a few seconds of program material and see what happens.

There's also crossfade looping, implemented in a non-traditional way. *Infinity* uses some intelligence when looking for loop points (it checks for more than just zero-crossings) which can cut the time required to find good potential loop points, and loop points can be adjusted in real time. You can even specify how finicky you want the program to be when evaluating potential loops (the tradeoff is very slightly more time spent looking for the loop points).

Setting crossfade loop points is particularly important with *Infinity*, since the program uses these as a "jumping off" point to apply the more sophisticated algorithms. However, many times you'll find that crossfading does a perfectly fine job, and you might not even need to call in the "A" team.

Everything is undoable to one level, so experiment! In fact, you can process with the SPR or Rotated Sums algorithms, undo if you don't like the results, change a parameter or two, then try again until you get the loop you want.

License To Loop

Infinity's licensing agreement is somewhat unusual. You can use the program for your own projects, but if you want to produce sample CDs or patch disks using sounds processed by *Infinity*, you need to give Jupiter Systems a credit. Manufacturers who use *Infinity* to create ROM sounds negotiate their agreement on a case-by-case basis, with generally some combination of flat fee and/or cross-promotion.

Beyond Normal

Aside from looping samples, applying SPR and Rotated Sums to program material gives very interesting results. Low Rotated Sum parameter values create an almost convoluted filter/tapped delay effect; with long samples, this can produce instant cool pads. And, you can apply the same algorithm over and over again, or apply multiple algorithms to a sample, which can create some wild side trips.

Amazingly, during all my testing *Infinity* never crashed or even flinched — even while I was learning the program and punching the wrong keys. I found only two problems: With normalized samples, some of the processes will cause the level to exceed the available headroom, which is not a nice sound. Using the gain change function to drop levels about -3 dB before looping usually solves the problem. Also, in Freeze loop mode you generally need to enter the MIDI note to which you want to reference the loop. However, with extremely short loops (or loops where the harmonic is stronger than the fundamental) the program may not know what to do with the sample and generate one that's transposed compared to the pitch you entered. Simply compensate for the transposition, and all is well (e.g., if you're trying to loop to G and the program generates a note one step higher, specify a note one step lower and the two will cancel out, giving you the correct pitch).

Overall, *Infinity* is one of the coolest things to hit my Mac in quite some time. As someone who does a lot of sound development, *Infinity* is a wonderful tool. The price of \$495 may seem high, but the amount of time (and frustration) it saves justifies the price — and then some. Anyone doing Mac-based sound development will flip over this program; I certainly have. ■

Bio: Stranded on earth due to a bureaucratic mix-up involving a less-than-reputable intergalactic trucking firm, Craig Anderton has made the best of the situation by pursuing the art of music.

CHANGE OF ADDRESS

Please let us know at least four weeks in advance to avoid missing any issues. The Post Office really will NOT reliably forward this type of mail. (Believe us, not them!) We need to know both your old and your new address. (Issues missed due to late or no change notification are your own dumb fault — we mailed them!)

RND (🎵🎵)

Ensoniq News

A new feature of the TS-10 which will be available in O.S. 2.0 is SoundFinder.™ This intelligent program locate feature lets you find sounds of the same instrument class (i.e. piano, guitar, bass etc.) by simply pressing the Replace Track Sound button and pressing the up arrow button. The TS-10 will locate the next available sound of that same type for easy replacement in a sequence track, or to just listen to without randomly searching through 5 BankSets and 300 Sounds. We are also adding a tempo track to the sequencer and revoicing the TS-10 to improve the onboard programs and Presets based on user feedback. Look for this new O.S. release in early November. It will be a free chipset that will require installation from an Authorized Ensoniq Repair Station, for a nominal fee.

Third-Party News

We've got several new third-party people we'd like to welcome this month: **Ethereal Pop** — crafters of synth samples for Ensoniq samplers, **RMA Music** — creators of EPS-based classical and Christmas music favorites, and **Covert Videos** — producers of instruction videos for Ensoniq keyboards.

Ramtek, Inc. (hard drives) has a new address and phone number: 32003 Plymouth Rd., Livonia, MI 48150. Phone: 313-513-7440. Fax: 313-513-7443,

MIDI Mark Productions is having a sale. Six disks for \$35 + \$3 s/h. Additional disks \$5 each. They have over 100 disks for Ensoniq samplers in their catalog. Phone: 310-699-0095.

TRANSONIQ-NET HELP WITH QUESTIONS

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

All Ensoniq Gear — Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 215-647-3930.

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

Sampling — The International Samplers Cooperative, 310-455-2653 or via MusoBBS, 818-884-6799.

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

VFX Sound Programming Questions — Dara Jones, Compuserve: 71055, 1113 or Midi-net & Fido-net. Local BBS: Nightfly, Dallas: 214-342-2286.

SD-1, DP/4 Questions — John Cox, 609-888-5519, (NJ) 6 — 8 pm EST.

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

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

EPS, EPS-16 PLUS, & ASR-10 Questions — Garth Hjelte. Rubber Chicken Software. Call anytime. If message, 24-hour callback. (305) 963-1783. Compuserve: 72203,2303.

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

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

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

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

Mirage Sampling — Mark Wyar, (216) 323-1205. Eastern time zone (OH). Calls between 6 pm and 11 pm.

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

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

HYPERSOBIQ NEW PRODUCTS

MIDI Mark Productions announces the arrival of its newest sampling audio CD — "*Vocal Bytes*." This CD contains over 1,000 slamming vocal samples and is by far one of the best new CDs to hit the market. Styles and samples include Gospel, Soulful, Funky, Rap, Group vocals, James Brown style, Jazzy, Techno vocoder, computer generatee and many more. Recorded at Moonlight Studios in Hollywood and produced by E.K.O. Contact: MIDI Mark Productions, PO Box 217, Whittier CA 90608. Phone: 310-699-0095.

Q Up Arts announces *Charlie Morgan Master Drums* — an audio CD containing 60 drum samples by recording artist Charlie Morgan. The drums are real drums, played by a real drummer, and recorded in both a live room and a non-reflective environment. For further information, contact: Q Up Arts, PO Box 1078, Aptos, CA 95001. Phone: 408-688-9524.

New Sound Music announces the release of *SongCreator* — featuring over 100 background tracks in a wide variety of musical styles. All of the sequences were played in real time by studio musicians. In addition to being an excellent learning tool, *SongCreator* includes full rights to use all of the material in any way you wish — including creating your own compositions. *SongCreator* is available for the VFX-sd, SD-1, EPS, EPS-16, ASR-10, and the SQ-80. Mac, DOS, Atari, and Amiga versions are also available. Contact: New Sound Music, PO Box 37363, Oak Park, MI 48237. Phone: 313-424-8619.

Fits & Starts Productions is taking its very successful seminar and workshop program on the road to qualified universities and colleges with recording and sound programs in their curriculums. Included with some of the country's most prominent musicians, recording engineers, producers and consultants is lil' ol' *Hacker* writer, **Craig Anderton**. For further information, contact: Hector La Torre at 908-741-1275.

Ethereal Pop Primary School announces the release of a new collection of synth samples for the ASR-10 and EPS-16. This collection of over 200 samples on 50 disks covers a wide spectrum of synthesizers manufactured over the last 20 years including — Mini Moog, ARP 2600, Oberheim Xpander, Yamaha DX7, as well as newer keyboards like the Roland JD800. The entire set of disks is available for \$199. Sets of 10 disks are also available for \$49. For more information: Ethereal Pop Primary School, PO Box 701266, Houston, TX 77270.

The Views from Iowa and New Jersey

Tape: *Soniq Picturescapes*.

Artist: Paul Glaspie,

Contact info: RR1 Box 105, Greene, IA 50636.

Equipment: VFX-sd version II, Alesis HR-16 controlled externally, Peavey 8-channel stereo rack mixer.

This is really an amazingly listenable tape! It is 90 minutes of back to back instrumental music. It is more pop-rock than any other definite category.

One consistent point of interest that jumps out here is that Paul really has worked his drum sequences well. The jams are loose and funky. There are rooms for fills and changes, which he takes advantage of. This is really important for avoiding that feeling of, "Oh yeah, here comes the beginning of THAT sequence again!" Even big professional groups, and I'll go out on a limb and name GENESIS as one, occasionally create obvious sequences that can become a little tiring. Paul's drum tracks sound as though they would interest real drummers. He doesn't let the percussion get stagnant or boring. This sets the basis for interesting music.

Paul's leads are short musical statements strung together. They sound good. 'Nuff said.

This sound palette is of modern synth strings and leads. No big beefy drums, but rather more to the clean kits. There are few effects used.

There are also not a lot of chances taken musically. Once the chord progression is established, the leads are played out, the verse, chorus, verse wind their way around — that's all there is. I was hoping there would have been a couple of fun twists and turns and changes. Maybe some more interesting introductions would have helped. However, I would point out that Paul's endings were very well planned and natural sounding. Again he ended songs the way a drummer really would end a song.

I always love it when people write in and explain their twists on the music. Paul writes, "The enclosed tape is intended to show my skills as a composer, arranger, keyboard player and (ahem) engineer. I work as a piano tuner/technician and did all the work in an upstairs farmhouse bedroom. I'm mostly a guitarist." I don't know why, but I get a kick out of knowing that this music was all created and recorded in a upstairs farmhouse bedroom in Iowa. The electronic front porch has arrived!

Paul also brought up some interesting issues he is facing, that

many of you may also share: "My productivity has increased incredibly with the VFX, but I fear that I don't throw out enough bad tunes. Many songs await guitar tracks but 4-track cassette demos seem tedious and almost pointless. My other problem is marketing. I think the *Hacker* would do us instrumentalists an enormous favor by reporting on publishers and/or producers interested in us non-MTV types haunting the backwoods. Also, I am so pleased with the existing library of sounds that I've hardly tried to tackle programming the formidable VFX. My sounds used were pretty much the stock factory stuff dolled up occasionally on the Performance Pages."

Well, Paul, I think it is tremendously challenging to be artist, engineer and, on top of that, marketing mogul, but that's the hand that the electronic front porch has been dealt. I think you should get out there and surprise them with what's been brewing in that upstairs farmhouse bedroom.

Tape: *Scandal! The Rinaldo Brothers Story*.

Artist: Tom Keller.

Contact info: Boris Productions, 4 Arapaho Ct., Suffern, NY 10901, phone: 914-268-1028 days, 914-368-3907 eves.

Equipment: EPS 4X (8 OEX), Lexicon LXP-1 and Yamaha SPX-900, BBE 422, Symetrix 150 compressors, Alesis EQ, Symetrix Mic preamp and parametric EQ, Audio Logic gates, AKG 414 BULS, Toa D5, Tascam TSR-8 w/dbx, Tascam DA-30 DAT.

The Rinaldo Brothers. You might not have heard of them before as they were pretty locked into the local New Jersey scene. Even if you're from Jersey you might not have heard of them, because they spent a lot of time in the studio, or trying to keep out of the slammer. But even if you haven't heard of the Rinaldos, just a gander at the list of famous stars they produced will remind you of the rightful place they hold in musical history: Frankie Black and the Carnations, Drambuie, The Umbrellas, Jumpin Jiminy, Chad Sebring, The Twangs, the Eddie J. Combo, Roomful of Gurus, The Juketones, Junior Rey, Eugene Nelson and the Vibra Cats, The Beanies, The Starvells, The Vistas.

This is a really fun tape. The beginning of each side is a radio interview with the R Bros. The radio show is honoring independent producers and local talent and who better to represent the flotsam and jetsam than New Jersey's own Rinaldo Brothers. Overall the concept is clever, but the execution is slow paced. You can tell the boys are reading from scripts. Maybe this flies in New Jersey...

Everything was produced very clearly. Each instrument was well recorded as well as the vocals. Several songs on the first side were too tinny, too processed. Watch out for over-processing and always listen to what you just recorded. The equalization sounded unbalanced on the high end. The vocals are competent, but I would have gone for another take on several of the pieces. There was also a wonderful example of my nemesis — that evil fake sax sound. About one third of the phrases worked, the others fell short.

This is an example of a "concept tape." Tom's Rinaldo Brothers come to life in this tongue-in-cheek variety pack of '50s and '60s throwbacks. Under the guise of producers, the infamous Rinaldos covered a lot of styles. In most cases they were faithful renditions of Beach/Surf songs, Fifties doo-wop, '60s rock. I should also mention the classic J-card and liner notes, which are very professional. They also have a photo of the Rinaldo Brothers (plus a guy in a trench coat) and inside a present day picture of the Rinaldos. I'm just guessing that Kevin is the heartbreaker of the group.

About the project Tom says, "The concept is that the three Rinaldo Brothers (Sean, Kevin and Tim) were undiscovered local New Jersey genius producers and songwriters in the late '50s, '60s, and early '70s who just never broke nationally. They also were greedy and somewhat sleazy, and it's no surprise that they were busted for payola, and served time in a minimum security prison. This album is a chronicle of their somewhat lurid and mediocre career, and features the Brothers performing their "greatest hits" themselves. There's also an interview which was (actually) broadcast on MFMU, East Orange, NJ. The complete story is told in the liner notes. The Brothers are myself (Timmy), Pat McGarrigle (Sean), and Bill Craig (Kevin)."

If you aren't clear on the concept, pick up a copy of Scandal! The Rinaldo Brothers! ■

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



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

Missing or Damaged Issues?

Every month we mail out thousands of issues and every month about a dozen get "misplaced" by the Post Office. If you're ever one of the winners of this lottery, just give us a call (503-227-6848, 8 am - 8 pm Pacific Time) and we'll be happy to mail a replacement copy — no prob. (However, if you accuse us of nefarious schemes to "rip you off," you will be offered a refund and given helpful subscription info for other musician magazines.)

This Holiday Season Give Your Ears 20/20 Vision!

In the Dawn of the
New Age of Electronic Music

a new light



christmas

IT'S AN ELECTRIFYING
SONIC SENSATION
RE-DEFINING ORCHESTRAL
PERFORMANCE

*Share the New Sound in
Classical Music That's Destined
to Become a Classic!*

The East Pacific Symphony
Performs Timeless Holiday Favorites
Plus works by
Rachmaninov, Prokofiev, and Audd
With tributes paid to
Britten, Moussorgsky, Ravel, & Adams

This holiday season when you give the gift of music
you're giving the gift of love with

a new light ~ christmas by **eps**

Conducted by Richard Audd - Produced by William Simonsen

To Order: Send Name, Address & Phone No.
Along with check or Money Order to:

RMA MUSIC

11012 Ventura Blvd. #1265, Studio City, CA 91604

CD **\$12.95** - Cassette **\$8.95** Plus \$2.00 S/H

CA residents add sales tax (8.25%)

VISA/MC call: (818) 842-4450 M-F

Understanding Envelopes in the VXF and SD Synths

Part 5 — The Back Page

Robby Berman

Those of you itchy (or twitchy) of finger may have noticed that beyond the first two pages in VFX and SD envelopes, there is yet a third. Though this page has no name of its own, it may well be the most fun since the options found there get you spectacular results without the tedium inherent in programming envelope Levels and Times. It's this month's topic — let's call it Page 3.

I'm going to cover what's available on Page 3 in an order different from the way the features are laid out on the screen in order to maximize our pleasure (triple our fun?). You'll need the programs we created in our earlier get-togethers (Issues #94, #96, #98, & #99). Get 'em and load 'em. Headphones wouldn't hurt either.

A la Modes

Select the program LOUD+SOFT and press the Env 3 button three times. Welcome to page 3. On the lower left part of the display, you'll find the word MODE (with the ever-popular = sign after it). Press the soft button below MODE and use the Up button to scroll through the possible settings: NORMAL, FINISH and REPEAT. These terms describe different ways an envelope can operate.

NORMAL is the way we've been using envelopes so far (it's nice to be normal occasionally). When MODE is set to NORMAL, envelope Levels and Times behave in the manner described heretofore.

In FINISH mode, things are a bit different. With FINISH, the envelope basically ignores everything you do after you strike the key on the keyboard. Mutiny, I tell ya! Actually, this is a great convenience for percussion sounds or notes that you want to last for exactly the same duration every time you play them. It also allows you to let go of the keyboard to scratch your nose, or maybe even play something else. What happens is that after your keystroke, the envelope plays through all the Levels and Times you've set up on their respective pages, with one exception: Since you're not holding down a key on the keyboard, it skips over the SUSTAIN setting, going immediately from DECAY 3 right into the final return to the manual setting, the duration of which, as always, is determined by your RELEASE Time.

Let's demonstrate this with LOUD+SOFT. First play Middle C (and hold it down for a while) just to refresh yourself on what our program sounds like. Now set MODE to FINISH.

Strike Middle C, let go and listen — see? Your little baby doesn't need you anymore.

The only tricky thing to remember about FINISH is its impact on your available polyphony: Don't think that because you've let go of the key, you're not still using a voice. If you're playing a sound based on a looped wave (this would include everything but percussion/drum waves) the voice you're using won't get put back into the pool of available notes until the envelope finishes its thing. Non-looped/percussion waves operate a little differently: The voice is available again as soon as the sample plays through, regardless of where the envelope is. Also, when programming, the fact that a note will play until the envelope gets good and tired of doing so (as opposed to when you're good and tired of it) can be annoying, though you can switch the MODE back to NORMAL to stop it.

When MODE is set to REPEAT, the envelope will keep repeating itself for as long as you hold the key down — it Takes it From the Top immediately after DECAY 3 brings the level back to the SUSTAIN setting. When you finally let go, the envelope moves into the RELEASE-timed journey back to the manual setting. Try this. Select GORIGHTWARD. Press the Env 1 button three times. That's the envelope we used to move our pan position rightward and back, etc. Set MODE to REPEAT. Also, just cuz life is so short, let's set all of our TIMES to 50 so that we won't have to wait so long to hear what's going on. Hold a note down long enough to hear the envelope go 'round and 'round. The little short panning hop you hear in the middle is our halfway drop from BREAK 2's 50 Level to SUSTAIN's 25.

The Higher You Go, the Briefer You Fly

Press the Env 1 button again to get back to Page 3. In the top left of the display is KYBD-TRACK, an abbreviation for "keyboard tracking." This feature is designed to aid in the simulation of the many acoustic instruments whose notes get shorter and shorter as they get higher and higher in pitch. Pianos, guitars and other plucked and struck instruments exhibit this characteristic.

