

Transoniq Hacker

The Independent News
Magazine for Ensoniq Users

Programming for Peak Polyphony (Plus an Exciting Reader's Contest!)

Sam S. Mims



There are two aspects to creating a successful sound for today's keyboards: First, it has to sound good, of course, and secondly, it has to be usable in a practical sense. The best piano multisample in the world wouldn't be worth much if it had no velocity sensitivity, for instance. Similarly, it wouldn't be very useful if those glorious layers restricted you to playing only three notes at a time. So today we're going to take a look at programming sounds with maximum polyphony in mind. These tips apply to both synths and samplers, so everyone is welcome.

Ensoniq's design engineers have graced us with a very clever "dynamic voice allocation" scheme and, with some creative applications, it is quite possible to make big fat sounds that don't eat up a ton of voices. Before we even get into the creative stuff, though, you should make sure you are familiar with the Voice Priority setting on the SQ/KS-32, VFX/SD-1, and TS lines of synths. This feature, on the third Output page, is used to specify whether a particular voice will get the axe (LO priority) when voice stealing occurs,

if it will sound at any cost (HI priority), or if it lands somewhere in the middle of this food chain (MED priority).

Let's say we have an acoustic piano sound composed of a piano wave, for the main body of the sound, layered with a PIANO-THUMP wave, to add a bit of extra realism to the attack. It would be a good idea to set the piano wave voice priority to HI or MED, and to set the thump wave to LO priority. Then, if your massive chord clusters get too big, only the thump part will get stolen from some of the notes, while the piano wave continues to sound on all notes. Though this may thin the sound out a bit, it is much preferable to losing entire notes.

Now, let's get on to the fun stuff. One of the classic ways to fatten a synth voice is to add a detuned layer to it, thereby creating a chorusing effect. Of course, in a digital keyboard, this uses twice as many voices to play the sound. These newer digital synths, however (VFX and later), give us effects processors, and it is a simple matter to set up a nice chorusing to fatten the sound; this does not use a second voice. Even the simplest reverb can really spice up a thin, nasal sound, and the combination effects (chorus + reverb, delay + flanger + reverb, etc.) can work wonders. Try setting up a one-voice sound, and seeing what you can make of it in the effects section.

For other programming techniques, we need to have a clear understanding of how Ensoniq's dynamic voice allocation

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works. Some keyboards from other manufacturers require that you split up your polyphony when you create a keyboard split. In other words, if you create a patch with a bass on the bottom half and piano on top, you've got to specify that you're assigning two notes of polyphony to the bass, for instance, and six to the piano. Then, even if you're not playing the bass at all, you're still restricted to six notes on the piano.

Ensoniq's design is smarter. The "dynamic" part of their voice allocation scheme means that the keyboard doesn't care which sound you're playing — you always have the maximum polyphony available. In the above bass/piano example, if you're using an eight-voice synth like the SQ-80, eight piano notes are available at once if you're not playing the bass. Likewise, eight bass notes are available if you're not playing the piano.

It doesn't stop there, though (and this is where clever programming can help out). A voice is returned to the polyphony pool whenever its amplitude envelope reaches a level of zero, or whenever the wavesample finishes, regardless of whether you're still holding down the key or not. Going back to our example of a piano wave layered with a piano thump, when a key is first struck, two voices are required to play the sound. However, as a note is sustained, the thump voice is returned to the pool in about half a second, after it plays out its non-looping waveform. So after the attack, only one voice is required to sustain the note.

While this is pretty cool, it's even cooler to do it all with one voice. Many of the Ensoniq waveforms are percussive sounds, yet they are looped on the tail end. The entire section of Tuned Percussion waves in the SQ, VFX, SD-1, and TS series are like this (with just one exception in the SQ and three in the TS). The Kalimba wave, for instance, gives the distinctive plucked attack followed essentially by a sustaining sine wave. With this type of waveform, you can create "L/A synthesis" sounds (that's a term Roland made up for layering an attack over a separate sustaining sound) with a single voice rather than two.

If you can't find what you need in a single waveform, then make your sound with two layers and do what you can to make the attack layer die out completely as soon as possible. If you use a noise waveform to add chuff to a flute sound, for instance, set the amplitude envelope of the chuff to go all the way to a zero level fairly quickly. It may seem like a good idea to set up a spiky envelope that goes from a level of 99 to 25 quickly, then fades smoothly out to zero, but, in reality, the second stage of the envelope (the 25 to 0 part) is probably not even audible. It's using up a voice, though! A better call would be to ditch this second stage and set the envelope spike to go directly from 99 to 0; once it arrives at the zero level, you get another voice of polyphony back.

For patches that are stacked pretty deeply with voices, you may be able to stagger attacks to retain the most polyphony. Let's say we want a big stack made up of an electric piano, an acoustic piano, a vocal pad, and a percussive attack sound. That's four voices used to play just one note, and on a 21-voice instru-

ment, we're down to five-note polyphony. But we can first make sure the attack wave cuts off quickly, then we can stagger the vocal pad so that it doesn't begin until the attack wave has ended. This reduces the polyphonic appetite to just three voices, thereby allowing seven notes to be played at once. Staccato notes will not even call the pad voice into play, and sustained notes will relinquish the attack voice before using the pad. And the difference in the sound is probably not even noticeable.

The simplest way to accomplish such staggering is to program the pad voice with a delay. On the samplers, press Edit-Layer, then scroll to the DELAY page to do this. On the synths, this is done with the DELAY parameter on the Wave page. You could also set up an amplitude envelope where Levels 1 and 2 are both set to zero, and where Time 1 acts as a delay setting, but this is a bit of unnecessary tedium.

The Contest

Now, who can make the biggest synth sound using up only one note of polyphony? (Multiple staggered voices and other such tricks are acceptable — and encouraged. Sorry sampler guys and gals, it would be too easy to just sample 83 keyboards stacked together, so I'm limiting the contest to synths. ESQ and SQ-80 owners, with no onboard effects, don't stand a chance. My condolences) Send all entries to me c/o the *Hacker*, by August 31, 1994, and our panel of judges (that's me an' Todd Speer, and anyone else nearby) will award a fabulous \$20 Syntaur Productions gift certificate (no kidding!) to the hugest, most obese entry. Then fame and notoriety quickly follows, as the winning patch and runner-ups are published in these lofty pages. Send entries on paper (blah) or disk (sysex disks for any Ensoniq board or for IBM are okay). And may the best programmer win! ■

Bio: Sam Mims is the owner of Syntaur Productions, and keyboardist for vocalist Zainal Abidin, a multi-platinum artist in Malaysia. He travels a long way for a gig, but earns lots of frequent flier miles.

Current Ensoniq O.S. (Disk/EPROM)

EPS	2.49/2.40	SQ-R	1.02
EPS-M	2.49/2.41	SQ-R 32	2.03
EPS-16 PLUS	1.3/1.00F	SQ-R PLUS	1.15
MASOS	2.0	SQ-2	1.2
MIRAGE	3.2	SQ-2 32	2.03
ESQ	3.5	SD-1	4.10/4.10
ESQ-M	1.2	SD-1 32	4.10/4.10
SQ-80	1.8	DP/4	1.14
VFX	2.30	KS-32	3.01
VFX-SD	2.1/2.00	ASR-10	2.07/1.5
SQ-1	1.11	KMX-8	2.00
SQ-1 32	2.03	KMX-16	1.50
SQ-1 PLUS	1.1	TS-10/12	3.04

RND (🎵🎵🎵)

Ensoniq News

Ensoniq has just released Operating System 2.07 for the ASR-10. This release fixes a variety of reported bugs including the following situations:

- Possible "FILE OPERATION ERROR" messages when saving files or sequences across multiple disks. This could be caused by changing the first disk right before starting the save.
- Compatibility with magneto-optical drives.
- Compatibility with Texcel CD-ROM drives.
- Memory allocation problems with 8 and 10 MB memory configurations (sampling, recording Audio Tracks, overdubbing etc. could cause a system lock-up).
- Drift between RAMTracks and sequencer when resampling Main Outs in 30 kHz record mode.
- Random playback "skipping" of RAMTrack data in units with 8 or 10 MB RAM.
- Possible system crashes when playing sequences while on the LOCATE page.

Enhancement Added: The saving of SONG AND ALL SEQS is faster. Intelligence has been added to the SAVE SONG AND ALL SEQS command to optimize the project file save time. Depending on the circumstances prior to the save, the time spent shuffling data should be reduced by as much as 40%.

This new O.S. has been mailed to all Authorized Ensoniq Dealers and is available to copy for free. Simply bring in a freshly formatted HD disk to copy it onto. You can also contact Ensoniq Customer Service to request the disk directly, at (610) 647-3930.

* * *

Three new sampled sound disks have been added to Ensoniq's *AS Series Sound Library*, designed especially for the ASR-10 and also compatible with the TS Series: *AS-6 The Drum Doctor* (a collection of three dynamic, studio-quality drum kits), *AS-7 Baldwin Pianos* (new samples of Baldwin's best selling 7-foot grand and 9-foot concert grand), and *AS-8 Appalachia* (American folk music — dulcimers, mouth bows, musical saw, jaw harp, bowed psaltery, and a variety of other ethnic instruments). Each *AS Series* collection costs \$39.95 and includes five sampled sound disks and a sound manual. For more information, call Ensoniq at 1-800-553-5151.

Hacker News

Soon-to-be-famous *Hacker* writer, Tom Shear, is making his recording debut on the 21st Circuitry Records compilation, "*Death Rave 2010*," which is due out in stores in June or July. The tracks Tom contributes were produced entirely on an EPS-16+. Interested readers can contact 21st Circuitry at PO Box 170100, San Francisco, CA 94917.

And in a similar vein, Ensoniq person and occasional *Hacker* writer, Tony Ferrara has just had his latest cassette EP released by Progressive Music Unlimited. "*Long After Midnight*" utilizes direct-to-hard-disk recording featuring the ASR, TS-10, and SQR as sound sources. (Daniel Mandel reviewed Ferrara's first tape in Issue #85,

calling it the "best tape of this type to ever come out of the *Transoniq Hacker*.") The tape is currently being distributed by WATT Products (609-298-4421).

HYPERSOBIQ NEW PRODUCTS

Bigfoot Computer has announced an alternative to the box of floppies that ASR-10 owners have been hauling around to gigs. The *250MB Internal Hard Disk Kit* for the ASR-10 fits inside the ASR and can store hundreds of floppies worth of sample/sequence data. The kit is easily installed in less than one hour with just a phillips screwdriver. The industrial-grade hard disk can withstand a 250-g shock during transport and draws only 2 watts of power from the ASR power supply. The ASR's external SCSI connector can still be used to connect up to six external SCSI devices. Leave the floppies, CD-ROM and removable media behind when you go out on a gig because all of your data will be on board the ASR-10! \$595. Requires ASR-10 w/SP-3 installed. For further information, contact: Bigfoot Computer Services, 912 Karl St., Green Bay, WI 54301-2225. Phone: 414-435-4500, ext. 1.

Syntaur Productions announces the *TS Set 1*. Evocative Hyper-Wave patches, huge glorious pads, aggressive bass sounds, and kickin' drum loops are just a sampling of the 60 new sounds in *TS Set 1*. The sounds, for use in the TS-10 and TS-12, were crafted by sound designers Sam Mims and Todd Speer. "We had a lot of fun creating this set," said Mims. "On some of the Hyper-Wave patches, for instance, we invoked the 'two-minute warning,' meaning that we wanted to be able to hold a single note or chord for a two full minutes and still hear it evolving. Most sounds, in comparison, become fairly static in just a few seconds." Speer, who programmed the drum loops in *TS Set 1*, said that "the ability to modulate and isolate different parts of the groove make these patches unique. We really pushed the Hyper-Wave architecture to the limits." A patch may have different elements of the loop on different keys, so that the user can mix and match rhythm parts, along with an accompanying bass sound across half of the keyboard. Then, the mod wheel might change the snare to a clap sound, the CV pedal may pull out the high hat part, and aftertouch could transform the high hat rhythm into a scratch sound. The result is that you can really play the loop, rather than just holding a key down. Syntaur's *TS Set 1* is available for \$39.95 on high-density disk. Included with the set is documentation outlining patch selects, controller routings, and more. For further information, contact Syntaur Productions, 4241 W. Alabama #10, Houston, TX 77027, (713) 965-9041.

WATT Products announces a new version of the *TC-100 Tempo Controller* for the ASR-10. The same high-quality hardware application that has enhanced the VFXsd & SD-1 is now available for ASR users. The *TC-100* allows users to add and adjust tempo changes throughout any sequenced production. Tempo changes are played in from the keyboard and recorded like any other track. The small add-on circuit board installs in less than 30 minutes. Each unit comes with complete instructions, user's manual, and program disk and sells for \$69.95. For further information, contact: WATT Products, PO Box 584, Bordentown, NJ 08505. Phone: 609-298-4421.