If KYBD-TRACK is set to +00, no matter where you play on the keyboard, the envelope Times will remain exactly what you set them to be on the TIMES page. When you set KYBD-TRACK above +00, notes higher than Middle C will have their DECAY 1, 2 and 3 times increasingly shortened the further up the keyboard you play. Likewise, they'll get length-

ened the further below Middle C that you play. Setting KYBD-TRACK to negative values will reverse this: The lower you play, the shorter your DECAY times, and vice versa. Your ATTACK and RELEASE Time settings are unaffected by keyboard tracking.

Let's try it. Select GORIGHTWARD again. Set KYBD-TRACK on Envelope 1's third page to +99. Also, before we listen, set the SUSTAIN Level to 00, so that the sound will end up back in dead center (as opposed to a little off to the right as we had it before), just to make this easy to hear. Okay, ready? Visually follow along on the LEVELS page to see what's going on. Hold down Middle C until the sound goes right, back to center, right again and back to center again. Note how long it took. Now play the C two octaves up. See how it takes ATTACK the same amount of time to get over to the right the first time, but how quickly it comes back, goes right, and comes back again? Experiment with different notes all over the keyboard to see how their distance above or below Middle C affects the shortening or lengthening of their DECAY Times. If KYBD-TRACK is set to values less extreme than + or - 99, the effect will be less extreme.

Velocirapture

Select our program UP+DOWN and press the Env 1 button thrice. On the bottom of the screen you'll see VEL-LEVEL, which is the Velocity Level Control. The word "velocity," when used in a synthesizer/sampler context, refers to the degree of force with which you strike a key on a keyboard, and not so much how fast you play it, as the word's normal English usage would imply (though I guess they're related phenomena). When you play a key softly, it would be said that you're using a low velocity amount; hit it hard, and that's a lotta velocity. Also, the word "Level" here refers to envelope Levels (or, remember, amounts of change called for by the envelopes), not volume levels.

What VEL-LEV does is allow you to set up your envelope so that your envelope Levels only reach the values you've set them to on the LEVELS page with the hardest keystrokes. Softer playing will be as if you had set your Levels lower. It's like those tests of strength at carnivals where you hit a lever with a mallet, making a weight shoot up a track on the side of a post. The harder the mallet comes down, the higher up the post the weight travels, and the hardest mallet strikes cause the weight to hit the bell at the top. Think of the set Levels as the bell at the top of the post. Without VEL-LEV, no matter how hard you strike a key, your envelope Levels will remain the same — VEL-LEV makes things considerably more dynamic. It's especially useful when, for instance, you want the sound to get brighter as you play harder, such as in piano simulations (more about that next time). Let's demonstrate VEL-LEV with UP+DOWN, where what's happening can be made really easy to hear.

The first thing to do is get our bearings. Without changing anything, play and hold down Middle C. Listen to how high up the pitch is pushed by our PEAK and BREAK 2 settings. Now set VEL-LEV to 99. Strike Middle C as hard as you can without breaking a) your keyboard, b) your keyboard stand or c) your finger, and hold the note down. UP+DOWN should sound the same; the envelope should get the note just as high up into the stratosphere as it always has. Now play a note as softly as you can and hold it. Doesn't go up so high, huh? See why? With VEL-LEV set to its max of 99, only really hard keystrokes will get the actual envelope Levels, and therefore the pitch, up to where we programmed 'em. Play notes softer, and the actual Levels (and the pitch) won't go up so high. Try playing Middle C with varying degrees of force (and hold the notes down) to see how different velocities'll get you up to different pitches.

Lower VEL-LEV settings allow you to use less force to reach the set Levels, which for you non-Popeyes out there (okay, us non-Popeyes) means you won't have to hit the keys so hard to ring the bell. To find a comfortable setting, start at 50, then go lower if you want to be able to utilize velocity without having to play so hard, or turn it up if you want to play harder still.

Making the VEL-LEV feature even more customizable is VEL-CURVE in the upper righthand corner of the Page 3 screen. Get out your *Musicians Manual*, turn to page 8-33 and press the soft button above VEL-CURVE. The Up and Down arrow buttons will reveal ten velocity response curves, which are pictured on page 8-33. What these options represent are ten different ways your VFX or SD can respond to velocity in order to suit most effectively the way you personally play. The graphs in the manual use velocity as their horizontal axis and envelope Levels as the vertical. For those of you who are algebraically challenged like me (They were right! I did need to learn this! Aaarrghhh!), I'll try to explain them, in no particular order.

The LINEAR response curve would mean simply that the harder you play, the higher your envelope Levels would be. If you used the LATERISE curve, you'd get no increase in your envelope Levels with low to medium keystrokes. Once they were medium or harder, they'd rise quickly and smoothly to the set envelope Levels. QUICKRISE is the opposite: All the action's in the soft to medium keystrokes, so that once you've reached a medium amount of velocity, you've already hit the ceiling. The convex curves (there are three of them, each more subtle than the last) would cause your increasingly hard keystrokes to have a strong effect in the beginning, and then slow down around the middle velocities. The three concave response curves (each more radical than the last) would be the opposite.

If you find these distinctions a bit subtle, you're right. Whose hands are precise enough to be able to scientifically test these out? Even Ensoniq used to use a robot they named Mr. Dink

to make sure their keyboards correctly produced these velocity response curves. Still, it's all part of the company's effort to provide as playable a keyboard as they can. For your own use, examine the graphs and pick a curve that seems to describe the way you want to play when you use velocity. And then experiment with the others until you find the one that feels most comfortable to you.

ATTACK of the Velocirapture

The last untouched spot on Page 3 is VEL-ATCK, which is short for Velocity Attack Control. This lets velocity change the ATTACK Time of an envelope, as long as that ATTACK has been set to some value other than 00. The available range for VEL-ATCK is 00 to 99. With a VEL-ATCK setting of 00, the ATTACK Time on the envelope TIMES page will be in force, regardless of velocity. With higher VEL-ATCK settings, the harder you play, the lower (and faster) the actual ATTACK Time will be. Playing softly will invoke the set ATTACK value.

Call up our very first program, RAW WAVES. As we programmed it so very long ago, Envelope 3's INITIAL and PEAK are both set to 99, which makes the effect of ATTACK hard to hear since ATTACK is the time it takes for the envelope to travel from the INITIAL Level to the PEAK Level, and here they're both the same. Change INITIAL to 00 and

change ATTACK to 50. Play a Middle C and see how the sound fades in as we travel from INITIAL to PEAK at an ATTACK speed of 50. Now, on Page 3, set VEL-ATCK to 99 and play a note real softly — the note should come in the same gradual way it did a moment ago. Now play a note hard. Whoa! Listen to how instantaneous our trip from INITIAL to PEAK has become! Try playing at different velocities to see how they lengthen or shorten the ATTACK Times. As with VEL-LEV, you can set VEL-ATCK to values lower than 99 to give your wrists and fingers a break (perhaps an unfortunate choice of words).

Well, that's it for Page 3, and, in fact, for the mechanics of envelopes altogether. Thanks this time go to Ensoniq's Ray Legnini, Jim Boggia and Bill Whipple.



Next time — THE FINAL EPISODE: Applications. ■

Bio: Robby Berman is a musician and recording engineer living in that way that he has just outside of Woodstock, NY. His latest album is "Rings and Rings."

Who says you have no RESONANT FILTER?

The ASR-10 and EPS-16 PLUS can now go "Bwaaoooww."

The REZ FILTER algorithm is a striking re-creation of an analog synthesizer, the classic Minimoog. A four-pole low-pass resonant filter is coupled to a lightning-fast ADSR envelope generator. The filter's resonance control (also known as emphasis, bandwidth, or Q) gives it that distinctive analog sound by creating a sharp peak in the frequency response. This peak is swept by the envelope or any modulation source. It does things you can't do by sampling an analog synth.

To demonstrate some applications of REZ FILTER, the disk comes with a collection of raw Minimoog samples that come to life when they hit the resonant filter. But what you want to do is warp your own sounds, and you can— you'll quickly be transforming your entire library of clean digital samples into fat and juicy *dweeps*, *bwops* and *darnts*.

The REZ FILTER effect algorithm also incorporates some of WAVeBOY's trademark **parallel effects**: both **chorus** and **reverb**. Other fun features include a choice of single or multi-trigger modes on the envelope generator, and a sample-and-hold.

But wait... **there's more**: this disk includes another algorithm that does *frequency modulation* (FM.) Again, an example sound is included that sounds terribly much like the DX-7. But The DX-7 used only sine waves—you can go further. This algorithm allows you to modulate any sound with any other sound! The results can

be unpredictable: really crazy, really fat, and sometimes really grungy. Like REZ FILTER, FM+FX includes chorus and reverb which can be added to the FM output or used for other sounds on BUS2.

The RESONANT FILTER disk is just \$39.95 direct from WAVeBOY Industries, including shipping. Foreign orders, add \$6, PA residents add 6% tax. Use Visa, Mastercard, money order or cashier check.

WAVEBOY Industries

P.O. Box 233,
Paoli, PA 19301 USA

order by phone:
(215) 251-9562



Creating Pads on Ensoniq Synths

(Okay, and Samplers, Too, With Some Diddling)

Sam S. Mims

Pads are one of my favorite types of sounds. Perhaps used only to play whole note triads in a song, and then placed so low in the mix that the part is almost inaudible, a pad's role is surprisingly important. If you were to suddenly pull the innocuous pad completely out of this mix, the song would sound as empty as the cat section at a Doberman convention.

A good pad has several important qualities: It can sit in a mix quite transparently, yet still sound large on its own, and it incorporates lots of sonic motion to break the monotony of long sustaining whole notes. The first of these may sound like opposites, but a sound can be large and transparent at the same time.

I thought it would be enlightening to walk through all of the steps of creating a sound from scratch, so let's do just that. Here is a "How-To" guide to creating good pads on the Ensoniq synthesizers. The patch we concoct is one that I'm creating as I write this, to demonstrate how this is done in the real world. I'll focus specifically on the VFX/SD-1 family, but this all applies equally as well to the TS-10, the SQ-1/KS-32 group, the ESQ/SQ-80, and even the EPS/ASR samplers. (You'll have to juggle some parameters around if you're using one of these other instruments, but the concepts all apply.)

Apparent Transparency

What enables a sound to be transparent in a mix? Not completely invisible, you understand, but unobtrusive — a sound that you don't notice at first. Your ears jump to the vocal line, to the guitar riffs, to the hard snare drum backbeat — and only if you listen for it do you notice the airy pad in there.

Obviously, the part itself is usually unobtrusive, with long sustaining notes, but another important factor is that the sound is not blanketing the frequency spectrum, fighting with the other instruments to conquer a particular range of frequencies. A good pad sound should be pared down to a narrow range of the upper frequencies. This keeps it out of the bottom end, where the bass guitar dominates and where clashes are deadly, and out of the mid frequencies where the guitar and piano are already fighting it out. The pad should sit nicely on top, like a frosty mist over a heavy snow.

To accomplish this, it is best to start with some sort of sustaining, airy sound, such as the VOX-OOOHS or the VOCAL-PAD waveforms in the VFX. To create our pad, first set up a DEFAULT voice. Do this by choosing any sound, then pressing Select Voice; underline Voice 1, go to the Copy page, and for ALL VOICE PARAMETERS, select DEFAULT. This creates a "generic" string patch. Mute all but this one voice. Now, making sure our default STRING voice is selected, go to the Wave page, and change the waveform from STRINGS to VOX-OOOHS. This gives us the basic foundation for a pad: a smooth, sustain-

ing, airy sound with a moderate release time.

Now, for the transparency part. Go to the Filter section, and select the 2-pole low-pass filter for Filter 1 and the 2-pole high-pass filter for Filter 2. Set the cutoff frequency of Filter 2 to 64 (do this easily by pressing both the down and up arrows simultaneously), and you now have a much more transparent voice. We've rolled off the low frequencies of the sound, so that the pad will not clash with the bass and mid-range instruments. Depending upon the specific application, you may want to roll off even more, by increasing the cutoff frequency.

For Filter 1, unless you want a dark sort of pad, you should leave the cutoff frequency pretty much all the way up to retain the airiness of the sound.

Now let's make the voice's envelope a bit smoother. On the Env 3 page, set the INITIAL level to 60, the ATTACK time to 15, and the RELEASE time to 48. For a bit more expressiveness, set the VEL-LEV to 17; this gives the patch some response to key velocity.

Making It Big

We're sounding pretty good already, with an amazingly small outlay of time and frustration. But let's take this baby to the next step. Let's make it "bigger" sounding.

This requires us to use another voice, and we'll want it to be very similar to the one we just programmed. So instead of starting from scratch again, go back to the Copy page, and for ALL VOICE PARAMETERS, press MAKE COPY. This copies our voice into the copy buffer; now, let's put it somewhere usable by underlining Voice 2 on the Select Voice page, pressing Copy once again, and selecting RECALL. Now, we have written Voice 1 into Voice 2 as well. On the Select Voice page, make sure that Voice 2 is now underlined and not muted. (Voices 1 and 2 should both read VOX-OOOHS.)

The oldest trick in the synthesizer book is the detuning of two oscillators, and that's what we're going to do now. On the Pitch page of Voice 2, set the FINE parameter to -07, then select Voice 1 and set the same parameter to +07. This detunes the two voices by 14 cents, but the tuning is still centered around A-440. (If we had merely adjusted Voice 2 to -14, for instance, the patch would sound flat.)

We've made no radical change to the sound, yet if you mute one of the voices, you'll be able to hear that we've made a nice, yet subtle, change. Such subtleties are the keys to good programming. While none of these changes may sound earth-shattering on their own, they will all add up later into an excellent sound. Ignoring them will leave you mired in mediocrity.

So, our patch is a bit bigger, but let's expand it even more by panning one of the voices to the left and the other to the right. On the Output page, set the PAN parameter of Voice 1 to 15; for Voice 2, set it to 85. Now we have some spatial dimension to the sound. (The Church Lady responds, "Isn't that spatial...")

Now let's go for even more largeness by changing the waveform of Voice 2, in order to add more sonic complexity. On the Wave page for this voice, merely click VOX-OOOHS up a notch to VOCAL-PAD. Nice! This waveform is tuned an octave lower, so we get some bottom end, yet with the high-pass filtering we set up earlier, the patch still remains airy and transparent.

Emotion in Motion

We're doing great so far, but let's now tackle the aspect of sonic motion. Sustaining our present pad for four bars is okay, but let's make it a little more interesting for the listener. Let's make it move around while it's sitting still.

First, let's add a bit of extremely subtle and slow pitch variation. The detuning gave us a pleasant effect of "beating," which occurs when two sources are slightly out of tune from each other. This beating is somewhat like chorusing, and especially when smoothed out by the VFX's effects, it's a very nice result. But when we now add some pitch variation, the degree of beating will change over time, adding another nice dimension to the sound.

We'll use the LFO to set up this pitch variation, and we'll apply it in opposite directions to the two voices. In other words, when Voice 1 is modulated slightly flat, Voice 2 will be going sharp by the same degree. We'll want the same LFO parameters for each voice, so let's use the group edit feature. On the Select Voice page, rapidly double-click the Select Voice button, and both Voices 1 and 2 will be underlined. Any changes we make will now apply to both.

Go to the LFO page (notice that GRP is flashing, for "group edit"), and set up a slow sine wave oscillator with the following parameters: RATE=18, MODSRC=PRESS, MODAMT =+03, LEVEL=20, MODSRC=PRESS, DELAY=40, WAVESHAPE=POS/SINE, and RESTART-MODE=OFF. You can hear the effect of this already by playing a note: our pad is now seasick. But take note of some more subtleties before proceeding. We have a slow modulation in pitch, key pressure will increase the mod rate and the mod amount ever so slightly, the DELAY parameter fades in the overall effect in a subtle way, and with the RESTART-MODE off, the LFO cycle doesn't start at the same place with every note. All this adds up to subtle randomness, and that gives a sound more of a human quality.

Now, let's tame that seasickness. Select only Voice 1 now, and on the Pitch Mod page, set the LFO parameter to LFO= -06. Do the same for Voice 2, but set it to +06. What we've done is set up Voice 1, which is normally tuned slightly sharp, to wiggle in a flat direction (hence avoiding going more out of tune), and

Frustrated ? Bored ? Can't speak owner's manual ?



RELAX . . . and watch TV !

They're finished !

SD-1, TS-10, KS-32 and the unbelievable ASR-10 Instructional Video Tapes!

Each tape set takes you from novice to expert and beyond. You'll be answering questions you couldn't ask before! All of these videos are multiple camera shoots. You see a concept and goal on a chart, then the necessary actions are explained and finally you see each finger movement and button push needed to finish the project goal. We'll even walk you through common mistakes and the work around. You can't misunderstand a video! You will ***Master Your Keyboard !***

The KS-32

The TS-10

The ASR-10

The SD-1

6.5 Hrs \$119.95

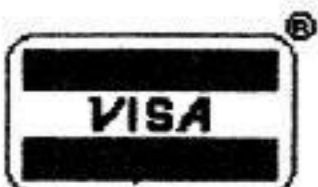
7 Hrs \$119.95

8 Hrs \$119.95

5.5 Hrs \$89.95

- The most detailed information and instruction of *any keyboard video* in the **WORLD !**
- More Tips & Short Cuts. • More Answers to the **MOST ASKED QUESTIONS** on the keyboards.
- A permanent video reference library for the future. (You might sell it someday . . . Nah!)
- Great gift packages for Christmas, birthdays or for someone you love. (Like yourself)

Call or FAX Marilyn today to place your order.



covert videos 519 east I-30 suite 144 rockwall, tx 75087 [214] 722 1601 FAX [214] 722 1404



vice versa for Voice 2. This works because we used the POS/SINE waveform for the LFO, rather than just the SINE wave. Chalk up one more very subtle variation.

For more animation, let's modulate the panning of the two voices. But wait — we've already used up the LFO. There are two alternatives: (a) we could use the same LFO as a pan modulator, or (b) we can set up the unused Envelope 1 to do the same. I choose (b).

Once again, go into group edit mode, and go to the Env 1 page. Now press Copy, then DEFAULT, and we're given a big list of preset envelopes. Scroll all the way upward, to SLOW LFO, and choose YES. Now, Envelope 1 is set up to mimic the slow LFO that we are lacking. Get out of group edit mode by selecting

Voice 1, and go to the second Output page. You'll see that LFO is selected for the panning MODSRC (mod source); change this to ENV 1, with a MODAMT of +65. Do the same for Voice 2, except use a MODAMT of -65. Listen closely, and you can hear the vocal waves swishing back and forth in stereo (use headphones if you have them handy).

Want to see how far we've come? Play a nice open minor-9 chord, and sustain it for a couple of seconds. Now, mute Voice 2 and play the same chord. 'Nuff said? Those subtleties really add up.

Write your new patch to memory, name it HACKER-PAD, and save it for a subsequent issue. You thought we were finished? Ha! It's a nice pad, but we're only halfway there! ■

“Transforming” and Other EPS/ASR Remix Effects

Tom Shear

Okay, I admit it. I'm a bit of a music freak. I'm the bonehead who would actually pay \$30 for an imported CD by my favorite group. I'm the guy that'll buy the single for a song I already own on an album, just to get the song on the B-side. It's my money! So why don't you just get off my back!?! Ahem...terribly sorry...now where was I? Oh yeah, *and* I'm a real fan of remixes. For those to whom this might not be a familiar term, a remix is when an artist lets a producer or DJ mix a new version of their song, often to increase its dancefloor potential. Remixes often have different rhythm tracks than the original, or new keyboard parts...some are almost barely recognizable because they've been reworked so extensively. As you might suspect, just as in any other craft, the world of remixing has some common techniques that you might be able to utilize effectively in your own work.

One such technique is called “transforming.” Fans of rap and techno-rave music will definitely recognize this effect. An example can be found on the “Tekno-Metal Edit” of Sir-Mix-A-Lot's mega-hit “*Baby Got Back*” single. Here they have sampled Robert Plant's vocal from an old Led Zeppelin song. One will notice, however, that it's been transformed into a choppy, rhythmic phrase that sounds like someone is rapidly turning the volume of Mr. Plant's vocal up and down very quickly in a rhythmic pattern — almost a rhythmic tremelo. This is essentially what transforming is. The remixer rapidly alternates between between a sound of some sort and silence. This effect is sometimes made by using the mute button, but there are many other ways of doing it. Either way, one will get the same tell-tale choppy rhythms. Used properly, this effect can boost a song's dancefloor potential through the roof. But how can I, a mere amateur with no mixer and no clue, get results like the big boys? Well, let's fire up the ol' EPS-16+ and find out.

First find an unlooped sound with an ascending or descending pitch — air raid sirens work nicely — and sample it. (Trans-

forming can be used on sounds with a static pitch, but this isn't as common or as interesting...). Make sure the envelope is set to something with an immediate attack and no release time. Now press EDIT-WAVE and scroll until you find the MOD page. Set the MOD to START and the SRC to WHEEL (you'll want to make sure to turn off any LFO modulation that may be assigned to the wheel). Press the right arrow again so you're on the MOD AMT page. Set this to +99. Next you will have to set the RANGE. Start it at 32K and try playing a sixteenth note rhythm pattern of some kind while slowly advancing the mod wheel. Experiment with different range settings until you find the one the seems to work right for your individual sample. Basically you want it so that when the mod wheel is at rest, it plays the whole sound from the beginning and when it is fully advanced, it plays the sound only from the last tiny fragment of the sample. If the fully advanced wheel gives you silence, you've set the RANGE too high.

Now mess around a little bit. Record a funky drum beat and try playing your transformed sample on top of it in different patterns while playing with the mod wheel. One advantage this technique has over “real” transforming is that one can easily go backward and forward through the sample in real time. Don't feel you have to strictly copy what real transforming sounds like either. Try recording patterns into your sequencer where you



move the wheel completely randomly throughout the sample — I've been able to get some startling rhythm tracks this way. If you readers find some interesting variations on this or other remixing techniques, drop us a line, we'd love to hear about it! ■

Bio: Tom Shear isn't as cheesy as this picture would seem to indicate, but he's real close.



Cases for Ensoniq Equipment

Now available direct from factory (except in current dealer areas) our full line of ATA cases Category I and II

- Keyboards:** EPS, EPS-16 PLUS, VFX, VFX-sd, SQ-80, SQ-1, SQ-1+, SQ-2
- Module rack cases:** 3-space, 4-space, 5-space, 6-space. (2-space racks available with surface mount hardware only.)

Mention the (TH) code number 839 when inquiring to receive our special factory direct pricing.

CALL US AT 1-800-637-6635

8:00 am to 4:30 pm CT, Mon. - Fri.

We accept: COD, Visa, Mastercard, American Express.
Dealer Inquiries Welcome!



Shown: 4-space rack with EPS-16 PLUS module, 2-space rack, Eagle-I VFX-sd case



OPTI-CASE • RT. 6, BOX 235 • HENDERSON, TX 75652 • FAX: 903-657-6030

**TS10
TS10
TS10**

VoiceTM Crystal

You should really see what Eye & I / Voice Crystal has cooked up for your TS-10!

- **VCITS10:** 60 Voice Disk that brings new power to the TS-10. Heavy Acoustic, Pad and resonant filter tones!
- **VC2TS10:** 60 Voice Disk that gives your TS-10 soothing rich patches and contorting vector emulations.

Each Disk only \$39.95!

Call Eye & I Productions today for the Voice Crystal dealer near you!

1-800-726-7664

VoiceTM Crystal

- **VCASR10:** 25 Diskette Sample Library that gives new meaning to the word "generous"! A whopping 268 *NEW Samples* for your Ensoniq unit! No matter what style of music; orchestral, acoustic, soundtrack, hip-hop or special effect, it's in here!

Also for EPS16+ and TS-10!

VCASR10 is only \$199.95!

Call Eye & I Productions today for further details!

**A
S
R
EPS
PLUS**

Tweaking the Learning Curve

The KS-32 Talking Owner's Manual

Pat Finnigan

Product: The KS-32 Talking Owner's Manual (TOM 5).

Price: \$14.95 plus shipping and handling.

From: Talking Owners Manuals, 21405 Brookhurst, Huntington Beach, CA 92646.

Just when I thought Dan Hakala and associates at Talking Owners Manuals were taking a vacation, guess what arrived in the mail today? Yup, *TOM #5* for the KS-32. This time the efforts of their button-pressing lead us into the user interface of the KS-32 and its plethora of operations. While the format of this tape follows the same clear and concise format of their other Ensoniq-oriented teaching aids, it goes a step further with the KS-32 with its color-organized menu groupings. Since there are more than a few differences between the SQ series instruments and the KS-32, I would be very critical reviewing this offering. I can enthusiastically state, for the record, that this tape is not a kludge of previous SQ operations with an addendum of KS-32 specific functions: it's a new from-the-ground-up production.

For instance, a detailed tutorial of the KS-32's "Layer lock" function is provided, along with setting differing levels for each instrument within a preset in this manner. The color coding of the front panel menus is explained, and examples are provided to illustrate this hierarchical organization. Major emphasis is placed on using all the available modulation sources, and specific examples are given. For instance, the mod wheel reverb delay time routing of the factory "Grand Piano," the aftertouch Leslie fast-slow switching algorithm of the "Jazz Organ" patch; examples of this type are given every step of the way. As with other *TOMs*, you're asked to zero your cassette recorder at a given point so that you can note counter readings per "chapter" for review purposes. "Default" preset templates are also discussed in length, so if you accidentally pick Instruments 4-8, you'll already know that the reason your KS isn't making any sound is because those tracks are MIDI-defined outboard tracks.

Fortunately, the narrator does not use a monotone easy-listening FM-inspired voice that would rather lull you to sleep ("WASOL: the brown spot on your dial") than provide individualized instruction, so you're sure to pick up on what's happening wherever you start the tape. Funny, it sounds like an East Coast voice; coming from Huntington Beach, I expected a little more valley in the accent. Just an aside...

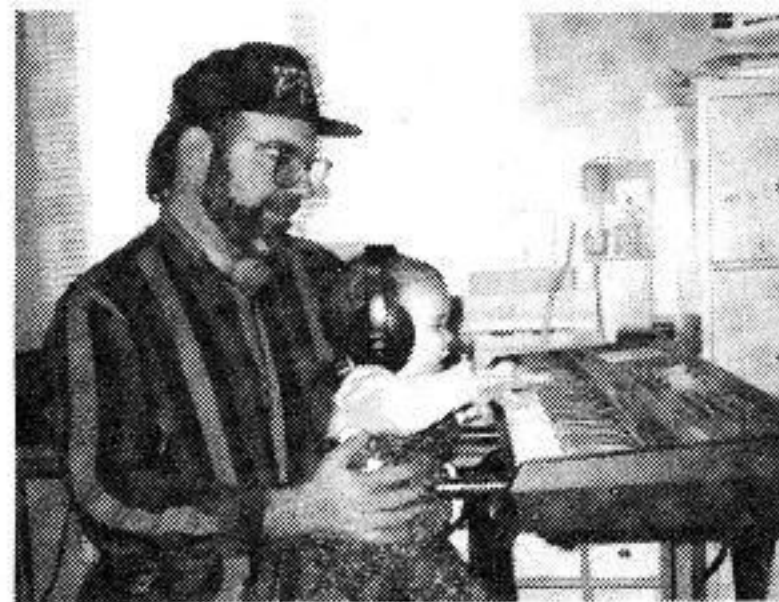
Again, the quality of work and instructional material in this tape is excellent, as are *TOMs 1-4*, and even veteran users are sure to discover shortcuts in KS operations upon first listening of this tape that would take a year to dig out of the *Musician's*

Manual. That in no way is a reflection upon Ensoniq!

As I've continually stated, the *Musician's Manual* of all Ensoniq gear represents a highly specific hardware technical document presented in easy-to-understand and easy-to-use text that is the standard of the industry. But you can't be all things to all people; it's the nature of the beast. The *Musician's Manual* becomes a reference manual when combined with this tape. And, if your behavioral patterns are anything remotely similar to mine ("I wanna play with my new toy, not read a book!") I go to the documentation when I get stuck ("When all else fails, read the owner's manual"). The real beauty of the *Talking Owner's Manuals* is that they are interactive: You listen to the tape while you play the keyboard while you read referenced sections of the *Musician's Manual*. And not necessarily in that order. Still can't get a handle on FX1-FX2 routings of the "Chorus and Reverb" algorithm in a preset? Rewind to xxx, read pages xx-xx in the *Musicians Manual*, and press "Play." It's like one of Ensoniq's demo sequences in tutorialspeak.

Conceptually, electronic music instruction can be labyrinthian: not just the wave, the envelope, the mods, the modulation, but mix in MIDI, Xmit and receive channels, Omni/Poly/Multi/Mono/Local modes, and all of a sudden electronic music becomes a course in physics, acoustics and electronics. The *Talking Owner's Manual* for the KS-32 represents the single most important addition and the best value for the dollar spent that you can invest in your KS (or any Ensoniq product, for that matter) to untangle all of these concepts. The tape is high-quality oxide mastered from DAT, and all the background music behind the narration is performed on Ensoniq instruments; you'll hear that the first time you listen to the tape that these guys have a KS-32 in front of them: if you're a critical listener, the guy doing the sequencing is no slouch. These guys do a ton of post-house audio as well as their own A/V productions, so the tape is a professionally-produced training aid. Hierarchically organized in format, concise in execution, easily understood and integrated/ digested, *TOM #5* represents the quality of offering we've come to expect from Ensoniq, yet it's available through the third-party channel. A programmed

teaching aid, well thought out, documented and assembled, and for less than a CD? Unbeatable. A must-have for any and all KS-32'ers out there in the spanse. ■



Pat & Chelsea.

TS-10 Wavestation

Steven Smith

What? TS-10 Wavestation? Yep, the TS is a wavestation. Ensoniq's version is termed Hyper-Wave. In this article we're going to look at the basic parameters and their functions. But first, wavestations in general. A wavestation can take two or more basic sound waves (from within its own memory) and perform them in a specific sequence. It works something like this:

Initial Example:

A) First we create a list of waves in a specific order. Ex.: 1) Piano
2) Cello 3) Trumpet 4) Guitar

B) We assign the "wavelist" as the waveform for our selected voice.

C) We set the other parameters just as we would any non-wavelist voice (EG's, Filters, Output, etc ...).

Now when you press a key, the basic sound will mutate from sounding like a piano into a cello then to a trumpet and finally ending with the sound of a guitar. The next concept should be familiar to anyone who has worked with a sampler. These are the LOOP parameters. In a sampler we must choose a section of a single waveform to repeat over and over. In a wavestation we choose a group of waveforms to repeat. In the example above, we could assign the voice to repeat the last two waves in the list. Then when we played a key, the sound would mutate like this:

Modified Example:

Piano -> Cello -> Trumpet -> Guitar -> Trumpet -> Guitar
(Repeating the "Trumpet -> Guitar ->" for as long as we hold the key down.)

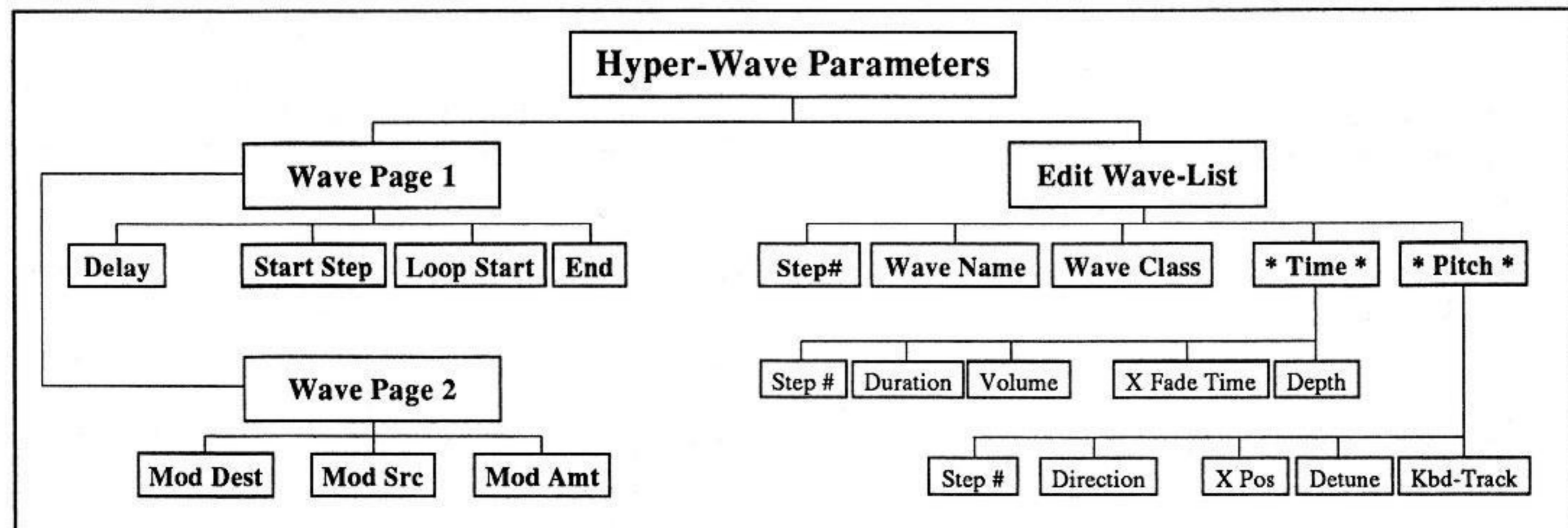
The TS's wavelist is sixteen waves long. We don't have to use them all, but it's nice to have the power as you'll see later. In the example above, we only used a list 4 wave-samples long and didn't discuss any of the extra features. As we look at wavestations further, I'll continue on in context of the TS's parameters and operations only. I hope that before continuing this article you'll look over the following sections in the *TS-10 Musician's Manual*:

About Wave-Lists	Pg. 157 – 159
Hyper-Wave Specific Wave Parameters	Pg. 177 – 179
Wave-List Editor Parameters	Pg. 188 – 190

To activate the TS's wavestation, go to the Program Control Page and select the WAVELIST option. The editing of the wavelist will require us to toggle between two groups of parameters. The first group is accessed via the EDIT WAVELIST page and the second group is the WAVE page. Diagram A: Hyper-Wave Parameters is designed to demonstrate the TS's Hyper-Wave editing structure. Some of the parameters are grouped differently in this diagram than you will find on your screen. The grouping in the diagram should ease basic understanding of Hyper-Waves.

Edit Wave-List

The first task is to select up to sixteen waveforms and place them in the order we desire. Each place is termed a step. All Wave-List pages contain the step option allowing you to change the current step you are editing parameters for without having to exit to another page. We start with step 1 and assign the waveform we want to hear first, then advance the steps and continue this process for all steps. When assigning waves, you can scan the TS's waveform memory one wave at a time (Wave Name) or by groups (Wave Class).



After setting up the wavelist order, we can access several other parameters under two sub-pages, TIME and PITCH. All the Edit Wave-List parameters globally effect any combination of the 4 voices set to play the wave-list.

Under the *TIME* section are the following parameters:

- Step** — Current Step number being edited
- Duration** — The amount of time the voice plays this wave unaltered
- Volume** — The volume level of this individual step
- X Fade Time** — Amount of time used to mutate the sound of this wave into the sound of the next wave
- Depth** — How much the two waves will be blended (before and after the half way point in X Fade Time)
- Exit** — Return to the main Edit Wave-List page.

Time values are listed in milliseconds. (“00504” = .504 seconds, “03000” = 3 seconds.)

Under the *PITCH* section are the following parameters:

- Step** — Current Step number being edited
- Direction** — Waveform play-back direction: forward (normal) backward (on drugs)
- X-Pos** — Transpose the pitch up or down 3 octaves in semitones.
- Detune** — Fine tuning for getting in between the semitones.
- Kbd Track** — Determines if the pitch of this step changes with the keyboard notes (or does not).
- Exit** — Return to the main Edit Wave-List page.

Wave Pages 1 + 2

The parameters of Wave Page 1 + 2 only pertain to the currently selected voice. For this article we will only look at Wave Page 1’s parameters.