People Doin' What They Do Best

Tape: *Always Garaged* — Portland's Most Obscure.

Artist: Assorted folks.

Contact info: Unworld Records, 6321 NE 37th, Portland, OR 97211.

Equipment: Mirage, Chroma Polaris, CZ-101, Yamaha RX-11, Apple IIe, Fostex 450 Board, Yamaha SPX-90, Alesis Midifex, Teac 3440 and A-3300 SX 2-T, Nakamichi BX-100, various guitars and real instruments, assorted gizmos, noisemakers and manipulators.

Big on creativity, *Always Garaged* is a compilation of songs with a concept. The unifying center is a guy named Kevin Wrede. These are all songs that he wrote while participating in a variety of bands and non-bands. As a result *Always Garaged* is not necessarily garaged, or rather, not always. What I mean to say is that there are several "live" sounding pieces, but mostly this is more a studio/polished compilation.

I should probably get up on my slippery soap box for another moment and mention that when you folks stop to name your tapes, you really should put some deep and/or sober thought into it. Kevin has done a great job here. If you are courting a record company or you are just beginning to take the plunge into marketing your songs you should examine if your tape creates the right image. As I look ahead to the next few tapes I will be reviewing, and I only have time to glance at the names and titles, I begin to form images in my head of what I can only guess I will encounter. Use this example for yourself. Ask a friend what images the title brings to mind and then ask yourself if that fits with what you want to project.

I honestly thought I was going to encounter a fairly live mix of basic rock and roll songs with a definite rough edge, maybe even a rough mix and an emphasis on the feel. Instead I found a selection of different perspectives and creative songwriting.

Side one begins with "*The Sleep of Sorrow/The Dream of Joy*" by *Gryphons In Scythia*. It features a celtic sound with a distorted guitar lead in conversation with a fuzz synth lead. Contrast this with "*U.S. Artillery March*" by *Artifice Smith*, a military sound which marches its way across the piano, followed by one of the really live sounding recordings called "*Alive-O*" by the *Fontanels*, a mellow-disturbing country romp. This brings us to "*Ballast on The Ship of Life*" by *Aether Wind* which is definitely a live jazzy free wheelin' take.

"*Machines That Make Us Big*" by *Universe 6* take us into side two. This has some gutsy live elements and is quite a good rock song, with synths and guitars blazing. This in no way

prepares you for "*C Minor Fantasy*" by *Tom Orcutt*, which is a synth-a-chord patch played in a classical approach. "*Sad Little Angel*" by *Forever Endeavor* moves into a haunting, cold, open space and stays there. This piece is very airy with bells and echoes. Were we really rockin' out only a moment ago? It seems impossible here...

"*Big Love*" by *Rubber Meaning Cafe* is nothing short of an amazing piece of music. Especially considering what's gone before. "*Big Love*" is a great sort of rockin-roller-skate-thrash-light-jazz piece that cannot be denied. You must tap your toes, this is not a choice nor an option. "*The Perfect Ruby*" by *Thunder Agents* oddly enough keeps the pace with "*Big Love*" by using some similar instruments.

"*The Perfect Ruby*" is a travelling song. We are apparently on the road with the *Thunder Agents*. I can almost picture the lines in the highway being reflected off the bumper of something like a '53 Pontiac or is it a '63 Mustang? By the time we pull back into the garage, I've completely forgotten if we fulfilled our mission and found the gem or not! Back into obscurity with "*Silver Swan*" by *Artifice Smith*. Finally side two closes, as do all good concepts, with a return to the beginning, "*Dream of Joy-Reprise*."

This project represents a lot of very good songwriting, a definite sense of creativity and a good working process. Three thumbs up to Kevin Wrede. Please send more as soon ASAP!

CD: *The Calm Before the Storm*.

Artist: Tom Farley.

Contact info: Alum Ridge Music, 4829 South Oliver Dr., Va. Beach, Va. 23455, \$15.

Equipment: EPS et al.

If you happen to be a genre pigeonholer, Tom's songs fit pretty well into the Folk/Progressive Country style. Or is it Easy Listening Folk Rock? I always get confused about these things. Either way this is a great CD.

Tom says, "All of the full-band tracks were taken straight off the output expander of the EPS. Unlike many performers who run their EPS in basic stereo mode, I chose to use the output expander to allow for greater control in recording and live performance. I created a set of drums that fit the basic rock sound of the band and assigned each instrument to a specific track.

The elective tracks have two to four instruments layered and patched to be used for specific songs.

"A ten-channel snake was specially ordered to allow the output expander direct access to the mixer (live or recording) for greater control, effects, and tone fidelity. The two spare lines on the snake are connected to the stereo outputs for emergencies (if the output expander does not function).

"My confidence in the EPS has been total. I have *never* once had the first problem with it in the studio or live performance in well over two years. The fact that the band tracks are EPS driven allow me to deliver a CD perfect performance every night."

"*Leningrad*" is a straight ahead country rock ballad account of life in the Soviet Republic. Tom vents his frustrations in "*Slow Drivers in the Left-Hand Lane*." While I could relate, I enjoyed the quick rippling guitar riffs more than the tune itself. "*Fresh Air*" is a beautiful acoustic steel string guitar-fest.

"*Baby Can I Hold You*" by Tracy Chapman and "*Landslide*" by Stevie Nicks are two cover songs. No new ground is covered here, but the songs are well performed.

"*Tow Tow Tow*" gives us some evidence that Mr. Farley has spent a few days driving around the country. In this car song, we have a good hook and a caribbean style woe-is-me complete with marimbas and once again some great guitar playing.

"*Professional Backroads Man (Rollin' Set of Wheels)*" is a fast paced big country rock foot stomper. Tom's musical sentences speak volumes. Throughout the CD he has a variety of solid lead guitar sounds and a solid technique that really pulls the wagon all the way. Any sequencing or repetitiveness falls away beneath the vocals, leads and arrangements.

"*Coming Apart at the Seams*" made me wonder if Tom was using a guitar patch in a sequence, as the steel string characteristic finger-sliding-on-the-steel-string-screach seemed a little too consistent to be real. It seemed almost percussive and a little bizzare. However, Tom's lead guitar took over and I was once again lost, mesmerized. "*An Old And Familiar Play*" is a clever acoustic song that uses the analogy of the play to analyze his life.

"*Promenade Blues*" begins with the sounds of the ocean which ushers in a pulsing blues number with a surprisingly dark keyboard patch and, not so surprising, hot guitar lead licks. Unfortunately the vocal here does not match the power or mood of the music.

"*Over You*" is the only song that I had definite problems with. The tune is almost retro-fifties, in a country swing style. The problem is that it violates the *Rule of Dan*, which says never use that fake sax patch sound (which does not sound like a sax,

but a cheap imitation) and thereby ruins the authentic approach you had almost achieved. Come on, Tom, hire a sax player for just this one song, or pick a patch that sounds good and sounds synthetic, but please not the almost-wanna-be-sax-o-patch!

Fortunately, we return to a beautiful acoustic ballad, "*Missing My Old Man*".

This really is a wonderful CD that has a number of winning songs that are a joy to listen to over and over. It is not a stretch at all to imagine how Tom pulled this off with an EPS by his side. Best wishes to Tom and keep up the good work! ■

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.

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.

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

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

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

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

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

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

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

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

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

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

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

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

EQ'd Clavinet Echo patch for VFX

Dara Jones [71055,1113]

I must confess that I have a delay fetish.

In my book, there's nothing better than a bit of chorus and a delay to make for an exciting mock guitar part. For this patch, I began with the original VFX ROM patch, GUIT_ECHO. This patch utilizes wave delay times rather than the FX to give a 3-part panning delayed sound. I wanted more of a clav-strike, though, so I changed all waves to Clav-Wave. Since the original wave, Guit-Harmonic, had a quicker decay, I found it necessary to shorten the decay times of all waves in Envelope #3. I increased the volume by turning on the pre-gain as well as turning down the general volume in each voice by about 10. I took the pitch up an octave. I also found it necessary to turn off the lfo's wheel modulation of the pitch so I could use the wheel for another form of modulation. I assigned the wheel as the modulator for the low pass filter with a value of -99. When using it in a mix, I want to be able to cut out upper harmonics that might be stepping on another instrument.

When modulating, this created a bit of a popping sound

which was easily corrected by starting Envelope 2's attack level on 0 instead of 99 and the attack time on 0 instead of 50.

I also want to be able to cut out the lower harmonics if need be. The timbre slider was already assigned to the high pass filter but I upped the value from +65 to +92 in order to use it to cut out the sound's lows. Now, imagine the possibilities of using this patch on 2 different MIDI channels, with the bass eq'd low and the guitar parts eq'd high. Nice and clean in a mix. Not to mention the possibilities of using the wheel or slider in real time as a filter modulator. Really, try this. There's some interesting effects to be had. Now, if it only resonated a bit more... (okay, okay, I admit, that's what the analog synths are for...)

As a crowning touch, I changed the FX to a basic chorus reverb. And I changed the wave delay times from 0-60-120 milliseconds to 0-55-110 to speed it up a bit from 125 to 135 BPM. I used the delay calculator in Oview. A bit of tempo planning can give a good mock strum in my opinion.



ASR-10	...	8 Hours	...	\$119.95
TS-10	...	7 Hours	...	\$119.95
TS-12	...	7 Hours	...	\$119.95
KS-32	...	6 1/2 Hours	...	\$119.95
SD-1	...	6 Hours	...	\$89.95



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When using both the timbre slider and and mod-wheel simultaneously, a notch filter effect can be had. For those of you who are inclined to go farther with this patch, try modulating the low pass filter with the LFO (change the cutoff to 100 as well) and modulate the filter depth only with the mod-wheel.

Experiment with the rate until it pretty much syncs up with the echo tempo. Have fun with it. ■

Bio.: Dara works as a horticulturalist by day, analog-hog by night. She plans to do film editing in the next year or so.

SD & VFX Prog: EQCLV-ECHO

By: Dara Jones

WAVES	1	2	3	4	5	6
Wave	ClavWave	ClavWave	ClavWave	ClavVar		
Wave Class	-	-	-	-		
Delay	0	55	110	0		
Start	-	-	-	-		

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

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

PITCH MODS	1	2	3	4	5	6
MODSRC	*Off*	*Off*	*Off*	*Off*		
MODAMT	0	0	0	0		
Glide	None	None	None	None		
ENV1	0	0	0	0		
LFO1	0	0	0	0		

FILTER 1	1	2	3	4	5	6
Mode	2LP	2LP	2LP	2LP		
Cutoff	127	127	127	120		
KBD	+25	+25	+25	+25		
MODSRC	Wheel	Wheel	Wheel	Wheel		
MODAMT	-99	-99	-99	-99		
ENV2	+50	+50	+50	+50		

FILTER 2	1	2	3	4	5	6
Mode	2HP	2HP	2HP	2HP		
Cutoff	0	0	0	0		
KBD	0	0	0	0		
MODSRC	Timbr	Timbr	Timbr	Timbr		
MODAMT	+92	+92	+92	+85		
ENV2	0	0	0	0		

OUTPUT	1	2	3	4	5	6
VOL	90	86	86	99		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	0	0	0	0		
KBD Scale	+28	+28	+28	0		
LO/HI Key	C3/C6	C3/C6	C3/C6	C3/C6		
Dest Bus	FX1	FX1	FX1	FX1		
Pan	50	0	99	50		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	0	0	0	0		
Pre-Gain	On	On	On	Off		
Voice Prior	Medium	Medium	Medium	Medium		
Vel Thresh	0	0	0	0		

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

SELECT VOICE

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

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

ENV2	1	2	3	4	5	6
Initial	0	0	0	0		
Peak	75	75	75	75		
Break 1	50	50	50	50		
Break 2	25	25	25	25		
Sustain	0	0	0	0		
Attack	0	0	0	0		
Decay 1	50	50	50	50		
Decay 2	50	50	50	50		
Decay 3	50	50	50	50		
Release	50*	50*	50*	50*		
KBD Track	0	0	0	0		
Vel Curve	Cnvx2	Cnvx2	Cnvx2	Cnvx2		
Mode	Norm	Norm	Norm	Norm		
Vel-Level	50	50	50	50		
Vel-Attack	0	0	0	0		

ENV3	1	2	3	4	5	6
Initial	99	99	99	99		
Peak	99	99	99	99		
Break 1	50	50	50	50		
Break 2	0	0	0	0		
Sustain	0	0	0	0		
Attack	0	0	0	0		
Decay 1	32	32	32	32		
Decay 2	23	23	23	23		
Decay 3	26	26	26	26		
Release	30*	30*	30*	30*		
KBD Track	0	0	0	0		
Vel Curve	QkRise	QkRise	QkRise	QkRise		
Mode	Finish	Finish	Finish	Finish		
Vel-Level	24	24	24	24		
Vel-Attack	0	0	0	0		

PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	X4
Restrike	20
Glide Time	0

EFFECTS (1)

Effect	Eight Voice Chorus 1
FX1 Mix	75
FX2 Mix	50

EFFECTS (2)

Rate	20
Depth	20
Delay	20
Feedback	+30

EFFECTS (3)

FX2 Mode	NormStereoSend
----------	----------------

PERFORMANCE

Timbre	0
Release	0

Ethereal Pop Primary School's Sample Library and Ethereal Base Disk Organizer

Steve Vincent

For: Ensoniq Samplers (sample library); DOS/Windows compatible computers (Ethereal Base Disk Organizer).

Product: Sample Library and Ethereal Base Disk Organizer.

Prices: Sample Library: \$149 for complete 50-disk set, \$49 for 10-disk sets; Ethereal Base: \$49 (\$39 with library).

From: Ethereal Pop Primary School, P.O. Box 701266, Houston, TX 77270, phone: (713) 768-4556.

Go grab a cup o' java, find the Lazy Boy, and roll up your sleeves 'cause we've got fifty disks to review, folks! This month we're looking at Ethereal Pop Primary School's sample library, and also their Ethereal Base Disk Organizer program for DOS/Windows computers for keeping track of samples.

Due to the size of this library, I'll give you a quick tour, then focus on some of the factors important to potential buyers. First we'll look at their 50-disk sample library and then we'll examine the Disk Organizer program.

What you get...

You get fifty disks. That's \$3 per disk, folks. You get 203 instruments (or so). You get 69,615 total blocks. That should be enough raw blockage to satisfy even the most addicted! The entire library consists of samples of twenty different synthesizers, about half of which are the analog/vintage variety.

The synths featured in this set includes: Mini Moog (5 disks), ARP 2600 (2 disks), Sequential Prophet (1 disk), Crumar Bit 1 (1 disk), Oberheim Xpander (7 disks), Oberheim Matrix 6 (1 disk), Roland Juno 60 (3 disks), Roland Juno 106 (1 disk), Roland D-50 (3 disks), Roland MT-32 (1 disk), Roland JD Series (5 disks), Roland JV-80 (2 disks), Yamaha DX-7 (3 disks), Yamaha SY-85 (3 disks), Korg Poly 61 (1 disk), Korg M1 (2 disks), Ensoniq ESQ-1 (5 disks), Ensoniq SQ-1 (3 disks), and miscellaneous (01/W, etc.) (1 disk).

Whew.

Ethereal Pop Primary School (EPPS) includes two sound lists printed from their Ethereal Base program, one sorted by disk (as in the previous paragraph), and the other sorted by sound category, making it easy to find your sounds. Of the 203 instruments in this set, they break down into categories as follows:

Synth/pad:	76	Bells:	8
Bass:	33	Choir:	7
Brass:	17	Woodwind:	5
Strings:	16	Mallet:	4

Organs: 15
Pianos/EP's: 11
Guitars: 9

Drums: 1
Perc: 1

Okay, enough stats for now — let's explore the aural realm, or...

How They Sound

Since sound reviews are highly subjective, here's the short version of what I listen for in a sample:

1. How's the signal to noise ratio? Is the signal strong and clean, or weak with a lot of hiss?
2. Aliasing: Does it play effectively across the entire range of the keyboard, or does it develop strange harmonics, artifacts or distortion, especially in the upper octaves?
3. Looping: Are loops transparent and unnoticeable or do they have an obvious click or repeating pattern?
4. Multisampling: Did the programmer use multiple samples to capture the sound or was one sample stretched across the entire keyboard? Are split points seamless or noticeable?
5. EQ: Were enough frequencies captured to make the sound sparkle or is it dull and lifeless?
6. Programming: Are the patch selects, mod wheel, aftertouch and CV pedal programmed?
7. Ontology: Was the sound worth sampling in the first place?

With that in mind, the EPPS sound library has a few real winners and a few real losers, but most of the sounds hover around medium quality. Let me hasten to say that the overall quality of the raw waveforms themselves is quite high, due in part to sample rates in the 30-kHz to 40-kHz range. But in most cases the instruments suffer from ho-hum programming, resulting in a rather uneven collection. A few examples:

The best — Matrix 6 Brass: this one captures that fat, warm Oberheim sound wonderfully. Makes you forget you're playing a digital keyboard. DX Pluck 2: very expressive lead synth with lots of attack, and a nice velocity crossfade. M1 Music Box: a clean and crisp "toy" piano, playable without aliasing clear to the top. Mini Moog Guitar: highly expressive, no aliasing. That's all, folks: out of 203 sounds, I elect these four to true "standout" status. If all of the sounds in this set had this kind of

quality, care and attention to detail, it would be one killer library. Heck, I'd even settle for one-third...

Many sounds in this set almost make it or could be nice, but aliasing, poor (or non-existent) looping, or just plain lack of attention to sonic detail ruins otherwise good samples.

The worst — The Arp 2600 Harp is virtually unusable (as a harp, anyway) because of aliasing. Ironically, the comments in the manual state that this sound is "good in the upper range." Not. Another worst is the entire Oberheim Xpander section, 23 instruments spanning seven disks. Anyone who has done any time with an Xpander would naturally have high expectations. With all the truly great sounds on an Xpander, why create cheesy organs? Some of these sounds could be nice if they weren't plagued by aliasing or poor looping, but some seem to suffer from poor source material. Not the source synth, mind you, but the choice of sounds from the source synth. This is also seen in the Mini Moog section, with Mini Moog DX Brass: why use a Mini Moog to emulate a DX-7 brass sound, especially when there are already three disks in the set dedicated to DX-7 samples? Dial up some analog fatness in that Moog, and leave the wheezy, cheesy sounds to the digital FM synths! One last loser: DX-7 Drums. Puh-lease! For drums, sample an Alesis D4 or something, but not a DX-7.

Once again, the great majority of the sounds in this set are in the medium quality range.

Now, about the programming...

My hesitation about EPPS's sample library has to do with the programming: it's very sparse. Perhaps the author was content to record some good samples and leave the tweaking to us. In all fairness, EPPS states as much in the flyer included with their library: "Our intention is to give you a wide palette of quality sounds to *work* with [emphasis mine], yet not take up large amounts of memory... There are no effects programmed with the sounds. We have also used layers and patch selects sparingly, in order to conserve voices and memory." They should state this intent in their advertising, because most keyboardists who I know purchase sounds to use, not to tweak.

There are a few exceptions to the stingy programming. A handful of sounds use velocity to modulate filter, a few have patch selects that pan the sound in the stereo field, one uses the mod wheel to crossfade between three different sounds, one has mono-glide, and one uses aftertouch for vibrato. That's about it. The rest have no patch select variations, no aftertouch, no CV pedal, and the mod wheel is set on the default vibrato. Plain vanilla samples.

Some specific areas where this set falls short:

(1) A serious problem is with loops. Many samples have loops with an obvious click or a redundantly repeating pattern. But worse are the many sounds (at least 15 on just the five

ESQ/SQ-1 disks!) where the sounds are not looped at all. There is obviously no reason to loop "one-shot" sounds like percussion sounds or a stabbing synth-bass, but the EPPS library is full of instruments that ought to sustain, but have no loops! The worst offenders are the tine pianos, acoustic pianos, pads and organs — hold a note, and it just ends after a bit (a very short bit if you're playing the upper octaves). A prime example is the ESQ Dig Piano, which "cheats" by using one long sample (1019 blocks), but no loop. If part of EPPS's rationale for its sparse programming is to save memory, this seems a strange way to do it. Better to cut the sample down to 300 blocks or so and work hard at getting a good loop.

(2) Many sounds (at least 25 percent) have way too much vibrato programmed in. I realize this is a matter of taste. Better to program in just a little subtle movement and let the user add vibrato with the mod wheel, which isn't being used for anything else anyway. Happily, it's easy to remove the quavering by adjusting the LFO settings.

(3) A good number of sounds were panned all the way right, with no patch select alternatives for panning. This is actually good for me, since I have a slight hearing loss in my right ear, but most keyboardists probably prefer center panning as the default position.

(4) Almost all of the samples were anemic until I normalized their gain. Normalizing gain should be the first thing a sample programmer does after assigning a root key; this insures the best signal-to-noise ratio, and keeps us from continually pushing up on the already-pinned volume fader.

(5) Fourteen percent of the disk space in this set is unused, with more than 10,500 "free" blocks. Out of the 50 disks, that's almost seven blank disks! Now I don't think most reasonable end-users demand that disks be loaded to within a block or two of full, but that's a lot of nothin', folks! To be fair, there are a few disks where the free disk space is whittled down to a snug 11 or 12 blocks, but then there are those nine disks with more than 400 unused blocks. With the average instrument size in this set being 343 blocks, a lot of that empty space could be filled in. Or used up with those "memory-devouring" layers, copied parameters, patch selects, modulation assignments, and effects programs.

Conclusions, Suggestions

If you want to buy raw samples and do your own tweaking then you should consider this set. This seems to be Ethereal Pop's intent. At 75 cents per instrument these are some of the lowest priced samples I've seen. You'll need to do a lot of tweezing and twiddling, though — looping, normalizing gain, layering, creating patches, fixing pan settings and volume levels, and taming overdone vibrato.

If EPPS takes my comments as constructive criticism and upgrades their library (as other third-party vendors have been

known to do), this could turn into a wonderful sample collection. The existence of pro-quality instruments in the set prove that they've got the sampling and programming chops to do it.

Now for the Disk Organizer

This is a very simple database program for DOS/Windows computers intended to help you keep track of your sample library.

There are six fields: Disk number, disk name, sound name, size (blocks), category, and description. You get six menu choices:

1. Scroll through sounds by disk
2. Scroll through sounds by category
3. Edit/Add sound information
4. Print entire database sorted by disk
5. Print entire database sorted by category
6. Backup/Restore to floppy

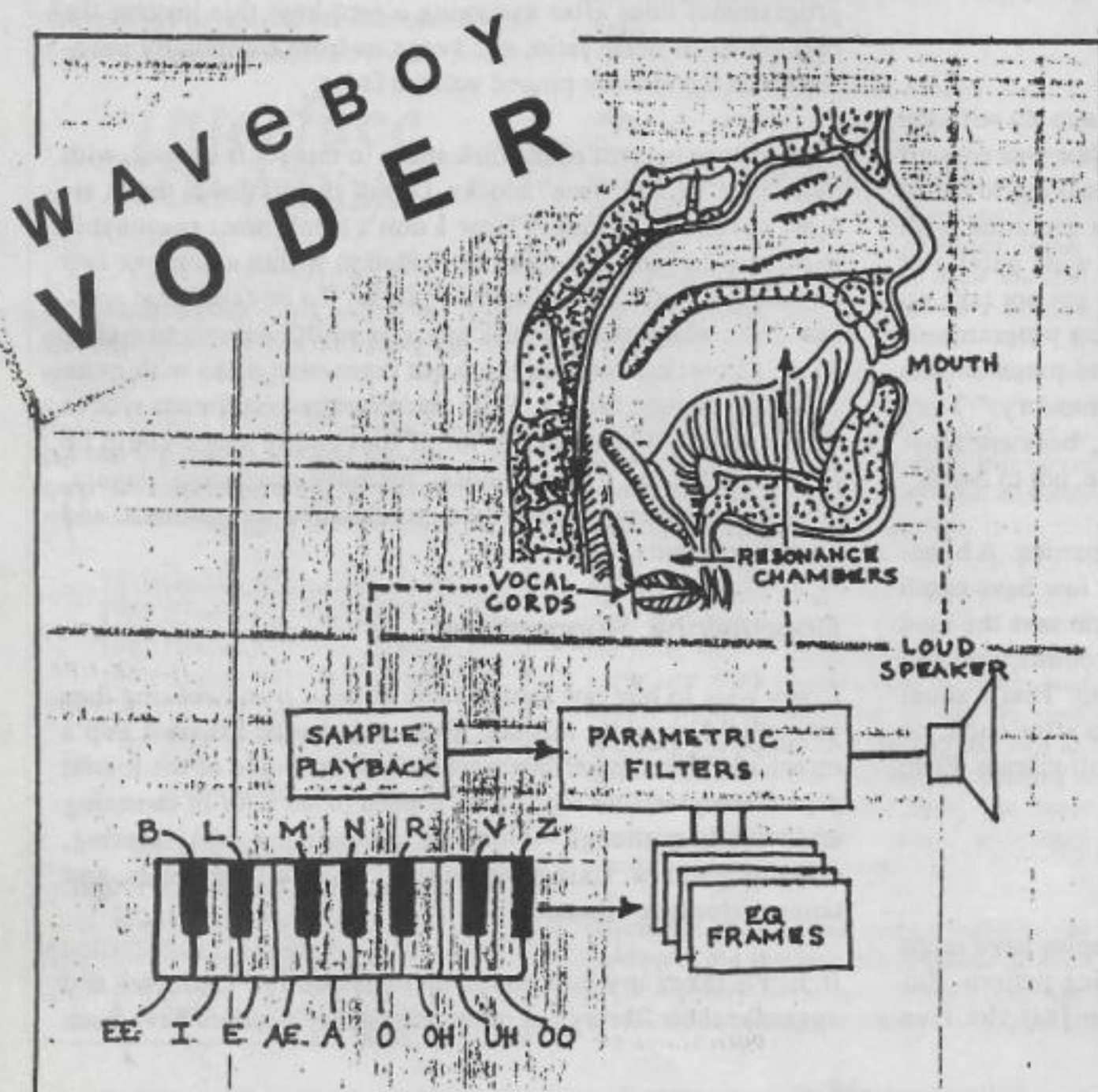
I encountered some problems installing the original program that EPPS sent. It has a copy protection scheme that only allows one installation, so after one try I was out of luck and was instructed to "talk to the Schoolmaster." I called the Schoolmaster, and after receiving a non-protected version from EPPS, the program installed fine on a 486/50 running Windows, and

on my trusty XT. However, I encountered some other problems. The program aborts if you take your printer off-line during printing, the backup/restore to floppy command did not work — only aborted the program, and it did not print correctly on a Panasonic KX-P1124 (it printed fine on an HP Laserjet IIP).