- Start Step** — Which waveform/step will sound first
- Loop Start** — Which waveform/step will the loop begin with
- End** — Which waveform/step will the loop end with

We’ll start by constructing a sound that matches the initial example at the head of the article. First perform the following steps to initialize a Sound.

Initialize

- Select Sound: R4-9 “The Groove” (#6)
- Press: Program Control/Option = Drum Map/Decrement (Down Arrow)/Yes
- Env 3/Copy/Type = ?? / change to = Full On/Yes
- Filter/Cutoff = ?? / change to = 127*

Create a Wave-List Sound

- Press: Program Control Option = None/Increment/Wave-List

Assign the Wave-List to the First Voice (oscillator)

- Press: Wave/Waveform/change to Wave-List

Tell This Oscillator to Play (and repeat) Only the First 4 Waves in our List

- Press: End = 16/Change the value to = 4

Assign the First Four Wave Forms to Match Order of the Example

- Press: Select Voice/Edit Wave-list/Step = ?? / change this value to = 1 /Wind+Reeds / change this to Keyboard / Notice “Wave = Gnd-Piano” now
- Step = 1 / change value to = 2 / Brass+Horns / change to String-Sound /
- Wave = Nylon-Gtr / change to SoloCello

- Step = 2 / change value to = 3 / Vocal-Sound / change to Brass+Horns
- Notice “Wave = Trumpet” now

- Step = 3 / change value to = 4 / Cymbals / change to String-Sound
- Notice “Wave = Nylon-Gtr” now

Now when you play a key on the TS-10 you will hear the sound shift through these different tone colors in the proper order. Let’s slow them down a bit so we can hear it more easily.

- Press: Time / Dur=00192 / change to = 504 (set this same value for steps 1-4)

Did you notice that the 4th sound was an octave lower than the other 3? Let’s fix that.

- Press: Exit / Pitch / Step = ?? / change to = 4 / Xpos = +00 / change to = +12

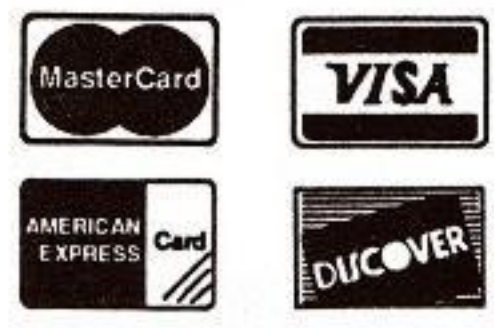
Now it’s your turn. Experiment! Review the basic descriptions of the various parameters, experiment with them one at a time, then in combinations. Remember, the other three Voices can be assigned to play the Wave-List and have separate Start, Loop and End steps. In Part II of this article we will further explore Hyper-Wave and see how many different types of uses we can create. Anyone wishing to obtain a demo disk with the different uses of Hyper-Wave to be discussed can send me \$5 to cover the disk and postage: Prof. Steven Smith, Division of Music, Jacksonville Univ., 2800 Univ. Blvd. N, Jacksonville, FL 32211-3393. ■

Bio: Steven Smith is currently the instructor of electronic music at Jacksonville University in Florida. Steve composes/sequences music for original dance performances, video and live performance; plays sax/flute/keys in the famous (not) duo with the very creative name, “Schubert and Smith.”

THOROUGHbred

MUSIC INC.

Your Music Department Store!



(800) 800-4654

FAX (813) 881-1896

ARMADILLO CASE COMPANY

KEYBOARD CASES
CARPET COVERED OR ATA

PROTECT YOUR INVESTMENT!

	CARPET COVERED	ATA
EPS, EPS-16+, SQ-1/32 ASR-10, Mirage, Mirage DSK	\$119	\$235
SQ-2/32, KS-32	\$150	\$270

midiman™
Guaranteed for life.

Syncman
MIDI Sync Box
WAS \$249
NOW ONLY \$199

TransMidi
Turns any audio wireless system into a wireless MIDI system.
RETAIL \$499
NOW \$369

NOW IN STOCK!
CUSTOM DESIGN YOUR OWN CASE!



MM-401 ONLY \$59
IBM COMPATIBLE MIDI INTERFACE



APEX \$149



Z-28 \$39⁹⁵



DELTEX \$99

ULTIMATE® KEYBOARD STANDS

Lowest Prices on Anything Musical in the USA!

The *Real* Voice Crystal Review

Pat Finnigan

Product: Voice Crystal Studio Series Disk Set (VCASR10).
For: EPS-16+, ASR-10, TS-10.
Price: \$199.95 (MSRP).
From: Eye & I Productions, 930 Jungfrau Court, Milpitas, CA 95035,
(408)-945-0139.

Yikes! I was thumbing through last month's *Keyboard* and read a pretty scathing review of some Eye & I samples for some Ensoniq products. Since many of my favorite SQ-1 patches from the SC-1 ROMcard were developed by Eye & I for Ensoniq, I was really curious about what happened to their sample library. After all, *Keyboard* rarely torches someone's wares unless they're really terrible, and for the same company who made such great sounds for the SQ to offer a \$200 sample library of junk just didn't make any sense. Considering the subjectivity of sound review, I decided to make my own decisions and share them with you.

Actually, the set is quite comprehensive — a “recommended daily voicing allowance” chart a la FDA nutritional guidelines is given on the box, so already they're telling me that this is meat and potatoes and not some kind of elitist pate. Hmm, back of the box gives a complete listing of all sounds in the library grouped by family (Brass, Percussion, Ensemble, Reed/Wind, New Age, etc.). And I haven't even opened the first disk box or seen the documentation. Good start.

The documentation is excellent, with each disk catalogued by instrument size, location, patch select variations, mod wheel variations, and effect. For the complete novice, some General MIDI info is included for Disk #19 (GM drumset) so they won't have to figure out GM drums default specs (MIDI Channel #10, note # assignments, etc.) All info on all disks, all patches, sizes, etc. is on 3 single-sided sheets of paper (third party sonic retailers take note). I x'd the chart and left it on my stand for reference...

The bad news is, yeah, some of the sounds are bogus: Voice Jazz, a 2-disk set of 1915 blocks, may be voice, but it sure ain't jazz: no scattin' here. Then again, vocal samples are usually pretty specific samples of words/phrases for pretty specific applications (see the ASR-10 Rap demo). So I don't understand why such a big block of minimum application is doing here. The Piano disk (Disk #1) isn't anything to erase the Ensoniq piano disk over, but there is a 138 block “Low Cost Pno” that's actually pretty good in the mix for memory-conscious 16+'ers out there. And if you're really memory cheap, there's the 70-block “Miracle Pno” that, of course, sounds much better than the Nintendo version. Peculiarly, the “JD-800 Pno” allows mod wheel vibrato in the top octave; editing the one lone sample up in that key range fixed this, of course, but why...

What really sticks in my craw was the way Steve Santana diss'ed the Guitar 1 disk (Disk #4). Yes, it's true there's a release velocity click/tick when you lift a note. Nate, at Eye & I,

told me this was to simulate the buzz when a guitarist lifts his hand from the fretboard. What Steve Santana didn't say was that the Guitar #2 disk (Disk #5) doesn't implement release velocity and doesn't behave this way. So, you can have your guitar both ways. Convenient omission or cursory/perfunctory review on *Keyboard's* part, I dunno...

“Chromatic Percussion” on disk #3 acted pretty strange. When you play a note it drones on until you deselect it or select another instrument/track. Acts more like an ASR-10 bug rather than a wave problem.

The “Pedal Steel” sample of Disk #6 sounds like an O1/W lift; the steel's pretty good in the top half octave and then turns oboe below C4. Disk #2, the “E.Piano/Organ” disk gave me a “Disk not formatted” message. Disk #17, “New Ager” is a really great sound with a poor loop. I reverse bow-tied with a scale of 3 and it came out much better, albeit with a decrescendo in the wave that speeds up with higher notes...

Disks 23-25 are the “Mega-Bass Demo” disks, and some careful attention to detail is evident here. The “3-way Sax” is indeed a 3-layer velocity split, the “Mega-Bass” is velocity switched with patch selects bringing in key-up slaps and slides. It's not as economical as Ensoniq's “Round Wound”; at 1239 blocks it commands as much memory as any acoustic piano samples you may wanna stuff into your “4096 free blocks” machine. And guys, enough with the “Hall Reverb” on the bass patches. Anybody out there know a bass player who uses ree-verb?

Many of the percussion disks use a limited random pitch modulator on particular samples (like the snares and cymbals) so your drum tracks won't be so static; very “humanized” drum sounds that will bring new life and animation to your older sequences. And, at long last, we have a bagpipe sample for Ensoniq instruments! Yes, complete with drones in the lower half and single notes for the upper, it's St. Patty's day every day! The bassoon includes patch selects for pitch and filter sample and hold; now there's something for you Zappa-esque 200 Motel'ers. And I still haven't figured out what a balaphone is, other than a 23-block instrument for use with this library. The electric guitars of disk #6 are typical strat-type rhythm samples with a Distinguished Service Medal going to the “Heavy Metal” 1156 block instrument. This is the “Rude guitar” of SD-1 fame with Quad-raverb GT-like DP/4 effects processing. Mondo cool for putting metalhead guitar babies into serious-like coveting of your keyboard. Two octave dive-bombing with feedback thru DDL: a little technical mod wheel-pitch bending prowess and hey, “No Stairway? Denied!” comes to mind...

There's 3 string disks in this library, two of which are chamber strings suitable for quartet work. The “JX strings” analog samples had way too much flange on them for me, so juggling effects algorithms for a minute gave me the big Oberheim-ish pad strings I was looking for. The cello sample without DDL and

a few chorus parameter tweaks gave me the perfect string backwash for ballads. The "harp lite" at 117 blocks is the most economical I've found, with both single note, delayed 4th and arpeggiation samples in one instrument.

I really could go on about the set but we're running out of space. This collection is the perfect partner for the factory disks that came with your ASR/TS/16+. I can't recommend it for the EPS Classic as, with many 3rd party wares floating out there in the ether, they're heavily dependant upon the effects algorithms for sonic impact. The disks, along with your 7-8 factory disks, comprise the complete library that'll give you more mileage than any other disks out there. The documentation is clear and concise, packaging is excellent (you get reusable disk boxes with the set, and I don't mean the cardboard blank floppy-type boxes either). There's enough percussion stuff for 808'ers to slam to, and the real bonus: most of the instruments come in a full-blown size and a "lite" low-cal (read low-block count) version, so it's guaranteed to work in the most memory-hungry machines. You

won't be searching for the alternate loop points to pare an instrument down to size just to make it fit: They've graciously done the "move the loop forward till you've entered the decay ramp" time-warp for you. With SIMM X x 8 memory rising due to a shortage, that's a pretty important consideration at this point. Support is right up there with Ensoniq customer service: I called and spoke with a guy named Nate who answered my questions as if he did the samples himself (forgot to ask!), and I didn't wait 10 minutes on hold at \$1.85/min to talk to him, either.

I think, perhaps, someone at Miller-Freeman Publications lost sight of the picture by focusing on the individual colors. So if you really had your mind set on goose pate, forget this set. This is an 11-course meal culminating in a quart of ice cream. Good stuff to edit and shuffle memory around for educational sampling purposes too. ■

Bio: Pat Finnigan is a service tech turned musician who writes secret messages in sequences on his EPS.

Classifieds

EQUIPMENT

Ensoniq VFX-sd w/road case. \$1000. Ensoniq DP/4: \$950. 510-658-2705.

EPS w/SCSI-able 4x expander, flight case, all documentation and 110 disks. \$1,350 or trade considered for SD-1 or hard drive. Steve: 904-744-3950, ext 7360.

SQ-80 like new condition. Never out of my house. Manual, 2 cartridges, 3 disks with 1000 sounds. No reasonable offer refused. Will ship. Call Mike after noon PA time: 215-253-3794.

Ensoniq EPS: 4x/SCSI, excellent condition. Home use only. CV and double foot pedal. Large sound library and all manuals included. \$900 obo. Rick, (812) 934-2649.

Wanted: an SD-1/32 or a VFX-sd with the 32 voice update. 904-893-8873, Andrae.

Moog #2, used for RCA recording 1969. Good condition. Hans Wurman. 922 North Blvd., Oak Park, IL 60301.

Emu Procussion, procussion module, \$550. Opcode Vision, version 1.4, Macintosh sequencer, \$200. Dr. T's Upbeat, Macintosh sequencer, \$70. All in excellent condition. 503-274-2572.

Wanted: Used SQ-R, any vintage. Contact Walt at 303-494-2995 evenings, 303-938-6033 days, or e-mail: whubis@csn.org.

EPS-16+ Turbo rack with Flashbank. \$1350. Bill Groener 503-638-5900 or 503-652-1574.

For sale: Ensoniq VFX with docs and sounds. Good condition; \$500. Roland GP-8 Guitar Effects Processor with marginally functional FC-100 pedal; \$275. 503-245-3752.

SAMPLES

Tom Shear announces 2 new volumes to his library of 16-bit synth samples for the EPS/ASR series samplers: the Korg 01/W and Yamaha SY sets! Both contain beautiful, ethereal timbres comprised of big layers of spectacular digital sound. If you need some expensive-sounding contemporary synth sounds, this is it! Korg 01/W - 4 disks: \$20 + \$3 s/h. Yamaha SY - 3 disks: \$15 + \$3 s/h. Send SASE for a free catalog of all my other great sounds too! Tom Shear, 255 Small Road, Syracuse, NY 13210.

EPS-16+ library for sale. Keel Production Synth Classic Collection - 20 disks, East/West Vol 2 & 3 - 60 disks, Misc - 40 disks. Paid \$1000. Selling for \$100. Call Yarrow, (718) 389-5054.

The *Hacker's* Jack Tolin presents CrossWave Sounds: The classic drums of the HR-16 (2-disk set; 49 sounds); SYNTH-BITS! - turn your EPS-16+ or ASR-10 into a synthesizer with these low-memory samples - M1 Series (5-disk set; 50 sounds). All disks are \$5 each (foreign s/h - add \$5.) To: Jack Tolin, 8405 E 91st St., Kansas City, MO 64138, phone: (816) 761-1128.

PATCHES/SOUNDS

Voice Crystal carts for VFX, VFX-sd, SD-1. Original set of 3 cartridges. \$50 for set. Near new, will be discontinued soon. Literature included. Call Dana at 303-530-7617.

KS-32 Patches! Have many patches in Galaxy format and would like to swap same with others. Contact Shep at 314-725-2663 or email: shep@informatics.wustl.edu

60 VFX-sd (SD-1) patches created by Jim Grote. Wide variety of sounds with complete documentation. Call for free Information Packet, or send \$30 for VFX-sd disk to: Jim Grote, 3721 Frances Ave., Cincinnati, OH 45211. Phone: (513) 661-8885.

ESQ-1 ROMs and 80-voice EEPROM carts in stock. VFX, VFX-sd, SD-1 ROMs too. Last call, limited supply, get 'em now or never. Cesium Sound. (510) 548-6193.

DP/4 Users. 120 new patches, (40) 1, 2 and 4 unit on patch sheets. Really 280 patches. No copies, no mods, use with fx send/Ret. Best for vox/perc, no amps. Send \$39.95 to David Kelly, 900 Princeton Terrace, Glen Burnie MD 21060.

Studio-Ready SD-1 Patches from composer Eric Olsen. A cut above the others, these sounds are designed to be used by the real musician. 4 Volumes at \$25.00 each. Check/M.O. to: Pegasus Sounds, 6050 Adaway Ct., Grand Rapids, MI 49546.

Only twenty dollars, now that's not much / Might find the sound you need in a clutch / Maybe when you jam it will be more fun / Sixty cool sounds for your SD-1. / Steve Mugglin, 110 Grant Ave, Deal NJ 07723.

MUSIC

NEW MUSIC done exclusively on Ensoniq's ASR-10. 20 songs: New Age, Dance, Orchestral and Pop. For a copy send Name, Address and \$10 (check or money order) to Lawrence Jarquio, 35-23 208th St., Bayside NY 11361

RECORDING

COMPACT DISC RECORDING: Any recording of yours can be transferred to CD. All you need to do is

supply a tape recording of music, (preferably DAT). Imagine YOUR music on Compact Disc! Excellent for demos or archiving. Perfect for low production runs. \$65 for one CD, \$40 for each additional. Call for information -> Jim Grote. (513) 661-8885 (eves).

SOFTWARE

NOW SHIPPING. For a limited time we will be shipping Address Professional version 1.0, release 2 for an unbelievable \$19.95 (MSRP \$49.95). A savings of over 50%! Now you can manipulate your mailing addresses unlike ever before. Contains 3 different data files as well as up to ten lists per address, per file. That's 300 different combinations for a single address. Also contains Zip Code Find/Fill Feature with Zip Utility and one-key dialing (requires you have Hayes compatible modem). System requirements are a 286 IBM or compatible with hard drive and approximately 3.6 Mb for full installation (900k for minimum installation). 512k of free memory and MS-DOS 3.3 or higher. Hurry, this is a limited-time offer and will expire without notice. \$19.95 plus \$4.00 s/h (U.S.) \$12.00 s/h (overseas), \$6.00 C.O.D. Call or send check or money order to: Midwest Digital Services U.S.A., 107 East Briney Street, What Cheer, IA 50268-0021. Phone: 515-634-2019.

MISC

SD-1/VFX-sd: "Companion" - Easy instruction manual for beginners, \$18.95. Traditional sound sequences for special occasions, hymn accompaniments for use with any hymnal. Custom sequencing and DEMO production. Dan Briggs, DATA BASE MUSIC PRODUCTION, Box 1164, Archer City, TX 76351.

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. *** Photocopies of out-of-print past issues of the *Hacker* can be obtained by calling Jack Loesch, 908-264-3512 after 6 pm EST. *** Folks in the New York City area can get copies of unavailable back issues of the *Hacker* - call Jordan Scott, 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 25 cents per word per issue (BOLD type: 45 cents per 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 take ad dictation over the phone!