Lack of flexibility limits the usefulness of this program in my opinion. For data entry, you are limited to nine files per disk. Heck, I've got lots of disks with well over 20 files on them! You also get only two printing choices: print the entire database sorted by disk, or print the entire database sorted by category. Personally, I would prefer to be able to choose how much of the database I want to print, for example, print only my list of guitar sounds.

I talked with Alex and Michael of EPPS a number of times, and they seemed quite willing to add useful features and look into bugs. My wish-list includes: more print options, unlimited files per disk, SCSI disk directory support, and some kind of documentation. Until then, if EPPS included the program free of charge (or as shareware) with disk orders, that might provide some incentive for buying their sample sets. But for \$50 (\$30 if purchased with a disk set), it's not much bang for the buck. ■

Bio: Steve Vincent is a marriage and family therapist with an addiction to MIDI, and is the compiler of the Hacker Compilation Tape.



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**WAVEBOY
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Crossing Platforms: The Elite Set

Pat Finnigan

Product: *The Elite Set* (10 disks).

For: EPS, 16+, ASR-10, (+ possibly TS wavedata).

From: The Rhythm Factory, 303 Saddle Bridge Lane, Franklin, TN 37064 (615) 591-9875.

Price: 10 disks, \$79.95 + shipping.

Hey, there's some other folks out there like me who refuse to abandon the EPS Classic. And as if you hadn't figured it out by now, I am with that. Last month I performed the Daryl Daughters' mod of stuffing a SCSI drive internally into my EPS, and short of a little shielding around the power supply so my patch buttons quit wiggling out, it's a mondo cool mod. After the Output Mod of last issue, I'm beginning to see renewed hardware interest in the homeboy. Maybe people have finally come around and accepted the Ensoniq interface as the only way to fly. The ox is slow, but the world is patient...

This month I received the *Elite Set* from The Rhythm Factory, and it appears that this set is designed to work on all Ensoniq sampling platforms except the Mirage. And you could use it as raw wavedata for the TS's if so inclined, so we've got something here. 10 bright red DD (720k, not 1.4 M) floppies comprise this set, and with 6-7 wave files on each of them, you get a pretty good representation of '90ish pad sounds for your 1989-ish Classic. All sounds are looped, edited and otherwise massaged in Alchemy before exporting to an Ensoniq DAC, and quality is quite good. Documentation is average; a separate sheet for each disk denoting patch selects for each file is provided. Fortunately, you won't find a "generic" patch select across all disks (X0 transposing all waves an octave down on all files), so some careful programming and assembly is evident here.

I went to load up the first disk, and right off the bat tried to load a corrupted file (Woody Bass), so I shouldn't blame disgruntled postal employees (not the name of another grunge band from Seattle), as we did have an annular lunar eclipse here in Indy this week, so I'll blame that one on sunspots or something. All other files loaded and performed flawlessly. At \$8 a disk, not bad stuff at all.

Most sounds are single sample in depth until patch selects call up airy bell waves or sub-harmonic "copied data" waves, so they aren't polyhogs. Many of the patch selects are for mono or stereo imaging, and these are the majority of the "copied data" waves. I tried different "max poly" settings on the EPS Classic I ran these on just to see if shifting from 21- to 16-note polyphony had any major effects; short of the increased HF bandwidth inherent in this procedure, the samples sounded the same. This is almost a definitive pad collection for the Ensoniq sampling aficionado.

"Nachtmusik" is a representative pad of this collection; stereo pad of sawtooth/stringbed wave with patch selects adding bell timbre. Most of the animation samples display inventive filter or final VCA modulation routings, so you won't see any 2000+ blocks of wavestation-clone files; most files are between 100 - 600 blocks, so memory efficiency has been labored over in assembling this set. This is like an "M1-meets-Alchemy-meets-EPS Classic" set of sounds.

The problem with this is that, while providing Ensoniq samplers with synth textures, the synth textures provided are dated. I mean this objectively: one of my most favorite sounds is a U-20 "Prelude" vocal pad sample with a DX "Tubular Bell" sample added. It sounded glorious back in 1990; it's lost a lot of its glamour four years down the pike. These Elite sounds are great for the Ensoniq sampler whose owner doesn't care to sample, as it provides a great base of synth sounds, pre-looped, organized and arranged well. The "Reverb" VCA envelope is used to imply larger sounds and/or DSP processing. It's just that the sounds are, well, average. And most of the waves are much too quiet: I had to normalize the gain on most of the waves to get them up to the approximate level of the Ensoniq libraries. A couple of files, the most notable being "Ax 2 Grind" required sample start modification in the bottom octave of the keyboard as it wouldn't sound for almost a second after the key was depressed.

But what do you expect for \$8/disk? These are great samples to mix and match, and responded very well to tweaking. For TS-XX users I don't think this set would go as far as on the samplers since the TS's have gonzo waveRAM and effects algorithms to produce synth pads, but you're bound to find waves in this set that are nonexistent in the TS WaveROM set. For the Classic sampler user, however, these files will go a long way. I didn't run these through a 16+, so I can't say if there are any effect files, although Gary Giebler's *Ensoniq Disk Manager* reports bank and song files present, so you lucky 16+ owners get demo sequences for perusal.

This set represents an excellent source of raw data for tweaking for veteran wavemashers, a good selection of wavedata for TS users, and a pretty complete set of synth textures for non-tech-type performers. A good first offering from the Rhythm Factory. In short, a truly cross-platform set of sounds. ■

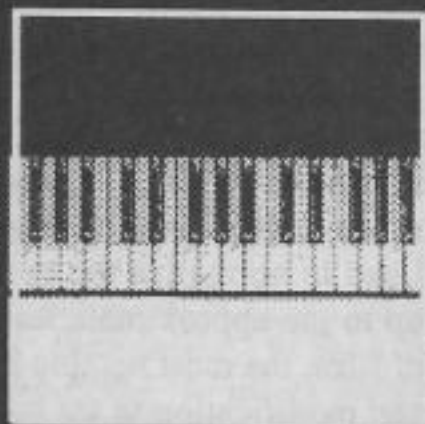
Bio: When not answering broadcast NTSC/PAL video-capture questions for TrueVision, Pat Finnigan is a tech support person for RasterOps, a company that makes video boards and monitors for Mac and IBM platforms. He still uses a B-3 for a keyboard stand and watches the alpha channel.

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TS-10/12 Pitch Tables

A Primer

Jeff Rhoads

It's too bad that there are so many alternate pitch tables to choose from in the TS-10/12 System. It's too bad, because most of us will never use them. Oh sure, we'll try a few of them out of curiosity, but, aside from that, or the occasional Greek wedding, I'll bet that we don't go back for more. We shy away from the unfamiliar.

The TS-10/12 also offers a user-definable Custom pitch table that's available for each program as well as on a system-wide level. Whoa! Now that could be real scary: "...now they want us to come up with our own tuning system. Next, we'll be asked to change the face of Western Music... consonance to dissonance and back again ...which is which? ...what do they want from us ...hey, I just wanted a keyboard, not Galactic responsibility!!!!!"

While it's true that many of us have more than enough to do just keeping track of equal temperament, a custom pitch table does not require a metaphysical leap. It could even make things easier (nah?!).

What we're going to do here is use the custom pitch table option to create one-note intervals and chords. All you need is a horn or brass program that uses or can be made to use three identical or like voices. You'll find "Alto Sax" in bankset R4-6. Of course, if you'd like to keep the work we do here, you'll want to transfer it into one of the user banks. To get into Edit Mode, click the Select Voice button. The resulting display shows you six Alto Sax waves. However, only one wave or voice in the program is active. The remaining five are muted. We need three of these waves to work with so un-mute the top middle and top right "saxes" by double-clicking their soft buttons. One of the resulting "Altos" sounds with a quick rise in pitch. To make our three saxes more or less equal, we need to get rid of this.

Underline Alto Sax 3 and press the Pitch Mods button. This page shows you that MODAMT = -57, (MODSRC = MIXER). Change its value to +04. The "section" now sounds together.

Alto sax Voice 1 will be the reference voice (though, not necessarily the musical root of the "chord") so its pitch will not be altered — we can leave it as is. Sax Voice 3 needs to be tuned to some fixed musical interval from Voice 1. That is, every time Voice 1 is played, Voice 3 will sound at some different pitch than Voice 1. If we physically play middle C (C4), Voice 1 sounds at that pitch. Voice 3 sounds at some interval away from Voice 1, in this case a dominant or minor 7th up. So, while playing key C4, Voice 1 sounds at middle C

while Voice 3 sounds a minor 7th above at B flat. Since this interval between Voices 1 and 3 will be constant across the entire 76 (or 61) note spread, we can change Voice 3's pitch in constant semitones. For voice 3, hit the Pitch button. On the Pitch page go to SEMITONE = +00 and change it to +10. This value raises Voice 3's pitch to a minor 7th away from both Voices 1 and 2. Remember Voice 2? It's been there all along. It's our voice of choice (ahem!) for a little Custom Pitch-Table voodoo. Stay calm.

Any program like "Alto Sax" may employ one Custom Pitch Table. Be aware that within a sound program, Voices 5 and 6 will be erased to make room for that Custom Pitch Table. (5 and 6 voice programs and the Custom Pitch Table are then mutually exclusive.) Our Alto Sax program only uses three voices so this trade-off won't affect us. We're going to apply the Custom Pitch Table to program Voice 2.

First, we have to create the custom table. Press Program Control. At top, right you'll see OPTION = *NONE*: underline *NONE*. Pressing the UP arrow results in a display that asks you to choose a Pitch Table, Wave-List or Drum Map. Choose the Pitch Table option. Notice that the now edited program display reveals the words EDIT PITCH TABLE instead of showing Voices 5 and 6.

We've already decided that Voice 2 will be the one to use the Custom Pitch Table. Make sure that it's underlined. Press the Pitch Mods button. The display's lower left-hand corner will read PITCHTBL = SYSTEM. This indicates that at present, Voice 2 is using the System or Equal Temperament table. Double-click the UP arrow. The parameter should now read PITCHTBL = CUSTOM. Your heartrate could be slowing a little by now.

Go back and press the Select Voice button. The somewhat more comforting EDIT PITCH TABLE prompt appears again. This time, we'll jump in and use it. Press either of the soft buttons underneath it to access the Edit Pitch Table page.

We're rewarded with a display whose top line reads:
EDIT PITCH TABLE *CALCULATOR* (and *EXIT*)

and whose bottom line should read something like:
KEY C4 = C4 AND 00 CENTS.

Kids, it's the bottom line we want to get to know intimately. We'll catch up with the *CALCULATOR* and its Extrapolate/Interpolate functions in some later article.