DP/4 "Hackerpatches"

Dave Kelly

Patch: Pebbles

This is a 1-source, 4-unit patch I designed to be used as a vocal patch and on snares. The chorus and flanger provide a sense of smoothness to the patch, especially on snare. If you want to use this with guitars, I suggest lowering the values of Parameters 3 and 4 on the chorus (LFO rate and width). The LFO rate and width on the flanger add a slight tone change when used on snares. If you don't like this effect, lower the value of these two parameters. On the two hall reverbs, if you want a more metallic sound, lower the values of Parameters 11 and 12 (room detune, rate and width). Increasing the values of these two parameters will appear to give a smoother, more pleasing decay when used with snares, but increasing them too high could make vocals sound out of tune. Experiment with Parameters 8 and 9 on the halls. Lowering the values of the diffusers will create a coarser decay which can still be very pleasing. Increasing the pre delay times can create an echo type effect which can sometimes be useful. Altering the times of the early reflections can drastically change the tone of the sound. Experiment. Changing Config Parameter 01 to serial will make the patch sound more distant.

Name: Pebbles

Use: Vocals / Snare / Ambience

Alg	8 Voice Ch	Alg	Hall Rv	Alg	Flanger	Alg	Hall Rv
01	85	01	58	01	46	01	68
02	99	02	99	02	99	02	99
03	19	03	2.86	03	13	03	3.08
04	47	04	3	04	06	04	4
05	99	05	+07	05	01	05	+06
06	00	06	37	06	00	06	38
07	0 ms	07	49	07		07	51
08	0 ms	08	93	08		08	74
09	00	09	81	09		09	99
10		10	35	10		10	33
11		11	44	11		11	14
12		12	48	12		12	20
13		13	+40	13		13	+37
14		14	12 ms	14		14	14 ms
15		15	14	15		15	13
16		16	18	16		16	12
17		17	29 ms	17		17	47 ms
18		18	30	18		18	17
19		19	31	19		19	29
20		20	+94	20		20	+78
21		21	+49	21		21	+62
22		22	+29	22		22	+34
23		23		23		23	

Notes: Configs: (00) 1 (01) Par (02) Ser (03) Ser (04) 00 (05) 00 (06) Mono (07) b (08) b (09) b (10) b

Patch: Owl's Eyes

This is another 1-source, 4-unit patch. I designed it to be primarily used as an ethereal guitar patch but have also used it on vocal phrases to create some interesting effects. I recommend altering the delay times of the phasers to correspond with the tempo of your music. The pitch shift and chorus patches are pretty standard but they add a sense of smoothness. If you prefer a more natural tone, lower the values of Parameters 3 and 4 on the chorus and Parameters 4 and 8 on the pitch shifter. This will have a subtle, but still noticeable, effect on the sound. With the phasers you can get as weird as you want. If you want an underwater sound, increase the values of Parameters 3 and 4. Altering the value of Parameter 6 in the phasers can produce some strange feedback effects. Changing the value of Parameter 12 on the phasers will drastically change the way the delays are perceived. The tones you can create from this type of patch are endless. Enjoy.

Name: Owl's Eyes

Use: Ethereal Guitar / Strange Vocal Ambiences

Alg	8 Voice Ch	Alg	Phaser/DDL	Alg	Pitch Shft	Alg	Phaser/DDL
01	50	01	99	01	89	01	99
02	99	02	85	02	99	02	99
03	09	03	12	03	00	03	26
04	18	04	23	04	-10	04	41
05	99	05	+09	05	99	05	+03
06	00	06	+07	06	-99	06	+56
07	30 ms	07	+99	07	00	07	+93
08	65 ms	08	Out	08	+10	08	In
09	02	09	Off	09	99	09	Off
10		10	250 ms	10	+99	10	250 ms
11		11	500 ms	11	Long	11	500 ms
12		12	00	12	02	12	-72
13		13		13	02	13	
14		14		14		14	
15		15		15		15	
16		16		16		16	
17		17		17		17	
18		18		18		18	
19		19		19		19	
20		20		20		20	
21		21		21		21	
22		22		22		22	
23		23		23		23	

Notes: Configs: (00) 1 (01) Ser (02) Ser (03) Ser (04) 00 (05) 00 (06) Stereo (07) b (08) b (09) b (10) b

Adjust delay times on phaser to match song tempo.

Prog: Primal Organ

By: Walter Cooper, Latter Sounds

Notes: I wanted to name this patch "Ear Bleed." However, due to the naming system I use, Primal Organ was chosen. Crank this baby through your amp. It's got enough top end to make your ... It's interesting to note that I created Primal Organ while convert-

ing an SD-1 organ patch of mine. The patch would not convert — and I haven't been able to convert Primal Organ to the SD-1 either.

WAVE	1	2	3
Select Voice	On	On	Off
Wave Class	Waveform	Waveform	
Wave	OrgVar1	OrgVar4	
Delay Time	000	000	
Wave Direction	-	-	
Start Index	-	-	
MODSCR	-	-	
MODAMT	-	-	
Restrk Decay	05	05	

LFO	1	2	3
LFO Speed	38	38	
Noise Rate	00	00	
Level	09	09	
Delay	66	66	
MODSRC	Wheel	Wheel	
Wave	Tri	Tri	
Restart	Off	Off	

AMP	1	2	3
Initial	99	99	
Peak	99	99	
Break	99	99	
Sustain	99	99	
Attack	20	20	
Decay 1	20	20	
Decay 2	20	20	
Release	20	20	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Convex	Convex	
Mode	Normal	Normal	
KBD Track	00	00	

PITCH	1	2	3
Octave	0	+3	
Semitone	00	00	
Fine	00	00	
ENV1	00	00	
LFO	+02	+02	
MODSCR	Env1	Env1	
MODAMT	00	00	
KBD Ptch Track	On	On	
Glide	Off	Off	
Glide Time	-	-	

FILTER	1	2	3
Filter 1	3Lo	3Lo	
Filter 2	1Lo	1Lo	
FC1 Cutoff	067	067	
ENV 2	+40	+40	
FC1 KBD	+79	+79	
MODSCR	LFO	LFO	
MODAMT	00	00	
FC2 Cutoff	078	078	
ENV2	+47	+47	
FC2 KBD	+65	+65	
FC1MOD-FC2	On	On	

OUTPUT	1	2	3
VOL	88	88	
Boost	Off	Off	
MODSRC	Off	Off	
MODAMT	-	-	
KBD Scale	00	00	
Key Range	-	-	
Output Bus	FX1	FX1	
Priority	Med	Med	
Pan	00	00	
Vel window	000	000	

ENV1	1	2	3
Initial	64	64	
Peak	99	99	
Break	67	67	
Sustain	00	00	
Attack	00	00	
Decay 1	07	07	
Decay 2	18	18	
Release	24	24	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Convex	Convex	
Mode	Normal	Normal	
KBD Track	00	00	

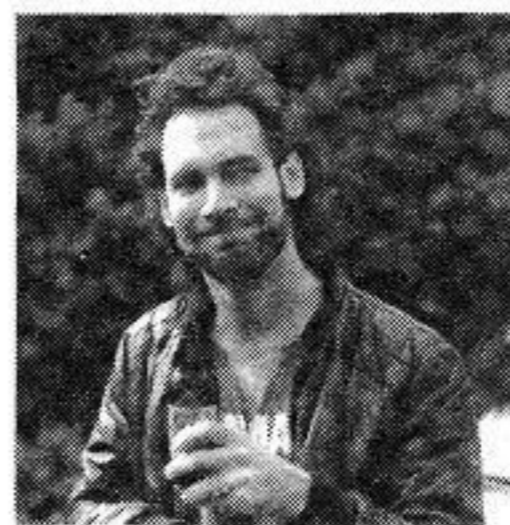
ENV2	1	2	3
Initial	00	00	
Peak	38	38	
Break	00	00	
Sustain	00	00	
Attack	02	02	
Decay 1	02	02	
Decay 2	40	40	
Release	16	16	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	Q-Rise	Q-Rise	
Mode	Normal	Normal	
KBD Track	00	00	

EFFECTS — CHORUS AND REVERB

FX-1	15	Chorus Level	53
FX-2	00	MOD (Dest)	Fdback
Decay time	42	BY (MODSRC)	Wheel
HF Damping	00	MODAMT	+77
Chorus Rate	22		
Chorus Depth	17		
Chorus Center	50		
Feedback	-13		

The Hack: A nice patch from Walter. Here's a few ideas: The Octave +3 setting in Voice 2 defeats itself by simply running out of room at the keyboard's top extreme. Let's have this voice play a more important part in the patch. Many organ stops use an added harmonic tuned to a 5th. So, in Voice 2's Pitch Section, change OCT to +0 and SEMI to +07. Go to the Output Section and balance the level: VOL=62. If you'd like to really use the ENV 1 MODSCR in the Pitch Section, for both voices try MODAMT = -10. Fine "tune" the LFO: for both voices, in the Pitch Section, let LFO=00, we won't use it there (it's too harsh). Go to the LFO Section for Voice 1: we'll use it to compliment the Effects more effectively (??) Adjust LEVEL to 24. Jump to the Effects Section. Change CHORUS RATE to 21 and

CHORUS DEPTH to 15. Modulate DEPTH by Modwheel, +10. Those who are truly primal may want to experiment with the DIST+CHOR+VERB effect as an alternative.



Jeffrey Rhoads

Bio: Jeffrey Rhoads is a keyboardist/composer on the Philadelphia Jazz and R + B scene. He has an interest in cinema and has developed some film courses. Jeff 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.

Pending Hacker-Requests: SQ-1/2 – An "Elton John" Oberheim Bass patch — like in *Rocket Man*.
 SQ-1/2 – Good Electric guitar — similar to Wah-wah on the Korg 01/W.
 SD/VFX – A sitar patch.

ESQ Patch: MELPNO

by Carlos Macias, Ft. Lauderdale, FL

MELPNO is a deep, rich electric piano. With a soft attack, you get somewhat of an organ type of sound. Opening up the filter FREQUENCY to about 11 gives a slightly brighter sound.

The Hack

I like the timbre of this patch, but the amplitude envelope is a bit too organ-ish, not decaying like a piano would. To fix this, I changed L3 to 0 and T3 to 50 on the ENV 4 page. I also wanted some stereo motion, so I set up LFO 3 as follows: FREQ=08, RESET=OFF, HUMAN=OFF, WAV=TRI, L1=63, DELAY=02, L2=55, MOD=OFF. Then, I used LFO 3 as a panning modulator on the DCA 4 page, with a depth of +63.

For a bit of a fatter sound, try using BASS 2 or E PNO2 as the OSC 3 waveform. For more of an FM piano sound, turn the SYNC function (Modes page) to ON.

ESQ Patch: GIGORG

by Rocky Troxler, Kenner, LA

I have used GIGORG as my old standby for many Top-40 band tunes. It is based on a factory patch (ORGAN), but has more movement. I have made double use of OSC 3, reshaping it so that it attacks, then comes back as another sustained oscillator to enrich the sound.

The Hack

I do like the motion of this one; the mod wheel effect is especially nice. I wanted to emphasize even more the attack of OSC 3, so I substituted the 4 OCTS waveform, which has more of a high-end bite to it. This gives more of a percussive sound, reminiscent of the B3. For a different approach, try setting the Filter RESonance to 31, then turn the LFO filter modulator to OFF, and set the FREQUENCY to 45. This gives a high-end sheen to the tone.



Bio: Sam Mims is a professional keyboardist and programmer, and the owner of Syntaur Productions in Houston. He currently works with Malaysian pop star Zainal Abidin, and tours throughout the world.

ESQ-1 PROG: MELPNO By: Carlos Macias, Ft. Lauderdale, FL

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	00	05	BASS	LFO2	-01	OFF	-
OSC 2	-1	00	03	BASS	LFO1	+02	OFF	-
OSC 3	-1	00	00	BASS	LFO2	-01	OFF	-

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

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	000	00	21	ENV2	+63	KBD	+32

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	08	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	OFF	ON	TRI	00	01	17	WHEEL
LFO 2	16	OFF	OFF	SQR	00	01	20	WHEEL
LFO 3	-	OFF	OFF	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+25	+08	+20	00	00	14	50	63	22	09
ENV 2	+63	+37	+16	35	37	00	10	23	20	09
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	+63	+63	+63	47	00	00	00	63	25	00

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	00	OFF	ON	OFF	OFF

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

ESQ-1 PROG: GIGORG By: Rocky Troxler, Kenner, LA

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-01	00	00	OCT+5	*OFF*	-	*OFF*	-
OSC 2	00	00	03	OCT+5	LFO2	001	*OFF*	-
OSC 3	01	07	00	OCTAVE	*OFF*	-	*OFF*	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	48	ON	LFO1	20	*OFF*	-
DCA 2	48	ON	LFO1	-20	*OFF*	-
DCA 3	00	ON	ENV1	50	LFO3	63

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	51	00	33	LFO1	-7	PEDAL	-038

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO1	10

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	27	ON	OFF	TRI	41	00	00	WHEEL
LFO 2	63	OFF	OFF	TRI	25	00	20	WHEEL
LFO 3	43	OFF	OFF	TRI	00	04	27	*OFF*

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	00	40	00	00	00	12	20	20	00
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	63	63	00	00	00	29	00	06	00

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	00	ON	OFF	OFF	OFF

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

SD & VFX Prog: GHOSTS

By: Walter Cooper, Latter Sound Productions

Notes: This is from Latter Sound's Volume 3 for the VFX. GHOSTS is my attempt to hang a few skeletons in the VFX's closet, and the name pretty much sums up the sound. Of course, moving the mod wheel forward then back adds a whole new dimension.

The Hack: If you are the audio portion of your family's Halloween festivities, then you'll definitely want to put these ghosts in your machine. The only thing that bothered me about them was that they settled down after a couple of seconds (after Envelope 1

completed its cycle of pitch modulation). The fix is simple; switch the MODE of Env 1 on Voices 1, 2, 3, and 6 to REPEAT, and the ghosts keep on howling. This introduces another artifact, though. The pitch now sweeps up rapidly when the key is released. Changing the RELEASE time of the same envelopes to 59 takes care of this. The mod wheel effect: very cool. It simultaneously drops the pitch (the WHEEL is the MOD SOURCE on the Pitch Mods page) and kicks in the LFO (WHEEL modulates the Rate and Level on the LFO page).

- Sam Mims

WAVES table with 6 columns and rows for Wave, Wave Class, Delay, Start, Direction, and Vel Start Mod.

MOD MIXER table with 6 columns and rows for SRC-1, SRC-2, SRC-2 Scale, and SRC-2 Shape.

PITCH table with 6 columns and rows for Octave, Semitone, Fine, and Pitch Table.

PITCH MODS table with 6 columns and rows for MODSRC, MODAMT, Glide, ENV1, and LFO1.

FILTER 1 table with 6 columns and rows for Mode, Cutoff, KBD, MODSRC, MODAMT, and ENV2.

FILTER 2 table with 6 columns and rows for Mode, Cutoff, KBD, MODSRC, MODAMT, and ENV2.

OUTPUT table with 6 columns and rows for VOL, MODSRC, MODAMT, KBD Scale, LO/HI Key, Dest Bus, Pan, MODSRC, MODAMT, Pre-Gain, Voice Prior, and Vel Thresh.

LFO table with 6 columns and rows for Rate, MODSRC, MODAMT, Level, MODSRC, Delay, Waveshape, Restart, and Noise SRC RT.

SELECT VOICE

SELECT VOICE table with 6 columns and rows for 00, 0*, *0, and **.

ENV1

ENV1 table with 6 columns and rows for Initial, Peak, Break 1, Break 2, Sustain, Attack, Decay 1, Decay 2, Decay 3, Release, KBD Track, Vel Curve, Mode, Vel-Level, and Vel-Attack.

ENV2

ENV2 table with 6 columns and rows for Initial, Peak, Break 1, Break 2, Sustain, Attack, Decay 1, Decay 2, Decay 3, Release, KBD Track, Vel Curve, Mode, Vel-Level, and Vel-Attack.

ENV3

ENV3 table with 6 columns and rows for Initial, Peak, Break 1, Break 2, Sustain, Attack, Decay 1, Decay 2, Decay 3, Release, KBD Track, Vel Curve, Mode, Vel-Level, and Vel-Attack.

PGM CONTROL

PGM CONTROL table with rows for Pitch Table, Bend Range, Delay, Restrike, and Glide Time.

EFFECTS (1)

EFFECTS (1) table with rows for Effect, Delay & Reverb 2, Decay, FX1Mix, and FX2Mix.

EFFECTS (2)

EFFECTS (2) table with rows for Delay Time, Regeneration, Delay Mod, Regen Mod, and Mix.

EFFECTS (3)

EFFECTS (3) table with rows for ModSrc and HF Cut.

PERFORMANCE

PERFORMANCE table with rows for Timbre, Release, and Pressure.

The Interface

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

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

Electronic mail - GENIE Network: TRANSONIQ, CompuServe: 73260,3353, Internet (via CS): 73260.3353@compuserve.com.

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

Dear Hacker,

A question to the Interface:

Let me start off by saying that I'm a happy EPS-16+ owner. However, one constant bug does irritate me a lot:

Why do the banks never seem to work? All goes well as long as I'm saving them but when I use a bank, the EPS asks for all the right diskettes but once inserted, it is totally unpredictable whether the sound will be loaded or not. Some sounds are, some not. The OS version is 1.30.

Thanks,
Mr. Kari Tukkiniemi
Oulu, Finland

[CS - When creating banks on the ASR-10 (or on the EPS or EPS-16 PLUS, for that matter) there are a couple of things to keep in mind.

First, the bank is really just a map of where sounds and sequences originally came from. If you save a bank and then change the location of a sound or sequence used in that bank (by saving the file to another disk, for example), the ASR-10 can become confused when trying to locate the original sound. It is important, then, to remember to always save bank files last, after sounds or sequences have been saved. This will guarantee that the bank file has the most current information about where files are located.

Second, if you are using SCSI devices (hard drives or CD-ROM drives, for example), the banks include information on the SCSI ID of devices from which files have been loaded. Therefore, it's important for SCSI ID numbers of peripheral devices to remain consistent.

Finally, you are probably familiar with the technique for loading an instrument into the ASR-10, and then copying the instrument to one or more new instrument/track locations. If you then want to save the sound to another disk, make sure to save the original instrument, rather than one of its copies. This will mean, of course, that you'll need to keep track of where you load instruments when first creating the bank, but it's a small price to pay to keep your banks straight.