Look at this bottom line for a sec: KEY C4 = C4 AND 00 CENTS. Our first, underlined C4 is the reference key or Source Key. Think of blue skies and smooth, sandy beaches. The Source Key is just the key's physical location on the keyboard. It can also be thought of as what the key's (here, C4) pitch was before you changed it. And, that change is reflected in the new, Playback Pitch you decide on. (C4 AND 00 CENTS — where CENTS is fine or Micro tuning.) Look at this tranquil display:

[Source Key]		[Playback pitch]		[Fine Tune]
KEY = C4	=	C4	AND	00 CENTS

{original pitch}		{your new pitch}		{micro tuning}
------------------	--	------------------	--	----------------

If you watch the display, the Source Key and Playback Pitch are exactly the same as you move up the keyboard: C4 = C4, D+4 = D+4, D4 = D4, etc. You've got to change the Playback Pitch. In our example the Source Key is really Voice 1. The Playback Pitch is heard in Voice 2. Even with Voice 3 left on (un-muted), it's pretty easy to hear what's going on.

Now we're going to be working with one note at a time within two adjacent octaves. But, here's the voodoo: the Custom Pitch Table allows us to create different intervals (between voices) on every key if we want to. C4 could = D3 (down a minor 7th), D+4 could = G4 (up a 3rd), E4 = A4 (up a perfect 4th) and so on. There's no way you can set these varying intervals using the SEMITONE parameter in the Pitch Page. There, all programmed intervals have to be parallel at any point on the keyboard.

We're going to change the pitch relationships between our three Alto saxes in the two adjacent octaves. But we'll be working on one octave at a time. The resulting intervals (and chords) in the first octave will be different than those in the second octave. Voodoo again. Here goes...

Within the first octave (I've chosen C4 to C5) the desired parallel intervals between Voices 1 and 2 will equal a "tritone" or augmented 4th. We'll edit each note within that range (C4 thru B4) one note at a time. Go to the EDIT PITCH-TABLE display, bottom line:

KEY C4 = C4 AND 00 CENTS.

(Since we won't be using micro-tuning — yet — 00 CENTS will not change.) Go to the first Source Key, C4. Make sure that its Playback Pitch is underlined. Move the Playback Pitch value up three whole steps to F4+, a tritone or Augmented 4th from C4. By pressing the lower left and middle soft buttons (thus toggling the cursors back and forth) you can change the remaining Source Keys and Playback Pitches in the first octave. Remember — three whole steps apart. The values for Octave 1 are as follows:

Source Key	Playback Pitch	CENTS
(C4)	(F4+)	00
C4+	G4	00
D4	G4+	00
D4+	A4	00
E4	A4+	00
F4	B4	00
F4+	C5	00
G4	C5+	00
G4+	D5	00
A4	D5+	00
A4+	E5	00
B4	F5	00

Look! We've just created 12 separate tritone (augmented 4th) intervals between Voices 1 and 2. A whole octave's worth! Now, all we've got to do is drop an octave (C3 to C4) and create 12 more. (We drop the octave because our Alto saxes sound better down here. We're really just sliding into Tenor sax range.) Only this time, we want the interval between Voices 1 and 2 to be just two whole steps or a major 3rd apart. Follow the same procedure you did for Octave 1. Your Source Key and Playback Pitch values for Octave 2 are:

Source Key	Playback Pitch	CENTS
C3	E3	00
C3+	F3	00
D3	F3+	00
D3+	G3	00
E3	G3+	00
F3	A3	00
F3+	A3+	00
G3	B3	00
G3+	C4	00
A3	C4+	00
A3+	D4	00
B3	D4+	00

We're (just about) finished! The pressure's (almost) off!

Keep in mind that the chords we've set up across octave 1's 12-note spread are different than those we've set up in octave 2. The chord type will vary according to what the tonic or root note position is. For example, if the chord on C4 in Octave 1 is assigned a root or tonic note of A flat, then it becomes an A flat 9 chord. You might expect then, that if you drop every note down an octave, you get the same chord... sounding an octave lower. Not so; remember, the pitch relationships in octave 2 now differ from those in octave 1. If the chord on C3 in Octave 2 has an A flat as its root or tonic, then it is an A flat 9 with a raised 5th or an A flat 9 + 5 chord. An A flat 9 and an A flat 9 + 5 are not the same chord.

We'll come back to this example again as we embark on the Quest for the TS-10/12 Killer Sax Section. ■

Back to (Ensoniq) School

DP/4 Basic Concepts

Robby Berman and Roy Elkins

This article is the first in a series based on Ensoniq's instructional videotape for the DP/4. The videotape, *EVS-2*, was created by Roy Elkins, the Director of Ensoniq's award-winning training program — chances are that's where the salespeople at your local music store were taught how to use Ensoniq gear. Every new DP/4 is now shipped with a copy of *EVS-2*, but for those of you who haven't benefited from this freebie, we humbly submit these explications for your perusal.

A Highly Placed Source

Suppose you have a '59 Les Paul and you've got it plugged into some kind of box. It could be a chorus box, a distortion box, or a cereal box for that matter. Well, then, how many audio sources do you have plugged into that box? *This is not a trick question.* You got it: one, yer guitar.

Now let's say that the box has two inputs, so you can also plug in your accordion (go ahead, think us uncool). How many things would then be plugged in? Yup, two.

And the bonus round: the box has sprouted yet another input and in goes your electric kazoo. How many audio sources have we got now? Three, of course.

If plug in one more thing — how about a vocal microphone? — we'll have four sources going into the box.

We've just described the four possible configurations of the DP/4. The key to using the DP/4 is this simple: always remember whether you've got one thing coming into it — known as a "1-Source Config" — or two ("2-Source Config"), or three or four. If you know this, everything else about the DP/4's routing will follow. Here's what we mean.

The DP/4 has four effects processors inside its unassuming black case, each one known as a "Unit." The Units are labeled as A, B, C and D. How many Units — or effects processors — you'll be able to use for any particular sound you've pumped into the DP/4 is determined by how many things it is you're planning on pumping.

The First Picture Show

Take a look at the "input configurations" graphic stenciled onto the upper right part of the DP/4's front panel. This thing is one handy cheatsheet.

Actually, it's more like four. There's a diagram for a 1-Source Config — for situations like we had earlier where we just had our Les Paul plugged in. There's one for a 2-Source Config,

like when we had the guitar and accordion; a 3-Source Config and a 4-Source.

Let's look more closely at the diagram for the 1-Source Config. Okay, that 1 on the left side of the picture is our one source — our guitar — coming into the big box. Inside that box we've got, what, A, B, C and D? Hey, that's all four of our Units, or effects processors. So, we're seeing that when we plug one source into the DP/4, we can use all four Units. That's simple enough. By the way, ignore the little numbers on the right side of the big box for now — they're outputs, and a whole 'nother story.

Check out the 2-Source graphic. Alright, we've got two things coming into the DP/4. Don't be confused by the fact that they're labeled 1 and 3, they're still our ever-popular guitar and accordion (never mind how we'll play them both at the same time). The reason for the numbering scheme will become clear later on. So, our guitar — 1 — is going into a box with A and B inside it. This tells us that Units A and B will be set up to do their digital dirtywork to our Les Paul. The other source, our accordion (represented by the 3), goes into another box with C and D entrapped therein. This must mean that our second source will have Units C and D at its disposal. Altogether, the diagram shows us that when we're using a 2-Source Config, Units A and B will be applied to the first source, and Units C and D will be used for the second source. Since we don't see any lines or anything else between the two boxes, we can further assume that we've got two distinct and separate signal paths going on here. Got it?

If you examine the next illustration, you'll see that, in a 3-Source Config, the first source will use Unit A, the second Unit B, and the third will have C and D at its disposal. The fourth diagram shows us that when we've got four sources coming into the DP/4, each one goes to its own single Unit.

These diagrams show the four different ways the DP/4 can be set up. That's all there is to it: How many things you have plugged into the DP/4 will ultimately determine how it behaves. As we said earlier, it's the single most important thing to keep straight in your mind in order to tame this powerful beastie. Later on, we'll discuss the way to tell the DP/4 how many sources we'll be using.

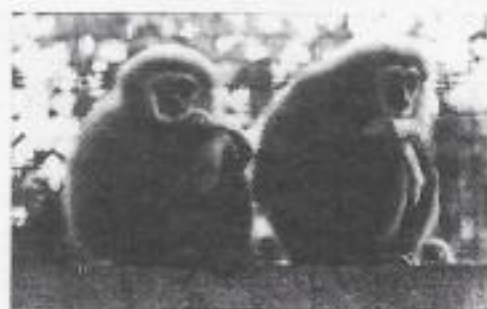
Starting from Scratch — Reinitializing

Before we go any further, let's reinitialize the DP/4 to make sure we're all starting from the same point. If you've already created some of your own edits, you'll have to offload your data to some external Sys-Ex storage device via MIDI. All the

stuff that was in the DP/4 when it first came from the factory will be restored when we do the deed.

To reinitialize your DP/4, hold the front panel's System button down, and while holding it, press the Unit B button. The display will read "Hit <Write> To Init RAM Presets." This is really a warning screen to give you a chance to bail out — after all, anything you've saved to memory will be wiped out when you initialize. If you've got the will to wipe, press the Right arrow button once. Now the screen will more emphatically pronounce "Hit <Write> To Reinitialize!!!!" When you now press the Write button, the display will flash off for a second before returning with, first, the DP/4 startup screen, and then the "Select 4U Psets" display.

Your DP/4 is now reinitialized, refreshed and ready to do our bidding, which we'll get to next time the class meets. ■



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How Sounds Work

Part VIII: The Rhodes to Bliss

Mark Clifton

Let's be honest — the Fender/Rhodes electric piano sounds like dirt. It has a certain unusual combination of timbres that never seemed to go together quite right, sounding more like an experiment put together in somebody's garage than a finished musical instrument. Play it softly and you're answered with a warm trebly purr, a little harder and you get plinky bell-like tines. Nail it and it hits back twice as hard, letting out a deep grungy distortion that gnashes and growls through the speakers like an electric beast.

But it is precisely these little organic quirks and imperfections that make the Rhodes such an enjoyable instrument to play. Like the Hammond B-3, it possesses its own unique personality, a personality immortalized on countless rock, jazz and R+B recordings, both past and present. This is not your typical dull brown clay — this is dark, rich, fertile soil, in which is planted the roots of a classic sound.

Basically a miniaturized piano with coil pickups positioned under the strings, it was invented in the 1940s by Harold Rhodes and was manufactured in a partnership with Leon Fender from 1960 to 1981. It came in several models, including a "suitcase" model with a detachable speaker/base, a "stage" model with a simple metal stand instead of the speaker, and the "Piano Bass" which used only the bottom part of the piano to mimic electric bass sounds. Both the suitcase and the stage models came in 73- or 88-note versions, though there was also a 54-note version of the stage model. Although marketed to musicians as a cheaper, more "portable" alternative to having to haul around a real piano when touring or having to depend on unreliable house pianos for gigs, the Rhodes was still HEAVY, weighing in at some 90 to 100 pounds (even more for a suitcase model with the speaker attached), making it a curse to roadies and a boon to chiropractors everywhere.

This month we'll be looking at the patches "Real Rhodes 1" and "Real Rhodes 2," both of which attempt to imitate the Rhodes' classic, albeit mismatched sound (not covered will be that now-infamous and frankly nauseating DX7 imitation used so much during the unenlightened '80s).

"Real Rhodes 1" uses as its base, oscillator 2 set to the PLUCKED BASS waveform, which is fed through a 3Lo/1 lowpass filter with a low cutoff amount, producing a very warm, mellow sound. The Rhodes, because of its use of electronic pickups, had a sound very much like that of an electric bass, especially in the lower register. The Rhodes also had a stereo "vibrato" control, with adjustable depth and rate. This vibrato was really more of a tremolo, since it modulated the amplitude of the sound instead of the pitch. On this patch

the LFO, set to a triangle wave and controlled by the modwheel, is used to produce the vibrato effect. It has been routed to the filters, altering the brightness of the sound in order to emulate the tremolo characteristics of the Rhodes' vibrato. You can adjust the rate of the vibrato, just as on a real Rhodes, by changing the value of the LFO Speed parameter.

Unfortunately, you can't use the LFO to modulate panning on the SQ/KS series, so you'll have to settle for a dull, monaural tremolo effect. To get a stereo vibrato like that on the Rhodes, you can create a preset that layers two identical Rhodes patches, one panned hard left, the other hard right. The LFO speed and shape for both patches should be set to the same amount, but the LFO-filter mod amount should be set to a positive value in one patch and a negative value in the other. That way, when you play a key, the LFOs will increase the brightness of one patch while decreasing the brightness of the other, making it appear that the vibrato is sweeping back and forth across the stereo field. This will, of course, cut down drastically on your polyphony, so you might want to apply this trick just to two oscillators within a single patch instead of with two separate, complete patches.

The tine sound is produced by oscillator 1 using the DIGITAL PNO TINE wave. This oscillator has a shorter decay time than oscillator 2, making it a sort of attack transient to the real sustaining body of the sound, which is provided by Osc 2. The Level Velocity amounts of both envelopes 2 and 3 are set to fairly high amounts, which means that the tines will only sound when the keys are struck with a medium velocity or higher, just as on the real Rhodes. The oscillator uses a 2Lo/2Hi filter with a medium cutoff to yield a sparkling, trebly tone. The LFO is not used in this oscillator because the vibrato on a Rhodes affects only the body of the sound and not the tines, which are merely a sonic by-product of the hammer striking the strings. Since the tine sound on a Rhodes is more pronounced in the upper range of the keyboard than the lower, the KBD Scale parameter in the Pitch section has been set to +59, making the sound louder as you move up the keys.

The last component of the Rhodes sound — the distortion that kicks in at high velocities — is created by oscillator 3 using the DIGITAL PNO GRIT wave. The AMP envelope Level Velocity and the Output Velocity Window parameters on this oscillator are set to maximum with a concave response curve, which means that you really have to pound on the keys to get the distortion to sound. If you're more comfortable with softer playing styles and you want the distortion to kick in at lower velocities, just lower the values of these parameters. Since the Rhodes is a stringed instrument, the sound dies out quicker the higher up you play on the keyboard, so the envelopes on all

Prog: Real Rhodes 1

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Wave	Bass	Wave
Wave	DigPnoTine	PickedBass	DigPnoGrit
Delay Time	000	000	000
Wave Direction	-	Fwd	-
Start Index	-	00	-
MODSCR	-	Off	-
MODAMT	-	-	-
Restrk Decay	20	20	20

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

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

LFO	1	2	3
LFO Speed	-	36	-
Noise Rate	-	00	-
Level	-	00	-
Delay	-	00	-
MODSRC	-	Wheel	-
Wave	-	Tri	-
Restart	-	Off	-

FILTER	1	2	3
Filter 1	2Lo	3Lo	3Lo
Filter 2	2Hi	1Lo	1Lo
FC1 Cutoff	000	065	046
ENV 2	+67	+00	+00
FC1 KBD	+20	+00	+00
MODSCR	Veloc	LFO	Veloc
MODAMT	+30	+04	+30
FC2 Cutoff	000	036	049
ENV2	+22	+00	+00
FC2 KBD	+00	+00	+00
FC1MOD-FC2	On	On	On

ENV2	1	2	3
Initial	99		
Peak	96		
Break	45		
Sustain	00		
Attack	03		
Decay 1	08		
Decay 2	68		
Release	57		
Vel-Level	99		
Vel-Attack	00		
Vel Curve	Convex		
Mode	Norm		
KBD Track	+14		

AMP	1	2	3
Initial	99	99	99
Peak	99	96	99
Break	30	98	90
Sustain	00	00	00
Attack	00	00	00
Decay 1	48	22	22
Decay 2	38	76	69
Release	07	08	08
Vel-Level	86	53	99
Vel-Attack	00	00	00
Vel Curve	Convex	Convex	Concave
Mode	Norm	Norm	Norm
KBD Track	+14	+14	+14

OUTPUT	1	2	3
VOL	86	99	76
Boost	Off	On	On
MODSRC	Off	Off	Off
MODAMT	-	-	-
KBD Scale	+59	+00	-15
Key Range	C2E4	-	C4A4
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	+00	+00	+00
Vel window	>000	>000	>124

EFFECTS — CHORUS AND REVERB

FX-1	11	FX-2	15
Decay time	13	HF Damping	79
Chorus Rate	20	Chorus Depth	22
Chorus Center	50		
Feedback	+00		
Chorus Level	00		
MOD (Dest)	Level		
BY (MODSRC)	Modped		
MODAMT	+70		

Prog:Real Rhodes 2*

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Expan	Wave	Expan
Wave	E.P.1	DigPnoGrit	E.P.2
Delay Time	000	000	000
Wave Direction	Fwd	-	Fwd
Start Index	00	-	00
MODSCR	Off	-	Off
MODAMT	-	-	-
Restrk Decay	27	27	27

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

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

LFO	1	2	3
LFO Speed	34		
Noise Rate	00		
Level	00		
Delay	00		
MODSRC	Wheel		
Wave	Tri		
Restart	Off		

FILTER	1	2	3
Filter 1	2Lo	2Lo	2Lo
Filter 2	2Lo	2Lo	2Hi
FC1 Cutoff	050	127	061
ENV 2	+00	+00	+00
FC1 KBD	-07	+00	+27
MODSCR	Veloc	Veloc	Veloc
MODAMT	+40	+30	+33
FC2 Cutoff	042	064	066
ENV2	+00	+00	+00
FC2 KBD	+26	+00	+57
FC1MOD-FC2	On	Off	On

ENV2	1	2	3
Initial			
Peak			
Break			
Sustain			
Attack			
Decay 1			
Decay 2			
Release			
Vel-Level			
Vel-Attack			
Vel Curve			
Mode			
KBD Track			

AMP	1	2	3
Initial	99	82	99
Peak	99	99	99
Break	62	62	00
Sustain	00	00	00
Attack	00	00	00
Decay 1	50	37	34
Decay 2	65	52	00
Release	25	18	32
Vel-Level	40	99	79
Vel-Attack	00	00	00
Vel Curve	Convex	Concave	Convex
Mode	Norm	Norm	Norm
KBD Track	+28	+28	+00

OUTPUT	1	2	3
VOL	96	94	77
Boost	On	On	On
MODSRC	LFO	Off	Off
MODAMT	+14	-	-
KBD Scale	+00	+00	+00
Key Range	-	-	-
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	+00	+00	+00
Vel window	>000	>000	>000

EFFECTS — CHORUS AND REVERB

FX-1	08	FX-2	15
Decay time	10	HF Damping	53
Chorus Rate	20	Chorus Depth	18
Chorus Center	50		
Feedback	-09		
Chorus Level	33		
MOD (Dest)	Level		
BY (MODSRC)	Modped		
MODAMT	+99		

three oscillators of this patch have their Keyboard Trk parameters set to +14, making the sound decay faster in the upper range of the keyboard than the lower.

While "Real Rhodes 1" is compatible with all SQ/KSs, "Real Rhodes 2" is a little something just for all you SQ 32-voice users out there. All of the tips for "Real Rhodes 1" apply to this patch, except that the expansion waves ELEC PIANO 1 (Osc 1) and ELEC PIANO 2 (Osc 3) are used for the body and the tines of the sound, respectively. Also, instead of the LFO in Osc 1 being routed to the filters for the tremolo/vibrato effect, it's routed to Output, which controls volume. This yields an effect similar (though not identical) to routing the LFO to the filters. Basically, whether to use one and not the other path is purely a decision of personal taste and convenience.

Both patches use the CHORUS&REVERB effects algorithm, with the amount controlled by the modpedal, to help fatten and sweeten the sound. Though chorusing is the effect most often used on electric piano sounds, it is by no means the only one you can use. For maximum authenticity, you can use just a

simple reverb algorithm. Flangers also sound nice, and can add a little more animation than simple chorusing. Or, if you want something tight and funky, try the phase shifter on for size. Even distortion, if used subtly, will sound good on a Rhodes patch. Since the Rhodes didn't have any built-in effects of its own, anything goes in this area.

Now for a little criticism; both patches sound very different, so which is more like the real thing? Well, both and neither. "Real Rhodes 1" has more fullness and warmth, thanks mainly to the use of the PLUCKED BASS waveform, along with a more realistic distortion effect, but "Real Rhodes 2," while being thinner and somewhat harsher, has a more realistic tine sound, especially in the higher register. The sound of the Rhodes was so different from piano to piano, though, that there really is no one single standard for judging their sound. What really matters is how much you personally like it. So, with a little hacking, you should be able to combine characteristics of both patches to create your own version of the perfect Rhodes sound. That should keep you busy until next time, when we'll have some fabulous fun with FX! ■

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SD & VFX Prog: TWILIGHT ZN

By: Walter Cooper, Latter Sound Productions

NOTES: TWILIGHT ZN, from Latter Sound's Volume 3, is an attempt to recreate that solo Moog from ELP's Trilogy album. No VFX should be without it.

THE HACK: Cool sound, and it uses only one voice of polyphony! The Pulse transwave was too tempting to leave unmodulated, though, so on the Waves page of Voice 4, I set the Mod Source to PEDAL, with a Mod Amount of +99. Now, pressing the CV pedal sweeps through the transwaves - in this case, shifting from a square wave to a narrow pulse wave. For real authenticity (as opposed to fake authenticity?), you might want to axe the velocity response by setting VEL-LEV to 0 on the third Env 3 page of all voices. Also, changing the GLIDE setting to MIN-

WAVES	1	2	3	4	5	6
Wave	Ocarina	DigitalX	SaxVar2	Pulse1X		
Wave Class	BreathSnd	Transwave	BreathSnd	Transwave		
Delay	0	0	0	0		
Start	0	0	0	0		
Direction	Forward	-	Forward	-		
Vel Start Mod	0	-	0	-		
Mod Src	-	Off	-	Off		

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

PITCH	1	2	3	4	5	6
Octave	0	0	0	0		
Semitone	+4	+4	+4	+4		
Fine	+7	+7	+7	+7		
Pitch Table	System	System	System	System		

PITCH MODS	1	2	3	4	5	6
MODSRC	Noise	Noise	Noise	Noise		
MODAMT	+8	+8	+8	+8		
Glide	Legato	Legato	Legato	Legato		
ENV1	-26	-26	-26	-26		
LFO1	+2	+2	+2	+2		

FILTER 1	1	2	3	4	5	6
Mode	2LP	2LP	2LP	2LP		
Cutoff	82	82	82	82		
KBD	-19	-19	-19	-19		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	+14	+14	+14	+14		
ENV2	+24	+24	+24	+24		

FILTER 2	1	2	3	4	5	6
Mode	2HP	2HP	2HP	2HP		
Cutoff	25	25	25	25		
KBD	+99	+99	+99	+99		
MODSRC	*Off*	*Off*	*Off*	*Off*		
MODAMT	0	0	0	0		
ENV2	0	0	0	0		

OUTPUT	1	2	3	4	5	6
VOL	75	75	75	75		
MODSRC	LFO	LFO	LFO	LFO		
MODAMT	+11	+11	+11	+11		
KBD Scale	0	0	0	0		
LO/HI Key	A0/G#5	A0/G#5	A0/G#5	A0/G#5		
Dest Bus	FX1	FX1	FX1	FX1		
Pan	50	50	50	50		
MODSRC	Timbr	Timbr	Timbr	Timbr		
MODAMT	+99	+99	+99	+99		
Pre-Gain	On	On	On	On		
Voice Prior	Medium	Medium	Medium	Medium		
Vel Thresh	0	0	0	0		

LFO	1	2	3	4	5	6
Rate	31	31	31	31		
MODSRC	Press	Press	Press	Press		
MODAMT	+15	+15	+15	+15		
Level	0	0	0	0		
MODSRC	W1+Pr	W1+Pr	W1+Pr	W1+Pr		
Delay	0	0	0	0		
Waveshape	Sine	Sine	Sine	Sine		
Restart	On	On	On	On		
Noise SRC RT	91	91	91	91		

IMOD on the Pitch Mod pages causes filter retriggering only on non-legato notes, another Minimoog characteristic.

I wasn't crazy about Walt's choice of waveforms for the patch selects, so to keep in the Moog spirit, I changed them to basic synth waves. Setting the waveform of Voice 1 to SQUARE, for instance, makes the 0* patch select a smoother, fatter version of 00. Note that the transwave in 00 has a noticeable change in timbre between G#5 and A5; adding in the square wave smooths this over.