Keeping all this in mind, if you're still having trouble with banks, I'd suggest contacting Ensoniq Customer Service (215-647-3930) directly. I'm sure they can help straighten out any other difficulties you might be having.]

Hello,

I recently picked up an Ensoniq ASR-10. I love it when it's not crashing or doing other "funny" habits. Sometimes I'll put in a disk with some samples on it, and after disk access, the contents WHIP by. Like the contents of a disk could be changed by the data slider, and someone is moving the slider back and forth as fast as they can!

I get "random" crashes (Error 144 - Reboot?). Why is the question mark there? You have a useless instrument, you must reboot. This is very annoying.

I called Ensoniq. They said I had a MIDI loop problem with my drum machine. I tried unplugging the MIDI cable(s). This seemed to help a little, but not enough.

They designed the disk drive compartment to have a slot just above where the disk goes. This slot is big enough for a disk to accidentally get into!! You have to be careful when inserting a disk. I've already had to pull a disk out of there.

I still love my ASR-10! It's so powerful at a great price.

Thanks a lot,
James Cheseborough
Rochester, NY
grace@moscom.com

[CS - It seems to me that there's a good chance you may have a problem related to the ASR-10 hardware. I'd suggest contacting Ensoniq Customer Service (215-647-3930) directly, and telling them exactly what you've stated here, and tell them I sent you. And as far as the disk drive compartment goes, perhaps you could just put a small strip of black electrician's tape across the slot. Not an elegant solution, perhaps, but maybe better than nothing.]

Dear Hacker,

I just got my first copy of the Hacker, and wanted to ask about a problem I am having with my set-up. I have had very poor support so far from Ensoniq, mostly telling me to talk to DigiDesign regardless of the questions. I have a Mac Centris 650, Apple CD-ROM drive, PLI 88-meg Syquest and the ASR. I want to be able to use the Sound Designer driver to upload/download samples from the different sources, and have had a great deal of trouble with communication. I got as far as the instrument/layer page and then the system freezes. Farting around with different cables now has the system refusing to boot (Mac) if the ASR is connected.

I wondered if 1) you can recommend a GOOD source for SCSI cables. The ones I have may be inconsistent, at best. 2) Do you have any hints on how I can get the ASR to act like the EPS-16+ when communicating with the Mac?

SPECIAL BONUS QUESTION. Anyone written a utility for formatting/copying/writing the new ASR Mac format disks on a Mac? Would sure make arranging disks easy, and perhaps allow fileserving instruments on a Mac server.

Thanks for your advice.
Peter Randlette, Staff/adjunct faculty
Evergreen State College
Olympia, WA
206-866-6000 ext 6279

[CS - The word from here is that no matter what you do, getting Sound Designer to work with the ASR-10 via SCSI is an if-y prospect at best, (although MIDI communications seem to work pretty well), and Ensoniq is not really sure why (you may want to try talking directly to Digidesign). One thing to keep in mind, though, is that Sound Designer's system for numbering devices is one number off from most of the rest of the world. This means that in Sound Designer you'll need to set the device ID to number 2, and SCSI ID to number 4 when setting up communications between the Mac and ASR-10 (even though the ASR-10 is device number 1 with SCSI ID number 3).

I'm afraid I can't recommend a source for SCSI cables, but I've had good luck buying cables designated as Macintosh SCSI cables from a variety of computer stores. And as far as the ASR-10 acting like the EPS-16 PLUS, in theory it should work like the EPS-16 PLUS as it is. My understanding is that Ensoniq is looking into reasons why it wouldn't behave like its predecessor, but this is one of those sticky areas where the company that provides the software needs to be involved as well. Unfortunately, at this time Digidesign doesn't seem to be all that interested in supporting the ASR-10, but that's just hearsay; you'd have to talk to them to get the final word.

And now for the bonus question. There is a utility created by Terje Finstad (a native of Denmark, I think) called EPSM which can read, write and format EPS disks on the Macintosh (these can be read by the ASR-10, of course; no word on whether the program will manipulate actual ASR-10 disks). The program is, I believe, shareware. You can reach Mr. Finstad on Internet (t.g.finstad@fys.uio.no). If you don't have direct access to Internet, it may be possible to go through another on-line service, such as CompuServe or PAN, to gain access. In the meantime, we'll see if we can't track down more info - keep

you posted.]

[Ensoniq - We are familiar with your problem and wish we had a better answer for you. We are not in control of DigiDesign's driver; we know that it does not work well, but can't fix it ourselves. Your problem is aggravated by the fact that your Mac has an 040 processor and we have found some SCSI compatibility problems with that processor. Unfortunately, at this time we do not have any fix for that, but we are actively looking into it. Stay tuned...]

Hey TH,

First, let me say what an absolutely pleasant surprise your magazine is. I'm a brand new owner of an ASR-10 and found your flyer inside among the other materials. I ordered my subscription immediately and spent an evening pouring over my first issue (September). Sure wish I'd have known about the mag last year when I owned my EPS!

I've got a few questions for your Interface column: I'm interested in a computerized sample editor for the Atari STe. Are there any out there (even older ones) that work with EPS/ASR samples?

Second, I can't seem to figure out how I'd go

Treat Yourself!!

ASR-10/TS-10/EPS

Samples from K. Thomas

Electronic Musician says —
"Sound Quality: 5 out of 5
Value: 5 out of 5"
[EM, Jan. '92]

Keyboard Magazine says —
"Beautifully recorded... incredibly smooth... rich... soulful... crisp and seamlessly multi-sampled."
[Jim Aikin, *Keyboard*, Oct. '91]

Free Catalog
Demo Tape ... \$8

K. Thomas

Box 174
Stratford, ONT N5A-6T1
Canada
Phone: 519-271-7964

about getting a sample out of my ASR and into the computer - there doesn't seem to be a command for a MIDI sample dump. Is this supported by the ASR-10? If not, does Ensoniq have plans to incorporate it in upcoming OS updates? Also, someone told me that the ASR will dump Ensoniq-proprietary format samples to a computer, however I can't seem to figure out how that would be accomplished, either.

If I'm not pushing my luck too far, I've got one more question that I can't seem to get answered by either my salesman or friends; it "feels" like a question that only Ensoniq can answer. Perhaps they're not even aware of the problem, perhaps other readers are having the same problem.

When I owned my EPS, I saved my banks on a SyQuest 88meg removable cart. Now that I've got my ASR-10, all my EPS banks can be loaded fine, but when time comes to save them, the ASR will write second bank file to the drive with EXACTLY the same name as the bank file it loaded - it never asks if I want to delete the original file. When I look at the file names in the directory, there are then TWO banks with identical names.

The only workaround I've found is to load the EPS bank into the ASR, delete the original EPS bank file from the disk, and save the bank to the disk again. At that point the ASR seems to "recognize" the bank file on the disk and won't write two identically named files again.

I've had this happen with instrument files, too, but not with the regularity of bank files. Is this a new discovery, or (more than likely) have you TH folks already hashed this one to death?

P.S. I noticed that you have a listing of hard drives that reportedly work with the EPS and EPS 16+. Let me add mine to the list: I've got a SyQuest 88 meg, Model ID 5110, which worked perfectly with my EPS and now works perfectly with my ASR-10.

Again, thanks for a great publication. Looking forward to my next 11 issues!

Gerry Leone
Victoria, MN
GENIE: G.LEONE

[CS - The only sample editor for the Atari that I'm aware of is a program called Genwave from Interval Music Systems, 12335 Santa Monica Blvd., #244, Los Angeles, CA 90025, phone: 310-478-3956. The program retails for \$349.00 (as far as I can tell), but check with Interval Music Systems before ordering it to make sure that it supports your sampler.

You are correct that the ASR-10 does not support the MIDI sample dump standard; it uses a proprietary Ensoniq format instead. Without

having a program (such as Genwave) that actually supports sample transfers and manipulation, though, I'm not really sure why you'd want to send samples to your computer. If it's to store samples on a hard drive formatted for your computer, be aware that transferring samples to your computer will do just that - transfer the samples and nothing else. This means that any programmed parameters (such as multi-sample split points, envelopes, LFO settings, digital effects, and so on) are not included with the sampled data, and would have to be re-programmed once the samples are transferred back to the ASR-10. Believe me, it's much simpler and quicker to simply save your sounds to ASR-10 floppy disks.

I don't discount the possibility, though, that you might have some less than obvious reason for wanting to send samples to your computer. If this is the case, I think you can probably get the information you need to create a dump request for the ASR-10 by writing to the MIDI Specification Desk, Ensoniq, Inc., 155 Great Valley Parkway, Malvern, PA. 19355. They'll be able to tell you what the specific request message consists of; it will be up to you to create the computer program that will send the request.

Finally, as far as the ASR-10 is concerned, EPS files and ASR-10 files are different file types, so the ASR-10 will happily allow you to have two files with identical names on the same disk (by the way, this applies to any files, not just bank files). This isn't a bug, it's just a fact of life, and I don't think there would have been any other way for Ensoniq to deal with this effect while maintaining compatibility between the EPS and ASR, and add new features to the ASR disk-drive (such as the ability to use HD disks). The only solution to the problem is the one you've already hit on - delete your old EPS files once they've been saved in the ASR-10 format.]

Dear TH:

I've been reading the *Hacker* for a year and a half as well as occasional issues dating back to the late '80s. It's one of the few magazines I look forward to getting.

Unfortunately, I'm the victim of yet another Ensoniq lemon. Both my SQ-80 and ASR-10 have now had to be repaired. I'm sure I'm not the only one who doesn't appreciate Ensoniq's or Clark Salisbury's ignorance about lemons. Yes, these are great products but like many computers they do fail at some point.

Also lately I've seen a lot of useless articles or letters published. *The Unexpected Hanging* from Issue #97 doesn't relate to many Ensoniq users, isn't about an Ensoniq problem and offers no solution other than don't buy or throw it out. Second, why is an article about VFX envelopes being published after the product's discontinuation? It should have

been published four years ago when the instrument came out. Finally, many readers have written in about simple procedures clearly explained in the manual – Create MIDI Instrument, patch select variations, etc.

Questions for Ensoniq – My ASR-10's main board is trashed and will be in the shop for a month. I have a few questions here.

1. Why can't you record mixdown and pan at the same time without stopping one or the other?

2. Is it possible to write an operating system which allows us to perform an effects construction routine so we can customize effects? I really need a 44 kHz chorus and reverb.

3. Is a sample recorded at 44.1 kHz running through a 30 kHz effect better sounding than a 30 kHz sample running through a 30 kHz effect?

4. How do you use the transwave loop function effectively? I always get static when modulating the position. Is the EPS, ASR transwave different from a VFX, SQ or TS transwave? If so, how?

5. I received a flyer in the mail which suggested I buy an ASR rack and get two sound sets free. This deal should apply to keyboard purchases too. The total cost of an ASR-10 rack with SCSI and 6 out is \$2899. Total cost of an ASR-10 keyboard with SCSI and 6 out is \$3250. In the long run you're making more money from us keyboard owners. We should get the deal too. Besides, you shipped the ASR with a poor set of sounds.

6. Could you make available a set of disks containing all waveform data from the SQ-80, SD-1, SQ-1 (32), and TS-10?

7. You sell thousands of ASRs and TS-10s which are equipped with 2 megs of RAM. Why doesn't Ensoniq sell SIMM modules?

8. Just to repeat some requests by other Hackers:

- Bar Beat key range for Shift Track
- Tempo Track
- Load samples while sequencer plays: Have an A and B section of memory. A doesn't get touched and contains sequence data as well as, say, instruments 1-6. B contains instruments 7 and 8 and could be given program changes (load new sounds) commands while a song plays back.
- Load and translate Akai, Roland and Kurzweil samples
- Phase coherent time compress/expansion

Readers, please write in and request this stuff if you want to see it in the future. Ensoniq does listen.

Thanks for the space,
John Thibeault
Lancaster, NH

[TH – While not knowing the particular history of your equipment, it doesn't seem that "requiring repair" automatically confers lemon status on otherwise respectable boards. We, ourselves, occasionally require repair.

And, while we are in a testy mood, we will address the issue of useless articles. You've probably noticed that the Hacker still publishes articles on the Mirage and ESQ/SQ-80 – many years after production has ceased. While everyone would prefer a magazine that only addressed whatever they find "useful," this may mean different things to different people. When Ensoniq discontinues instruments, that doesn't mean that everyone is required to stop using them. When yours is in this condition, we hope you'll still appreciate the occasional article.

Regarding specifics, while we've had lots of info on programing the VFX over the years, this particular series didn't exist four years ago and contains a wealth of info that really applies to practically any synth – especially Ensoniq synths and, in particular, the VFX's descendants. While The Unexpected Hanging seemed to be super-specific, we included it more to show the techniques and reasoning that should prove useful in isolating a variety of system problems.

Clark and Ensoniq will handle your technical questions – let's all hope that none of the answers can be found in the manuals...]

[CS – First, I have a lot of experience with electronic instruments and customer service, perhaps more than you might think. For 10 years I worked in the keyboard department of Oregon's largest professional music instrument dealer; for the last six of those years, I managed the department, which made me ultimately responsible for dealing with customer service problems, among other things. I have also been a musician, working steadily for the last six years, (and on and off for the last 20+ years), performing almost every week in the year, up to six nights per week (and relying on Ensoniq equipment the entire time). And I have many friends and acquaintances in all areas of the music business, who will often call me when they are having difficulty with one electronic instrument or another. My point is, I am not without experience when it comes to questions of service and product reliability.

All this is said not to minimize your problems; on the contrary, I think I am eminently qualified to sympathize. But apart from the fact that I have great confidence in Ensoniq as a company and the reliability of their products (which should not come as news to anyone who has read this column for long), I do feel the need to point out that a column like this can easily give readers a skewed idea of what product reliability and factory service are like. That's because in the real world, satisfied customers just don't write as often as dissatisfied ones. After all, when was the last

time you read a letter in the Interface that said, "Just wanted to drop you a note saying I bought a TS-10, and it works!"? Obviously, most readers would not consider this news.

So when you read letters in the Interface about one problem or another with a product from Ensoniq, please try to take into account the whole picture before drawing conclusions about Ensoniq products or product support.

Ahem. Now on to the rest of your letter...

2) New effects algorithms are created at a pretty technical level on the ASR-10, a level which is currently unattainable by the mortal man. There are, however, a number of new effects algorithms becoming available (one of which, I believe, is a 44-kHz chorus and reverb). The new effects are currently available on the CDR-3 CD-ROM disk, and should also be included in the next OS release. Stay tuned.

3) That depends. Theoretically, a sample which has been recorded at 44.1k would sound better, since there would be more samples to interpolate between when doing the conversion to 30k. It's possible, though, that extremely high frequencies present in the 44.1k sample might alias when converted to 30k.

ETHEREAL POP 

 **PRIMARY SCHOOL**

announces

the release of the **ULTIMATE**
collection of synth samples for
the **ENSONIQ ASR10 & EPS16**

*mini moog, arp 2600, pro1, juno 60, dx7,
d50, esq1, matrix 6, xpander, jd 800,
m1, sy85 & more... over 200 sounds!!!*



50 disks for only \$199
or get 10 disks for \$49
just tell us what synths you want!
send a check or money order to
ETHEREAL POP PRIMARY SCHOOL
P.O. Box 701266 Houston, TX 77270

4) Explaining the use of the Transwave function is pretty well beyond the scope of this column, and would probably be more appropriately addressed in a full-blown article (any takers?). Still, there are a couple of things to keep in mind when trying to create your own Transwaves.

The basic idea behind the Transwave is that a short loop can be moved through the wave and produce a usable sound wherever it happens to be. This means that the Transwave needs to have a specific pitch (in which whole-number multiples of the fundamental frequency fit perfectly between the loop start and end points), and that the Transwave's pitch must remain stable. The best thing I can tell you at this point is to experiment (I realize that it's not easy to create a Transwave that works), and in the meantime, we'll see if we can't put something together that goes into a bit more depth, and publish it here. And as far as I know, there is no difference between the way Transwaves are implemented on the ASR-10 and the VFX, SQ-1, et al - only that the actual wavedata contained in the synthesizers has been carefully designed to work with the Transwave function.]

[Ensoniq - There are a lot of dedicated and loyal people who work hard to design, manufacture and support the products we provide you. We all strive to do our best work

LEARN ROCK KEYBOARDS WITH YOUR MIDI SEQUENCER!

Introducing ROCK THROUGH MIDI An Incredible New Program For Learning Rock Piano!

Now you can jam, practice, and learn classic rock riffs and solos with your own rock band anytime you want. *Rock Through Midi* features over 60 rock sequences with drums, piano, bass and guitar, and has levels of skill for beginning, intermediate, and advanced players. A wide variety of rock styles are featured: Rock and Roll, Pop/Rock, Heavy Metal, Boogie Woogie, Blues, Latin/Rock, Soul/Rock, Rock Ballads, and more. Leadsheets are also provided with complete transcriptions of the piano parts. Available for Ensoniq SD-1/VFX-sd, EPS, ASR-10, Korg T-Series, Mac, IBM, Atari, Amiga (Type 1 Midifiles).



\$49.95



NEW SOUND MUSIC

P.O. Box 37363 • Oak Park, MI 48237

Phone: (313) 424-8619

and take pride in our efforts. Why you choose to lash out at us (lemon?) and then ask a slew of questions is beyond us. Is it to get us in a good mood to better help you?

Pre-question #1 - Your product should not have to be in the shop for a month for a repair because we use modular exchange, which allows us to turn around repairs by swapping boards quickly. Of course by sending in your letter to the Hacker, waiting for us to get it, reply to it and finally be printed you are getting this answer way after the fact. Next time you need a speedy reply to a service problem please call us directly.

1) That is the way the product is designed to work.

2-4) Clark went over these answers with us, so they already reflect our input.

5) That promotion was designed to focus attention and sales specifically to the ASR-10 rack, as a perfect addition to a keyboard setup. Perhaps we will offer another promotion in the future, but not right now. We are sorry you don't like the sounds that shipped with the ASR-10. We hope you feel better about the rest of our library.

6) We have no plans to offer this type of library. We have seen these type of disks from Rubber Chicken Software and other places.

7) The SIMM marketplace is very volatile, with pricing rising and falling on a weekly basis. We are too small a company to have the buying power to be competitive. The open marketplace is the best place for you to buy SIMMs; you can always be assured of the chance to search for the best vendor and pricing possible.

Thanks for your other suggestions and comments.]

Dear Faithful,

Ha! Just when you thought it was safe to go out and buy a new Ensoniq synth, boom! Out of the sky comes the deadly *Keyboard* reviewer to shoot it down before the poor keyboard is barely airborne. And it's a direct hit - right in the sound-generating engine.

Will the crippled synth survive? Stay tuned.

By now anyone who cares has read the Sept '93 *Keyboard* magazine review of the new Ensoniq flagship, the TS-10 synth. Reviewer Jim Aikin, never a big Ensoniq fan, basically rakes the new synth over the coals for its poor sound quality.

Now, before I rake Aikin over the coals for something as subjective as synth sound quality, I would like to point out that over the years, Aikin has done us all a favor, like it or not. He digs deep enough in his reviews to

pull out significant weaknesses, and yes, strengths, of the gear he's reviewing. I find his critiques to be the most thorough and enlightening of the bunch. Which doesn't mean that I always agree with him. Hardly.

So when Jim took the TS-10 to task over its questionable sound quality and took almost an entire page (p. 91) explaining why in a sidebar entitled "The Naked Truth," I started wondering about it myself, after recovering from the initial "Aikin bashes Ensoniq" syndrome. And this was after test-driving the TS-10 on three separate occasions at my local dealer and coming away impressed each time.

Now I've been with Ensoniq since the Mirage days, survived the VFX-sd fiasco and am ready to make the next leap forward with either a TS-10 or an ASR-10. I've always believed that Ensoniq works very hard to please its customers and offers more bang for the buck than anybody in the industry. So, for my peace of mind (and no doubt many others), I would like Ensoniq and Clark to address the issues raised in Aikin's review, specifically the areas covered in "The Naked Truth," that is, 1. Aliasing and the lack of extra multisampling in the upper ranges of certain waves 2. Muffled midrange ("no sparkle") and the 30-kHz sampling rate 3. Transposition artifacts and the TS-10's pitch transposition scheme (first order interpolation "not the most advanced technique in the industry," according to Aikin) 4. Poor loops and 5. Poor raw waveforms.

Your response will likely not affect my decision to buy another Ensoniq keyboard. And no doubt that response is already set for publication in the "Letters" section of an upcoming *Keyboard*. And, of course, no synth can please everybody, with design compromises inherent in an all-in-one-box synth such as the TS-10. But for us tried and true and especially for potential Ensoniq buyers whose decision may be swayed by Mr. Aikin's report, the world is waiting.

The TS-10 speaks for itself. All right, Ensoniq, take the gloves off and rip 'em up!

Sincerely,
Todd E. Henseler
Omaha, Nebraska

[CS - Let me just say that I was a bit surprised by the review as well. I think that the instrument sounds great, especially when used for sequencing multi-instrument compositions.

For example, I'm a partner in a company called Music & Sound Associates, which specializes in sound design and sequencing for a number of instrument and hardware manufacturers, and also creates production music (one of our partners has created music that's been heard on major network television, in shows including *A Current Affair*, *CNN Headline News*, and others).

Recently we had the opportunity to present demos of our music to a major buyer in New York. Several of the pieces that we included in our demo tape were sequenced and processed entirely on the TS-10, and recorded pretty much direct to DAT. These were not modest pieces, either, but full-blown production music with drums, French horns, strings, bells, hyper-wave pads – you name it! We felt completely comfortable presenting this music side by side with other music that had been produced using a garage-full of professional synths and samplers, as well as outboard processing. And guess what? We got the gig, and nobody said anything about the TS-10 pieces sounding dull or grungy.

So I guess I'm sold. And to put my money where my mouth is, if anyone out there wants to hear the music in question, just send me a self-addressed mailer suitable for mailing a cassette tape, with appropriate postage (probably a dollar or so will do), and I'll send you a dub of two or three compositions (these particular ones were created by Erick Hailstone) which feature the TS-10 and nothing but the TS-10. Send aforementioned mailing paraphernalia to me care of TH, and give me at least a couple of weeks to get it turned around.]

[TH – Just got the latest Electronic Musician – check out their review of the TS-10.]

[Ensoniq – Take off the gloves, huh? As tempting as it is to use the Hacker as a platform for a reply, we will simply address a couple of the global issues raised in that review.

Waveform ROM design – We designed the TS-10 wave ROM knowing that we were offering the ability to load sample disks. This means that whatever you don't have or like in the waveform ROM can always be replaced by custom sample disks, which can dedicate a much larger amount of memory to the type of wave that is important to you. We chose to offer a broad selection of material to be as comprehensive as possible in ROM, with RAM available for more expansive versions as needed.

Dedicating extra samples to cover the extremes of sounds that don't play over a 61-key range in real life seemed wasteful, as opposed to offering more diverse material. Any digital instrument will alias when waves are pushed past the point they were designed to be used over, but we feel we made the right trade-off, and you can use filter tracking or key-limiting voices if you desire to eliminate that possible aliasing. As a design principle we don't artificially constrict waves by key-limiting the samples so they don't play at upper ranges, we leave the tools available for you to impose that limitation of your desire. One person's noise is another's music.

We don't agree that the TS-10 has a muffled midrange, it can be plenty bright if you need. We didn't voice it overly bright, but that is

personal taste – it can be tweaked to be very bright if desired. A 30-kHz sampling rate is very common in our industry (has Korg suffered so greatly for using it?) and only a few current products have a 44.1 kHz rate currently. Just another memory versus quantity of sound trade-off that has to be made. If you consider adding the extra multisamples and increasing the output and sample rate, the TS-10 might have had 40% fewer different waveforms. Is that the right choice to make?

As far as interpolation algorithms go, we will simply say that Keyboard gave us high marks for our transposition performance on the EPS-16 PLUS and ASR-10, and they use the same algorithm.

We disagree with the bad loops comment. It was presented as a global observation when in reality it is a symptom of only a few samples. In the past Keyboard would always present that type of information as an observation of a few waves. Why we couldn't convince them that this presentation was unbalanced is beyond us.

We stand by the quality of the waves in the TS-10.

We (and, surprisingly, many other manufacturers) have spoken to Keyboard about the harshness of the review. We respect Jim Aikin's right to his own opinion, but in this instance we agreed to violently disagree. We suggest that all prospective customers listen to the TS-10 for themselves and form their own opinion.]

Dear Th:

I really like the Hackerpatch forms you publish! Has a form been developed for the EPS-16+ instrument configuration? It sure would help me manage the various options available to me as I tweak sounds I purchase or build my own instruments via sampling.

Also, is it correct to assume that Ensoniq will continue to offer the current line of EPS-16+ instruments into the future? I am somewhat concerned that as technological developments begin to date the 16+, the availability of instruments may dwindle.

Thanks and keep up the good work.
Bob L. Werntz, Sr.
Freeport, IL

[TH – Sorry, we've never really put together a standard chart for EPS patches. Once in a great while we'll have an article containing an "EPS patch" – and there's one that we've been trying to cram in here the last few issues. When we finally fit it in, you should be able to doctor it up and use it as a basis for a patch form.]

[CS – Since EPS and EPS-16 PLUS instruments are compatible with the ASR-10 and

TS-10, I think it's a safe bet that they'll be around for a while. Eventually, all things go the way of the Dodo, but as long as you plan to collect the sounds you want before, say, the next presidential election, you'll probably be fine.]

[Ensoniq – Since we discontinued the EPS-16 PLUS in 1992, I guess that answer is no. We no longer manufacture it, although we're sure that used models will continue to be available. The ASR-10 is certainly based on that platform, but it is a new design which offers many capabilities that could not be done with the EPS-16 PLUS (expanded memory, stereo sampling, advanced resampling, time compression/expansion, and soon-to-come digital audio recording).]

Dear Hacker (Clark),

When I wrote you the first time I wasn't aware of the long turn-around time on mail. Please excuse my stupidity. As for your printing my second letter, that was not needed. If by printing my second letter, you thought you would make me look like a complaining asshole, have fun. I was not aware that your letter section was only for trading patches and other tech stuff.

I asked in my first letter if there was any com-

Play Along Sequences for the EPS 16+ and ASR 10

The **Gospel Set** includes 8 songs
designed specifically for the
EPS 16+ and ASR 10

Perfect for offertories, preludes, etc.

Each song includes:
6-8 new sounds
Printed music
Performance and demo sequences

\$10.00 per song

\$60.00 for the entire set

Demo audio cassette and
complete song list \$3.00
(Refundable with first purchase)

"If you are a musician...playing sacred
music...these are an essential purchase."

"Definitely worth it.
Even if just for the sounds."

[Garth Hjelle, TH, July '93]

The Rhythm Factory

1910 Campfire Court • Lewisville, TX • 75067
214/315-8141

pany out there selling editing software for my ASR-10. I never got an answer. Why? You were so fast to pick on me, yet didn't even bother to give me an answer to part of my question. I have found by calling around to a few software companies that not one can give me a positive answer whether their old software that worked with the EPS-16+ will work with the newer ASR-10 or if they have a new version out. I called three times to Interval Music about their GenWave but had no luck. They claimed they have an ASR-10 but haven't gotten around to seeing if their software will work. I haven't even received anything in the mail from them.

As I said before, I've been having problems with quite a few companies. Most companies are pretty good about helping customers but all it takes are a few jerks out there to make things hard. Maybe I'm not speaking English, but all too many times I get an answer to something I didn't even ask or, worse yet, no answer at all. I try my hardest to buy American products whenever possible but I must say that sometimes it just isn't worth it. Oh, but there I go again. I'm not discussing Ensoniq or patches, please forgive me. Maybe I should start my own magazine for musicians who would like to air their complaints. Some of us see the overall picture, not just a section. I'm referring to the geo-economical structure of the equipment industry and the

power we buyers have if only we would use it and not just ride the wave of "take what we give you."

By the way, in case you forgot to read my first letter, I have an Atari computer which, for better or worse, seems to be declining as far as software development goes. Many companies have dropped them and it's becoming very difficult to get support. By the way, I never accused you of trying to pull off a sham, as you put it. Don't be so touchy. You claim your newsletter has no connection with Ensoniq. I'm sure that's true but nevertheless you sound, look, and read like factory print - or at least that's the way it looks to my eyes. Of course, I wear glasses!

And to Ensoniq - I love my ASR-10 and my only reason for asking hard questions is in hopes that you will make it a better product, which is what you're obviously doing or we would still be using the EPS-16+. As I tried to get across in my first letter, products do not improve because people don't complain or ask for things but just the opposite. My concern over unit heat was not just nit-picking but real concern. Wouldn't a small four by five mesh-covered vent help to release some of that heat? I'd do it myself but don't want to void my warranty by cutting holes in the case. Heat damages electronics and although your tests showed no immediate harm, that means

very little. Will my unit work right in ten years? Or do you plan on releasing an up-graded unit in a year or two? My computer has a fan and it only has four megs of RAM.

Well, got to go. I've complained enough for now. Was that chatty enough?

Mr. Complainer
Mudville, CA

[TH - There're several misunderstandings to clear up here. First, when the little comments follow a "CS - " they're from Clark Salisbury. If they follow a "TH - " then they're from us (Eric & Jane). And, if they follow an "Ensoniq-" well, then they're from Ensoniq.

Now, as far as we can tell, none of us ever said that the Interface is just for "trading patches and other tech stuff." The closest we can find is Ensoniq saying that the Interface is not good for quick replies and is better used for "dialog with other users, operational questions not time dependent, sharing tips and tricks, and your views." (Issue #99.) Now even that's probably broad enough to cover just about anything - but the main point is that that's what Ensoniq said. We (TH) have said repeatedly that this is an open forum. We print every letter that comes in intended for the Interface. Since Day One there's been, at most, two (2) letters, total, that didn't make it

Experience Since the Beginning. We bought an original EPS when it first came out five years ago. We've been sampling with it since then, and today we still do most of our sampling from the EPS family of samplers. **We know the instrument!** We man the **Transoniq-Net** for questions concerning the EPS/ASR/TS - we know what it takes to sample with it. When we sample acoustic sounds, we take it apart and see what makes the instrument tick, and then we sample it carefully, capturing the hidden nuances and make it playable. Same with the electronic synthesizers we sample. No one sample catches all! Performances are taken apart, sampled **individually**, and put back together on the EPS/ASR/TS. You just don't have one sound with an instrument - since it's broken up, you can take part of the sound or the whole sound and express yourself freely with it.

Creative Programming. With every instrument, each patch select is used, every modulation source is used. Velocity is not the same with every sample, and the Modulation wheel doesn't just do vibrato. Sometimes it opens up the filter, sometimes it speeds up or slows down the LFO (which happens to be doing tremolo or repeating functions or even vibrato), or anything else. Here are some examples of standard programming that we consider to be the minimum:

- Work with 88-note keyboards on the spot (Ensoniq's sounds don't even do that).
- Work independantly of MIDI gear (they are set to LOCAL instead of BOTH).
- All the patch selects' make a completely different sound, and are very useful.
- Custom effect programming (no factory presets) for every layer, every sample.
- Velocity layers when necessary.
- Stereo natural or stereo effects at all times.
- Minimum layers used to maximize polyphony.
- No factory preset envelopes, custom for every sound.
- We program the pitch bend wheel, too!

Our samples don't end with the sample; it's just the beginning!

Crystal Clear Sampling. If the sample isn't recorded correctly, no programming, no magic, no sales pitch is gonna make it sound better. We use studio-quality gear when we sample: 2 band parametric EQ, soft and hard knee compression, tuned monitors, high-end condenser and electret microphones, and noise free cabling and set-up.

Memory-Efficient. Not to boast, but we've taken examples from every single 3-party library, and whittled down the block size to typically **2/3rds its size!** You can have complete faith that our sounds sound great, but use minimum memory. Even with a fully loaded ASR-10 memory is still a consideration. Bigger block size generally does mean better sound, but you'll find our block sizes are much lower than the competitions, absolutely no effect on the sound quality. We just know what we're doing.

Keyboard Feel. The feel of a sampler isn't just up to the sampler itself. If the samples have even the least bit of dead time/silence before the sound begins, the sample will feel sluggish and dead when you play it. We tweak our sounds so they play good as well as sound good. The sample may be hot, but you still have to play it. Our samples sound more out-front and tight because of this technique.

Sounds You Want. We don't do non-musical sounds you can only use once. We don't duplicate what another sample company has done. We give you up-to-date sounds, ripe for this day of age. We have the **best and only** pedal steel sample. We have a piano that sounds like one; full, rich, and thick. We know you want modern, full sounds. And we know you interest in older keyboards (the Mellotron was one of the first things we sampled).

Documentation and Support. When you get a sample set from us, you're going to receive a manual with it that describes how the sample should sound, and how you can use it. And when you have a question, you can pick up the phone and talk to the person who actually sampled the sound. With other companies, they may not even know anything about the sampler you're using. We do!

Guaranteed Good. If you don't like it, we'll refund your money. It's that simple. You must be satisfied.

**Call today for your
FREE Catalog
FREE Sound Disk!**
(for first time customers only)

**ASR-10/TS-10 Samples
EPS 16-Plus Samples
Original EPS Samples**
1-800-8-PRO-EPS

		ASR/TS-10	16-Plus/EPS
Introductory Pak	<i>Our Best samples</i>	\$39.95	\$49.95
NEW! Vintage Keys	<i>Old synths & keyboards</i>	\$49.95	\$49.95
MicroWave Chicken	<i>Wavestation samples</i>	\$69.95	\$59.95 per set
Ultimate Organs	<i>B-3's and others</i>	\$49.95	\$49.95
Renaissance/Medieval	<i>Old acoustic insts</i>	\$69.95	\$79.95 per set
O1/W Series	<i>Fat analog sounds</i>	\$49.95	\$49.95
Country Set	<i>Pedal Steel and more!</i>	\$24.95	\$24.95
PIANO!	<i>Best Piano there is!</i>	\$6.95	\$6.95
Chicken Hard Drive	<i>44, 88mb Removable</i>	\$549	\$799

TOLL-FREE ORDER LINE

1-800-877-6377

NEW TECH LINE! - 305-963-1783

CompuServe - 72203,2303

Order Today with



**Flock to: RUBBER CHICKEN
SOFTWARE CO.**

P. O. Box 6056
Hollywood, FL
33061-0056

to print. Once in a great while (but don't count on it) if we get one that sounds like a crisis or a major misunderstanding, we'll try to get the parties involved to handle it over the phone. When that's done we always ask, "Do you still want us to print your letter as-is or do you want to modify it, or do you want to pull it?" And then we follow their instructions. Our policy is that the only person who can pull a letter is the person who sent it – and they can pull it right up to the very day that we go to press (this gives them a good two weeks between receiving an issue and going to press with the following issue). Now, this applies to your first letter, your second letter, this letter, and your 999th letter.

The way people "come off" in their letters is really their own responsibility.

The point where you accuse us of trying to pull off a sham is where you said, "If you are unwilling to print letters other than those proclaiming Ensoniq as the best thing going since white bread, then you're doing your readers a great disservice." If this is what we were doing, we would certainly consider that a sham and the manner in which you stated it made it clear that that's what you thought we were doing. This was after you had received one or two issues. For someone who seems very proud of seeing so much more of the "overall picture" than the rest of us, you'd think you'd at least wait until you knew what was going on. We've taken a fair amount of flak over the years for our open forum policy (but not from Ensoniq, by the way). We've had some very heated discussions here, and then this. Sheesh!

We are truly sorry that we didn't answer your question about sample editing software – but it wasn't because we were so fast to pick on you (that didn't even start till your second letter). The responses to your first letter were concerned with your heating question and the loose screws that you found. We all just plain slipped up and forgot about the other question. When your second letter went over the same questions and had all the additional material on US, we slipped up again by assuming that the technical questions had already been answered and we went on to explain about lead times and to assure you that we are an open forum. Hopefully, Clark or Ensoniq will have some info for you this time around.

And finally, while your letter was plenty chatty we would like to make sure that it's clear that we don't have any "minimum chatty requirement" for letters.]