- Sam Mims

SELECT VOICE

00				4
0*	1			4
*0		2	3	4
**		2		4

ENV1	1	2	3	4	5	6
Initial	99	99	99	99		
Peak	99	99	99	99		
Break 1	99	99	99	99		
Break 2	99	99	99	99		
Sustain	0	0	0	0		
Attack	99	99	99	99		
Decay 1	99	99	99	99		
Decay 2	99	99	99	99		
Decay 3	99	99	99	99		
Release	99	99	99	99		
KBD Track	0	0	0	0		
Vel Curve	Cncv3	Cncv3	Cncv3	Cncv3		
Mode	Repeat	Repeat	Repeat	Repeat		
Vel-Level	0	0	0	0		
Vel-Attack	0	0	0	0		

ENV2	1	2	3	4	5	6
Initial	0	0	0	0		
Peak	99	99	99	99		
Break 1	77	77	77	77		
Break 2	14	14	14	14		
Sustain	1	1	1	1		
Attack	0	0	0	0		
Decay 1	0	0	0	0		
Decay 2	42	42	42	42		
Decay 3	65	65	65	65		
Release	19	19	19	19		
KBD Track	247	247	247	247		
Vel Curve	QkRise	QkRise	QkRise	QkRise		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	99	99	99	99		
Vel-Attack	99	99	99	99		

ENV3	1	2	3	4	5	6
Initial	78	78	78	78		
Peak	99	99	99	99		
Break 1	99	99	99	99		
Break 2	99	99	99	99		
Sustain	99	99	99	99		
Attack	5	5	5	5		
Decay 1	32	32	32	32		
Decay 2	15	15	15	15		
Decay 3	40	40	40	40		
Release	13	13	13	13		
KBD Track	5	5	5	5		
Vel Curve	Cnvx1	Cnvx1	Cnvx1	Cnvx1		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	20	20	20	20		
Vel-Attack	10	10	10	10		

PGM CONTROL

Pitch Table	Off
Bend Range	2
Delay	x1
Restrike	0
Glide Time	8

EFFECTS (1)

Effect	Concert Reverb
Decay	30
FX1	99
FX2	25

EFFECTS (2)

Pre-Delay	50
Early Refl Level	22
Early Refl Time	30
Diffusion	58

EFFECTS (3)

FX2 Mode	Norm StereoSend
HF Damping	18
LF Decay	0

PERFORMANCE

Timbre	0
Release	0
Pressure	Chan

ESQ-1 PROG: RADON

By: Kirk Slinkard

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	1	SAW	LFO2	+2	LFO3	+5
OSC 2	0	7	0	BELL	LFO1	+63	LFO1	+63
OSC 3	-1	11	31	SAW	LFO2	-2	LFO3	-5

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV1	+28	ENV2	+14
DCA 2	0	ON	ENV1	+41	ENV2	+18
DCA 3	0	ON	ENV1	+28	ENV2	+14

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	13	0	0	ENV1	+63	ENV2	+63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	4	ENV3	+63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	1	OFF	OFF	NOI	63	0	0	OFF
LFO 2	20	OFF	ON	TRI	0	0	0	WHEEL
LFO 3	63	OFF	OFF	NOI	0	0	0	PEDAL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	+63	+63	0	0	0	0	0	55	0
ENV 2	+63	+63	+63	0	0	0	0	0	20	0
ENV 3	+63	+63	+63	0	0	0	0	0	25	0
ENV 4	+63	+48	+37	30	0	0	24	42	58	0

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

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

ESQ Patch: RADON

by Kirk Slinkard, Lakewood, CO

There were no notes with this one.

The Hack: This is a way-cool patch with a sample-and-hold flavor. Oscillators 1 and 3 provide a sawtooth bed, while OSC 2 does the fun stuff. First, it is modulated by LFO 1's noise waveform, creating the sample-and-hold (S/H) effect. But then, to keep the oscillator on pitch, Kirk turned the SYNC function on; this modulates the shape of the waveform (the timbre), rather than the pitch. Very neat. Turn SYNC off and the pitch goes wild.

ENV 3 provides a nice panning effect, which pulls notes to the left when a key is released. The mod wheel adds a vibrato to the sawtooth bed; the CV pedal drives it wacky with a fast LFO.

I thought the S/H effect would be nice with a more apparent pad sound, so I substituted the VOICE1 waveform in Oscillators 1 and 3, then cranked up their DCA LEVELs to 25. I also turned T4 of ENV 4 down to 38, to make the release time more manageable.

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.



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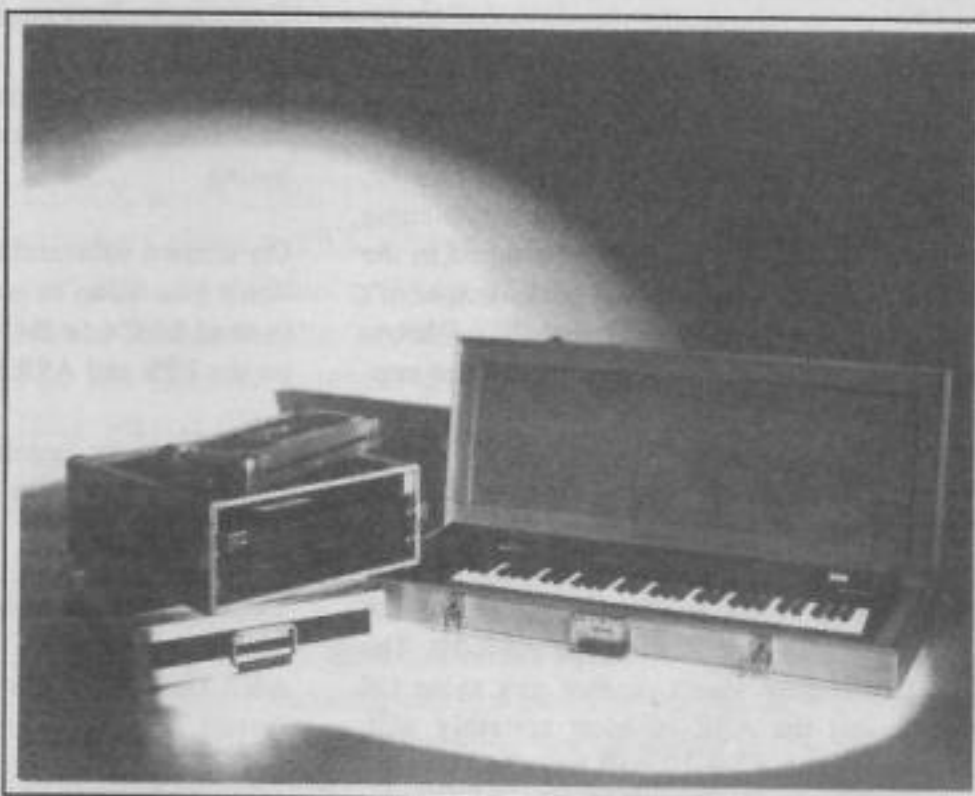
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Shown: 4-space rack with EPS-16 PLUS module, 2-space rack, Eagle-I VFX-sd case



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

U.S. Mail - The Interface, Transonik 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.

Just wondering...

Do you know of any sources for Ensoniq/MIDI/sampling discussions/info/etc on the Internet?

I have access to ftp and mail but no news-groups...

Thanks,
John Lokanis
jal@incontrol.com

[TH - Dara Jones was kind enough to recently send us the following info:

Send e-mail to: eps-request@oak.oakland.edu, or: vfx-request@digibd.com and use the word "subscribe" for the message heading.]

[CS - Also, see Gerry Leone's letter below.]

Dearest Interface,

This is in response to Angelo Zucco M.'s letter in the May Interface - he had a Sys-Ex question concerning the proper codes to send for Audio Tracks Mixing. Ensoniq answered that they'd have to check into his question further...

The Ensoniq External Command Spec has been updated recently and is fairly comprehensive. They even have the file format documented in the back! As Angelo discovered, however, there are some limitations and incompleteness of the EPS/ASR Sys-Ex as programmed in the EPS/ASR OS. There are some tricks that aren't documented concerning GET and PUT PARAMETERS, and a couple of things that are confusing like two parameters sharing the same codes (which was Angelo's question). Perhaps an article is in order to help fellow Hackers with this. I have been talking to Ensoniq and they are in the process (in the middle of busy schedules) of organizing and straightening out the Sys-Ex status of at least the ASR-10. The 16-Plus probably won't receive any more OS updates, but the ASR-10 most certainly will, and perhaps the ASR-10 will have full Sys-Ex implementation at that time. Don't get me wrong, the Sys-Ex works mostly great, it's just not fully documented and implemented yet.

One more thing, Angelo - I don't know if it was a typo, but the correct PUT code for Song GoTo Step is F0 0F 03 00 11 00 00 00 00 00 (01) 00 01 xx xx xx xx F7. The WS part needs to be set to one, not zero. The WS is treated differently than the INST and LAYERS, for some reason. And if anyone has any Sys-Ex

questions, don't hesitate to call me on the Transonik-Net.

Garth Hjelte
Davie, FL

[CS - Thanks for the inside info, Garth.]

[Ensoniq - We'd like to thank Garth for his efforts to help us straighten out the ASR-10 Sys Ex documentation. If anyone wishes a new copy of this free document you can write to: Ensoniq Corp, MIDI Specification Desk, 155 Great Valley Parkway, PO Box 3035, Malvern PA 19355-0735 or call (800) 553-5151.]

Dear Hackeros and Hackerinas,

First a couple of comments for Jim Grote regarding the pitch table he used in his Empire Brass VFX patch in his Sonic Derivations - VFX-sds and SDs (May 1994). "Pure temperament"?! Hmmm... "Temperament" implies "compromise" - choosing compromise pitches that are ideal for none of their usages, but which produce the least overall discord across all of their usages. I don't think you want to call this, or anything else, "pure compromise." Were you perhaps suggesting just intonation (i.e., untempered pitches)?

But I don't want to sound too critical here; far be it from me to discourage experimentation in tuning.

On a more substantial note on the same topic, don't you mean to extrapolate from C4 to C5, instead of C4 to B4? That's the way it works on the EPS and ASR anyway.

Finally, on an unrelated note, a question for Ensoniq: What's the current ETA on the ASR Digital I/O?

Thanks, and keep'm hackin'!
Mr. Microtone
AKA Gary Morrison [71670,2576]
Austin Texas

[CS - You'll be pleased to learn that the ASR-10 digital I/O is available now. Contact your local dealer or Ensoniq for more info or to place an order.]

[Ensoniq - The ASR-10 Digital I/O (called the DI-10) has been available for a few months now. It costs \$399.95 including installation, and is available from any Authorized Ensoniq Repair Station. For the location nearest you call (800) 553-5151. (Sounds just like our ad

copy - no?)]

T'q H'r:

Time for another question-filled letter:

1) What determines which file the screen opens up onto when I use a macro with my hard drive to enter a directory? Why does one directory open up onto file 5 and another open onto file 22?

2) Is there a way to make a sample default its output to Output 3 rather than Output 1... other than going in and adjusting the outputs of each of the wavesamples individually? I play live and use lots of special FX banks. Many times I have to load in an instrument on the fly. The newly-loaded instrument always defaults to OUT=WAVESAMPLE... which is the special FX. So I have to play with one hand while editing the instrument with my left. And I'm not all that good with BOTH hands on the board.

3) Is there any way to *undefine* a preset? I've got several banks with presets I no longer need and don't want to have the old ones still present just waiting for me to accidentally hit them.

4) Is there a way to get the wonderful "rotary speaker" effect in the ASR-10 to be a MONO effect? (Yes, I know, I can unplug one of the outputs, but then I don't get reverb in stereo.) It's a bit distracting sitting in front of near field monitors and having the Leslie constantly whizzing by like freeway traffic.

5) Will Ensoniq ever consider something other than a blinking "LOAD" light? The thing drives people with moderately good peripheral vision (me) nuts.

And, to make up for all the questions, here's an interesting fact to know and tell: Several people have written me, asking how to join the EPS Mailing List on Internet (which recently changed sites, by the way). Joining is extremely easy. Send e-mail to: eps-request@oak.oakland.edu. In your letter, ask to subscribe to the list. Your e-mailbox will be brimming in no time.

Gerry Leone
Victoria, MN
g.leone@genie.geis.com

[CS - 1) Generally, a macro will take you directly to the file showing in the display when the macro was originally created. In other words, if you want a macro to take you to the

first file in a directory, make sure that that file is showing in the display when you create the macro. The exception to this is when you create a macro to take you into a directory into which no files have been saved, and then you save files to that directory later. In this case, simply re-write the macro after you've got files in the directory.

2) If you want to make a single wavesample default to a specific output, simply select the wavesample in question (select the instrument, press EDIT, underline WS=XX, and play the key on the keyboard that plays the sample), assign it to the output you want (press AMP, then scroll to OUT= XXX, and select the output of your choice), and finally save the instrument. This will permanently change the output assignment for that particular wavesample, without affecting the output routings for any of the other waves.

3) Sorry, there's no way to undefine a preset. My best suggestion is to re-write presets that have the potential to cause problems so that they are benign. The other alternative is to re-create (from scratch) any banks that have potentially dangerous presets, and save these banks before creating any presets. This will provide you with banks that have no presets.

4) Strike two. As far as I can tell, there's no way to configure the rotary speaker emulator to work in mono.

5) Well, how about a blinking "READY WHEN YOU ARE" light?]

Hello TH from your neighbor city down south!

I bought my TS-10 on April 18, 1994. After a couple weeks of playing around, I decided to be a good hacker and start looking for information about where my keyboard came from. I soon learned how to have the TS display its ROM version (Presets+System), and located the Mfg. date on the back of the board. This is what I found: ROM: v1.10, Mfg. Date: 05/05/93.

The next day, I went to a clinic put on by Ensoniq's own Dan Gallagher on the features of the newest Ensoniq boards. After the show, I went up and poked around on the TS-10 he was using and had it bring up the ROM version: v2.02 (or 2.20, I don't remember). Slightly miffed, I asked him what the current ROM version was for the TS-10. He told me, "3.0, but it has only been shipping for a couple of weeks."