[CS – First of all, I'm sorry your question didn't get answered the first time around. To the best of my knowledge, the only editor for the ASR-10 and Atari computer is Genwave – and if Interval Music Systems doesn't know if it works with the ASR-10, then I don't know if I can be of much help. But I'll try, anyway: Readers! Does anybody know if Genwave for

the Atari works with the Ensoniq ASR-10? Or if there are any other sample editors for the Atari that might work with the ASR-10? Please let us know – many readers will bless you and your children.

If there's anything else I can do for you, please let me know. And hey – I don't mind long letters one bit. It's the long answers that are starting to take their toll.]

[Ensoniq – A mesh-covered vent would actually violate U.L. and FCC requirements. And history has shown that fans in audio equipment are unacceptable to many people because of the background noise (not to mention the potential for drawing dust into sensitive components). We'd like to re-emphasize that when we design a product we think about the long-term design issues, and are looking very carefully at heat, component longevity etc. We don't plan in obsolescence by intentionally poor board, electrical, or component design.]

Fellow Ensoniq Junkies,

Since the release of the ASR-10 and the TS-10, they have been hogging up a heck of a lot of space in the Interface and rightfully so, I suppose. Well, since most of the Hackers out there are probably using something less than Ensoniq's latest rocketship synth/sampler, I thought it would be a good time to drop a line about some of my favorite "old" Ensoniq gear.

A few years ago, I began my journey into the world of MIDI, synthesis, sequencing and sampling. I was a musician/songwriter wanting to take advantage of the currently available music technology. I was looking for a sample-playback synth with an onboard sequencer and onboard effects. Enter the VFX-sd, made by a company that I was not familiar with, Ensoniq. I got it at a blow-out price due to the release of the SD-1 and it didn't take too long to realize what a great keyboard it is (even still), even though it does have some weaknesses.

Am I the only crazy person to buy an SQR+ instead of upgrading to the SD-1/32? For my purposes, I prefer the extra polyphony and an additional effects processor. And it sounds at least as good as the VFX-sd, if not better on some patches, albeit there are no patch selects.

Like everyone else, it seems, I did have some reliability problems with the VFX-sd. The usual – locks up, won't recalibrate, dead in the water. I am happy to report that I had the keyboard connector hardwired and have had no significant further problems in well over a year. It's been working like a champ!

The crown jewel to my All-Ensoniq rig is my EPS-16+ rack. I like to use it for drums, bass and acoustic instrument simulations while the

VFX-sd and the SQR+ handle mostly "keyboard" and synth parts. My old Ensoniq gear can handle just about any music production work that I can think of and I wouldn't trade it for anything...Ok, ok! Maybe a TS-10 and an ASR-10 rack. Keep up the good work, Ensoniq, and congratulations on the TS-10 and the ASR-10. I have played them both and they are incredible instruments.

In closing I would like Ensoniq to respond to the following questions:

In the February '92 *Hacker Interface*, Ensoniq told a writer (Scott Pease) that it was okay for him, as a VFX-sd owner, to copy the factory disk and demo sequences for the SD-1. As an EPS-16+ owner would this policy apply to my copying the factory ASR-10 disks? If not, does Ensoniq make ASR-10 disks available in DD format for us EPS-16+ users?

Sorry this letter is so long, but all those TS-10 and ASR-10 letters were starting to take up too much space anyway!

Hackingly yours,
Jerry McKenzie
Anaheim, CA

[Ensoniq – Thanks for your kind words about your Ensoniq gear. We agree that getting an SQ-R instead of upgrading your VFX-SD was a good move, it offers you a lot of great sounds and more polyphony than the board upgrade would have.

The factory disks for the ASR-10 are not available in DD format, but they are available on CDR-3. As an EPS-16 PLUS owner most of the sounds on CDR-3 are too large for your instrument so go ahead and copy them. We draw the line at copying disks/sounds that released as after-market sounds, not the in-box versions. Thanks for having the conscience to ask.]

Hacker,

Is there an easy way to layer two or three different sounds on one track or in a way that I only have to press one pre-set button to access?

Thanks,
Lisa Elder
Silver Spring, MD

[CS – Without knowing which keyboard you are using, the only thing I can tell you is that you can't layer sounds on a single track, but you may be able to access different sound combinations with a single button-press. Write again, and give me a few more details.]

[Ensoniq – Although we don't know what model you are using, all of our products can store layered sound combinations which can be recalled with a single button push. We call them Presets.]

Dear TH,

Having just bought the new TS-10 and finding the programming rather time consuming, I'm looking for some help and tips. Considering the sophistication of the TS-10 (with on-board effects) I was disappointed there was no mini-moog solo patch – which is, after all, still one of the most beautiful artificial timbres ever produced by a synthesizer. I'm thinking of that smooth, creamy, "flute-like" mini-moog solo as used to good effect by Barclay James Harvest in particular. Can anyone help me find this patch? Also the clean electric lead-guitar as used by Dire Straits (*Sultans of Swing* track).

Organs (Rhodes to some extent) seem to be a little lack-lustre – any help on these would be appreciated.

Having said this, I'm sure the TS-10 can deliver in these departments and it is a terrific instrument. The pianos especially have a clarity and tone which is excellent, as is the brass and strings section.

Could you also recommend any third-party support that offers a disk for the TS-10 that contains a good selection of further imitative acoustic/electric instrument sounds (electric organ, pianos, guitars, orchestral wind, voice, etc.).

Yours faithfully,
C. Peglar,
West Mids, England

[CS – Several things come to mind in terms of TS-10 sounds, not the least of which are several releases from Ensoniq. Watch for TSD-1003, 120 sounds split pretty evenly between orchestral instruments and pop instruments. These sounds were created by Erick Hailstone and myself under the most exacting of laboratory conditions. And while you're at it, check out TSD-1000 synthetic sounds, and TSD-1001, ethnic instruments.

Also, Eye & I has at least a couple of releases of sounds for the TS-10 which have been getting pretty good reviews. You can reach them at (408) 945-5712. And a lot of folks swear by sounds from Sound Source Unlimited. I haven't heard anything specific about TS-10 sounds, but I'd be surprised if they didn't have at least a couple of collections for sale; reach them at (800) 877-4778.

I'm sure there are other offerings for the TS-10 as well, and to any vendors I might have missed, I apologize. I'll be happy to pass your name along to our readers, though, if you'd like to drop me a line c/o the Hacker.]

[Ensoniq – You shouldn't forget about the fact that the TS-10 can load sample disks from our ASR/EPS libraries as well. You'll find versions of all the sounds you have listed in those libraries as well.]

Hey Hacker Bud-dy,

Thanks for printing my last letter in TH #100, it helped me – well, sort of.

I have a new question now. Regarding my last letter – this question also relates to the ASR-10 and its ability, or lack thereof, to load other sound libraries.

There is a CD warehouse that sells happening sample CDs and CD-ROMs, you see. I have ordered some sample CDs from them and have been quite amused and satisfied with them. However, even though I can use any of these sample CDs, the Ensoniq CD-ROM library that they carry is by far the smallest in the catalog. This is uncool because a lot of the other CD-ROM libraries are very tasty. I really want access to the Samplecell CD-ROM sounds without buying a Samplecell II system.

I talked to a salesperson at my Ensoniq dealer about this and he told me that the ASR-10 has MIDI Dump Standard and if I got my hands on Passport's Alchemy program I could load the Samplecell CD-ROM sounds into the computer running Alchemy and then dump those sounds via MIDI into the ASR-10. Is this true? I really would like to know if this is possible or if the salesperson is dinking me around.

P.S. I really love Ensoniq products and appreciate Ensoniq and the *Hacker* for all your help!

Thankx,
David Crowder
Salt Lake City, UT

[CS – This isn't completely true. The ASR-10 does not support the MIDI sample dump standard, although it will send and receive samples via MIDI or SCSI (using its own format) to and from a Macintosh running Alchemy. However, Alchemy is no longer available (Passport has discontinued it. For more about this set of circumstances, see the last two or three installments of the Interface). Also, I can't guarantee that Samplecell sounds can be manipulated in this way. I'll know soon, though, as I'll be giving it a try myself. Check with me next month.

On the upside, Ensoniq has just released CDR-3, the third in their series of CD-ROM disks, and is actively planning several more CD-ROM releases. Watch the Hacker for more details.]

[Ensoniq – We are actively evangelizing the third-party sampling community for more CD-ROM support for our products. Since the ASR-10 broke the 2 Megabyte memory limit they seem much more receptive to supporting us. Stay tuned for more announcements.]

Dear Hackers and Hackettes,

I know there's no Santa Claus and all that, but I'd like to see an article (or at least be referred to one) that would give me a basic plan for sequencing – especially as it would apply to Ensoniq instruments. I have an SD-1/32 only, no computer, no other modules, etc. I'm enjoying fairly good results, but I'm wondering if there is a systematic approach or format that would make my sequencing efforts easier.

I'm asking (for example), is it better to do drums on sequence or song tracks? And why? Is there any particular recording order (of instruments within categories) to build an accompaniment more quickly and easily? That sort of stuff.

And sadly, my only disappointment with the SD-1: I was told by the dealer where I purchased the SD-1 that it is possible to do tempo changes – speed up or slow down a sequence's tempo. I was talking about programming the changes within a single sequence, not linking a bunch of sequences with different tempos together to make the changes. It turns out the dealer meant, "Sure, just punch the little button while the song is going and it'll slow down." That's fine, except I prefer to play another instrument live, not sit and punch a tempo button to get a ritard or rubato. "Just turn off the click and play it in a-natural" you say. I'd really miss the quantizing and ease of editing.

I know all you folks out there with computers that effortlessly do this little trick for you will not have pity on those of us who have only one piece of equipment, but it still seems silly to me that in order to do a simple ritard one has to create a bunch of one-beat sequences and string them together. Sure, tempo changes by slider or punch button would be sort of a trial-and-error endeavor, but for those of us with more time than money it'd be a welcome addition to the software.

Maybe it's already there and I've missed it. It seems that it should be there in the automated mixdown mode. If there is an easy method out there, please direct me to it! I'd welcome "help the fool" letters from any other Hackers.

Keep up the great work,
David Fowler
1802 Adams
Ashland, NE 68003

[CS – The truth of the matter is, there is no set order for recording instruments when sequencing. I do a lot of sequencing, and I simply record the parts as they occur to me.

While some people seem to prefer to record sequenced parts in a defined order, I've found that not everyone agrees what that order should be. I think the best approach is to follow your own instincts – do whatever seems to come most naturally. If you're having trouble

discovering what comes naturally, then vary things occasionally until you hit on things that work for you.

As far as whether to record drums on sequence or song tracks, I'd say it depends on whether you want your drums to be fairly repetitive, or if you want more variation. For more varied drum parts, I tend to record other tracks first, then add the drums in what amounts to several song tracks (I tend to use my computer more for sequencing, but the idea's the same). In more dance-oriented

tunes, I'll often develop my basic groove as a four- or eight-bar pattern, copy it to the various sequences I'm using for the different parts of the song, and then overdub fills either into the individual sequences or into song tracks once the rest of the song is pretty much together. But that's just me; approach it however you'd like.

Oh, and you didn't miss anything. There is no way (unfortunately) to vary the tempo of a sequence; you have to chain together sequences with different tempos to get tempo changes

within a song.]

[TH - David, check out our new advertiser, Covert Videos, regarding their new sequencing video. (We haven't actually seen it ourselves.) As far as we know, this is a first.]

[Ensoniq - We have had a lot of requests for a tempo track, and we are about to release one for the TS-10 in O.S. version 2.0, along with SCSI implementation. It is not available for older products, however.]

HACKER BOOTEEQ



BLOWOUT SALE

16 BIT SAMPLES FOR EPS/16+

Series 1: Analog Classics
Series 2: Legendary Digital
Series 3: Studio Drums
Series 4: Experimental Industrial
Series 5: Rave, House & Techno

Each 5 Disk Series DENNIS COOKE
\$20 with Free Shipping 128 Greendale Cres.
REGULAR \$30 Kitchener, Ontario
Canada, N2A 2R6



CYBERSOUNDS

Deal of the Decade!

DRUM SAMPLE CD #1

Over 1200 Killer Drum Samples For Only \$9.95

We also have SAMPLES for: ASR-10/TS-10/EPS, Miroge, TX-16W, DPM-SP, EMAX & S-330/550/W-30 at \$4/Disk. Demo Disk \$3. 801 WEBER ST. E. KITCHENER, ONTARIO CANADA, N2H 1H5 519-745-0021

(Add \$2 Shipping) Call for VISA/MC Make Cheques Payable to Doug White

L. B. Music Sequences

We Support Ensoniq • Roland
Korg • Yamaha • SMF-GS/GM Formats

Why not give L. B. Music a try and see why so many people love our sequences — and keep coming back for more!!

Music And Lyrics Now Available!!
Toll Free Orderline: 1-800-3LB-MUSIC
Visa and Mastercard Accepted

L. B. Music
51 Charter Oak Drive
Newton Square, PA 19073-3044
215-356-7255 / Fax: 215-356-6737

PROFESSIONAL QUALITY

Low-cost sequences for The EPS/EPS-16+, SQ-80, ESQ-1, VFX-sd, SD-1, Roland, IBM/DOS

Rock ('50s, '60s, '70s, '80s)
Big Band - Top 40 Country

Call or Write - Any time, 24 Hours

Music Magic

10541 EARL AVE.
BENNINGTON NE 68007
1-402-238-2876

Use Ensoniq Disks on your IBM-PC with our *Ensoniq Diskette Manager*.

Convert Standard MIDI Files to/from Sequences for these keyboards:

ESQ-1 SQ-80 SQ-1 SQ-2 KS-32
ASR-10 VFX-sd SD-1 EPS EPS-16+

Call now to order or for more information on these and other software packages.

Giebler Enterprises

8038 Morgan Road
Liverpool, NY 13090
(315) 652-5741

Protective Dust Covers

20% discount on all Ensoniq Covers

(Must mention ad)

For these & others call:
1-800-228-DUST(3878)

• Fast Service •
• Custom Fit •

The Le Cover Company
1223 Kingston Lane
Schaumburg, Ill. 60193

We're *N.O.T.*, the company you're looking for.

That's right, we're *Neanderthal Organization Techniques*. If you're looking for inexpensive samples for your Ensoniq sampler, search no further. We have a vast library of public domain samples organized into different categories for the ease of finding the sounds you want, fast.

Demo tapes available for \$2.00 (refundable with first order)

For more information, ask for our Intro-Pak at:
NEANDERTHAL ORGANIZATION TECHNIQUES
P.O. Box 1185 HILLSBORO, OR 97123

TALKING OWNER'S MANUALS™

AUDIO CASSETTE INSTRUCTIONS for ENSONIQ KEYBOARDS

Learn **QUICKLY, EASILY and ENJOYABLY**

SQ-2 - 90 Minutes \$16.95
KS-32 - 110 Minutes \$17.95
TS-10 - 90 Minutes \$17.95

* * * Thorough, Complete * * *
Approved and Edited by ENSONIQ

CREDIT CARD ORDERS-CALL 800-492-9999 or Mail Check or Money Order in U.S. Funds. U.S. & Canada only.

T.O.M.
21405 Brookhurst Ave.
Huntington Beach, CA 92646

It's The Nineties

VFX, VFXsd, SD-1 Owners -
Volume 5 - *Nineties type one-man band sounds*
These sounds take your VFX into the year 2000. 60 sounds, 20 presets, 3 demos. Disks: \$40

SQ-1, 2, R, KS-32 Owners -
Hardwire 1: 160 sounds created by Mark Clifton. You name it - this volume has it. Disks: \$65.

Latter Sound Productions
1341 Westheaven Ct.
Tallahassee, FL 32310-8625
(904) 575-5561
Florida residents add sales tax

TRANSONIQ HACKER

1402 SW UPLAND DR., PORTLAND, OR 97221, (503) 227-6848

BULK RATE
U.S. POSTAGE
PAID
PORTLAND, OR
PERMIT NO. 11

ADDRESS CORRECTION REQUESTED

Postmaster: Please return Form 3547 as soon as possible so we can change our records. This is a monthly publication.

SUBSCRIPTION MATERIAL
DATED MATERIAL - TIME VALUE

Publisher: Eric Geislinger
Editor: Jane Talisman

Our (somewhat regular) illustrious bevy of writers includes: Craig Anderton, Robby Berman, Barry Carson, Mark Clifton, Gary Dinsmore, Dennie Edwards, Rob Feiner, Anthony Ferrara, Pat Finnigan, Charles R. Fischer, Gary Giebler, Jim Grote, Garth Hjelte, Bryce Inman, John Loffink, Alan Macintosh, Daniel Mandel, Sam Mims, Gary Morrison, Michael Mortilla, William Pont, Jeffrey Rhoads, Brian Rost, Clark Salisbury, Tom Shear, Joe Slater, Kirk Slinkard, Bob Spencer, and Jack Tolin.

Copyright 1993, TransonIQ Hacker, 1402 SW Upland Drive, Portland, OR 97221. Phone: (503) 227-6848 (8 a.m. to 9 p.m. Pacific Time).

Advertising rates: Please send for rate card.
Rates for authors: Please send for writer-info card.

Subscriptions: 12 monthly issues. US: \$23/year, All others: \$32/year. Payable in US funds.

TransonIQ Hacker is the independent user's news magazine for Ensoniq products. *TransonIQ Hacker* is not affiliated in any way with Ensoniq Corp. Ensoniq and the names of their various products are registered trademarks of the Ensoniq Corp. Opinions expressed are those of the authors and do not necessarily reflect those of the publisher or Ensoniq Corp. Printed in the United States.

And now.....A drive for all reasons !!

No Hassle Design

R-Series

44 Meg Removable

\$599

88 Meg Removable

\$749

Each unit comes complete with sounds for the EPS

The R-Series includes a cartridge and cable.



No Hassle Service

D-Series

D525Mb - **\$1195** 2u

D1050Mb - **\$1699** 2u

D1900Mb - **\$2299** 3u

CDR-Series

CDR-CD-Rom- **\$699**

CDR-44 - **\$1195**

CDR-88 - **\$1349**

No Hassle Selection

We fix and upgrade
Eltekon Drives and
other manufacturers!

No Hassle Delivery

Buy Factory-Direct and Save the Hassles!

Ramtek, Inc.
Memory Driven Technology

Call 313-462-4181 to Place an Order
37507 Schoolcraft Road · Livonia, MI 48150