My question to Ensoniq/TH: Is it possible for older TS-10's to still be in the channel? How long had the v2.02 ROM's been around before the v3.0 ROM's were released?

Would most music stores order enough stock to have enough boards to sell 3-4/month (what I was quoted) and still have some older models laying around, or is Ensoniq still shipping older boards? It's kinda upsetting to think I may have to plop down more cash (and time) to have my ROM's updated on a synth that (I think) should have been current when I bought it.

Frustrated, but willing to listen,
Wes Santee
Eugene, OR 97401
Internet: wessantee@symantec.com

[CS - Ensoniq will have to answer the part of your question dealing with how long it takes for instruments with newer software to make it into the mainstream, but I worked for a number of years at a retail music store, and I can tell you this. It is possible that the machine you got was from older stock, and the salesperson passed it along to you without knowing it. My guess is that this is what happened to you. I wouldn't sweat it too much, though. I'm sure that between your local dealer and Ensoniq Customer Service, you can get yourself updated to the current stuff with a minimum of fuss and no expense.]

[Ensoniq - You bring up a very complicated scenario for us. We try to work with our dealers to see that their inventories are kept low, and that they order frequently from us. In this way we help the dealer to manage their inventory and cash flow, and we keep the store stock as current as possible.

That is a desirable scenario, but we are not able to guarantee that every dealer's stock is in that condition. Different products have different sell-through rates, in different parts of the country, and at different times of the year. So suffice it to say that we try to do the best job to maintain current version inventories in the field.

At the time you spoke to Dan Gallagher, Version 3 had just started shipping, and that new feature-based release requires a modification to the TS's mainboard to be installed. So even Dan had not yet gotten his unit updated, since it requires bench-time at a Repair Station. So that makes it difficult to quickly update every store display model and possible inventory. But remember, almost every O.S. release we have ever delivered has been free (the TS GM update Version 3 being the one exception, due to the modification required).

The 2.02 OS was released November 1993, and the Version 3 GM update released to manufacturing late in March 1994. We started shipping update service kits just last month, so there has certainly been a slight delay going from version 2.02 to 3. The more pertinent question would be when did version 2.02 come out in

relation to your unit. OS 1.10 was release to manufacturing May 1993, and 2.02 was released in November 1993.

So we are surprised and sorry to see that in 1994 you received such an old OS - you should have really had a version 2.02 or possibly the Version 3. Please contact Customer Service at (610) 647-3930 - I (Jerry Kovarsky) will see that they help you out in some way.]

Subj: Syncing Jam Loops To Sequ TS-12

1. Is there a way to sync the LFO frequency, or the steps in a Hyperwave to the sequencer? I really like being able to take the output of an LFO and use it to trigger the sequencer along with the sample and hold on my old analog machines. I have seen people using various formulas for timing BPM between ASR-10 loops and the sequencer. Is there an easier way?

2. I bought my TS-12 in late March of 94 and within a couple of weeks the General MIDI 3 software was announced. I feel strongly that customers who purchased their machines within a certain time of the new OS should be shipped the update free of charge or for a very nominal fee; not the \$99 I was quoted by Ensoniq sales.

3. I tried an old (original) DX-7 expression pedal with my TS-12 and it didn't work. Is it the pedal which is broken or a simple case of incompatibility? The manual says that the pedal should see 5v across the input jack, but mine only measured 3.3. I have gotten varying answers from Ensoniq tech support. Can someone give me the definitive reply?

P.S.: I am getting frustrated with Ensoniq's general attitude after reading a couple of issues of the Hacker and talking with other Ensoniq owners. It seems that they are always "genuinely sorry that you feel that way about it" when we customers bring up bugs or talk about any requests for even minor software updates. I know that my initial enthusiasm for my TS-12 has been seriously damaged. I had thought that a smaller company like Ensoniq would be more responsive and provide frequent upgrades to its software to ensure the long-term growth potential of my TS-12. Now I have read in a couple of places, and gotten this from Ensoniq tech-reps that the TS-12 is basically a stop-gap product while Ensoniq re-designs their architecture for their next generation. I was also told by an Ensoniq rep that I should not expect software updates for the TS-12 anytime soon and that the GM 2.5 OS option would cost me \$100.00 even though I purchased my TS-12 only 4 weeks before the new OS shipped!

Gee, I wish I was told this when considering my purchase of the TS-12. Previous owners

and my dealer assured me that Ensoniq was constantly updating their software and going out of their way to keep owners happy with minor OS updates.

As a software developer, I know that buyers have no right to expect me to commit to specific time-frames or feature-sets in future updates. They buy my products based on their satisfaction with the product as it is. However, I do think it is reasonable to expect a general commitment to a product line and to providing feature upgrades at a reasonable cost and at fairly regular intervals.

I bought into Ensoniq assuming they would continue with a responsive policy towards owners of their earlier models. Ensoniq's apparent unwillingness to commit to this same policy is distressing to say the least and will undoubtedly affect my decision to purchase their products in the future.

I bought the TS-12 knowing that interfacing with CD-ROMs, my PC, and MIDI would be rough compared with other brands. But I was assured that Ensoniq would provide improvements in these and other areas "real soon." Since I liked the overall feature/cost ratio I figured I'd go with it. These features are not critical to me now, but are becoming more and more important and will undoubtedly be neces-

sary for me to address by the end of the year.

I hope that Ensoniq will step up to the plate and commit to a long-term strategy for us users of the TS-12. Otherwise I can see myself feeling stranded with an obsolete machine within 12 months.

Thanks,
JC Harris
Suntower Systems [70242,1520]

[CS - 1] I'm afraid there's no way to directly sync your LFOs or Hyperwaves to your sequencer. You can, of course, adjust Hyperwave speed from within a sequence or preset by pressing the Timing button until you come to the RATE page, and using the data slider to make appropriate settings. Other than that, it sounds to me like you're on the right track if you're aware of the various methods for using loops in sequences - the issues pertaining to loops and Hyperwaves are pretty much identical.

2) I'd suggest contacting Ensoniq Customer Service (215-647-3930) directly. While I don't know what the answer is, perhaps they can clarify matters or make a helpful suggestion or two.

3) The DX-7 pedal will not work with Ensoniq gear (without completely rewiring it, that is, and replacing a couple of parts); I know, I've tried.

From what you say, I think it might be a bit premature to start getting frustrated with Ensoniq - particularly if your experience with their Customer Service department is primarily through the Interface. This column as often as not serves as a surrogate complaints department, and one can mistakenly draw the conclusion that many Ensoniq owners are unhappy with their purchases, if one's point of reference is the Interface. I think it might not be a bad idea for you to contact Ensoniq Customer Service (215-647-3930) directly, and go over some of these issues. I think that direct communication between you and Ensoniq might provide benefits on both ends.

As far as the TS-12 being a "stop-gap" product, that's news to me. I own a TS-10 (one of the first), and it has proved one of the most useful and flexible products in my studio (and believe me, I've got a lot of stuff for comparison). The sounds and features that first attracted me to this machine haven't changed a bit, even though I don't have the latest upgrades. The machine remains a primary production tool in my arsenal.

Of course, no one can expect software (or hardware, for that matter) upgrades forever. As a software developer, haven't you ever developed software for a platform (an Apple II,

a CPM machine, a Commodore 64), that you can no longer afford to support? It's no different in the synth business. I do think that manufacturers have a responsibility to see that their software and hardware performs as advertised, with all features and published specs implemented and up to snuff. But upgrades and enhancements are pretty much at the discretion of the manufacturer. And while no one's perfect, I think that Ensoniq's track record in this department is pretty good, particularly in comparison to most other instrument manufacturers.]

[Ensoniq - 2] As we discussed in the last response, the Version 3 upgrade requires modifications to the mainboard and has labor costs involved. This release is not a "bug" fix per se, but adds new features. Features that were not a part of your buying decision, since you couldn't have known about them.

While many times we add features and don't charge for them, they are normally part of simple disk-based releases, or new chipsets that don't require modification to be performed to make them work. This release costs us money in parts and labor time for the Repair Station (not to mention development time!), we simply looked to recoup some of those costs. New features have some value, do they not?

Your PS - Whew! No company thinks of itself as being unresponsive to their users. We certainly do our best to design and manufacture a good product, price it fairly, give it good customer/technical support, develop new sounds and accessories, nurture third-party support and more.

The TS-12 (and TS-10) is in no way a stop-gap product until we design something new. We wouldn't have worked for two years to develop a "stop-gap." Of course in our technological marketplace every product will become obsolete by newer technologies eventually. Prices come down, new technologies become available that allow us to create today what we couldn't have done a few years ago, and in a few years we will be able to do things that we couldn't possibly have designed our current products for today.

So you are right when you say that you must buy our products based on your satisfaction with the product as it is today. We do not sell our products as general-purpose micro-processors that will have different application software developed for them over the years, with constant updates, upgrades and new developments. Many times we are able to enhance our products and, when possible, we do that. The TS platform has had the following enhancements since the release of the TS-10:

• Tempo track for the sequencer

Maybe your question has already been answered —

Interface On A Disk

Ever hunt through that old stack of *Hackers* looking for that reference to Bernoulli drives — somewhere in the letters column? By using the Back Issue Index you can usually find the article you're looking for — but letters are different. Well, lucky you, here's your solution — electronic files of raw text from the last four years' worth of letters columns — all ready to be pattern searched for whatever you want. (DOS formatted, 720k, 3.5")

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1991 (Issues #67 - #78), 310k
1992 (Issues #79 - #90), 356k
1993 (Issues #91 - #102), 416k

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This is not indicative of a disregard for continuing to support, enhance and nurture a product line. But we do not market our products based on regularly updating and adding new features based on users' input. Don't despair - we value that input and use your ideas to hone our product ideas and make better and better products. We just don't want to set up an expectation that because you suggest a good feature, or a better way of doing something, that we can turn around and design that into a soon-to-be-released OS for your product. When we can, we will, but you must assume that the product you bought is the product you'll continue to have - it won't necessarily change in a few months, if ever.

So what is our long-term strategy for the TS-12? To provide good technical support for it, to enhance it with sound releases (both synthesized and sampled), to create support documents (and videos) that aid in your use of the product, to continue to nurture third-party development support, and to assure good quality in our manufacturing and service. The TS-12 is a great instrument, and we cannot agree that anyone who owns one or buys one will be "stranded with an obsolete machine within 12 months."

We don't mean to seem argumentative, but how else could we answer you but with the truth? If you would like to talk about this more I'll be glad to speak with you. Call (610) 647-4940 and ask for Jerry Kovarsky.]

Dear Hackers (and Ensoniq):

I have two questions and an ASR OS enhancement suggestion.

ASR Question: Is there any way to reduce the ASR's need to go about "SHUFFLING DATA"? When I load up a bunch of instruments, and then try to save a sequence, it sits around shuffling data for a good two minutes.

ASR/EPS Question: Did anybody ever finally come up with a hard disk backup program for ASR or EPS?

ASR Enhancement Suggestion: When you encounter "DISK DATA [that is] CORRUPTED," could you at least load as many wavesamples and parameters as are not corrupted? I find it rather annoying that I've got

to start over on a two-disk long orchestral percussion sound just because one bit in one word in one wavesample in one layer in one instrument got flipped causing a sector checksum to mismatch. I'll agree that I have no excuse for not having had a backup of that sound if Ensoniq will agree that they have no excuse for being so fault-intolerant. (Sorry for the stern wording, but I'm frustrated at the moment.)

Gary Morrison
Austin, Texas

[CS - There's no practical way to reduce the amount of time the ASR-10 needs for shuffling data; it's a necessary evil that makes it possible for the ASR to load different instruments and sequences from different locations on different disks, and remember where they all came from so that you can save the information as a bank and not have start over from scratch every time you want that same configuration of instruments and sequences loaded into the ASR.

Hard-disk backup has been available for some time in the ASR and EPS-16 Plus. First, boot from a floppy disk - the ASR will not allow you to backup the boot drive. Then hit COMMAND, then SYSTEM, and scroll until you see BACKUP/RESTORE. Hit enter, and follow the prompts, and you should have no trouble.

By the way, I've found that you can sometimes (and I stress the word, "sometimes") load data from a corrupted disk if you try again (sometimes you'll need to try several times). It seems that once in a while, perhaps because of alignment problems, a disk will read corrupted, even though the data is pretty much intact. Of course, if you can get your data loaded this way, you'll want to back it up immediately to freshly formatted floppies.]

[Ensoniq - 1) Surprise, Clark, as announced in this issue, OS Version 2.07 does address reducing the SHUFFLING DATA time when saving sequence data. We hope that you find it better.

3) We passed your comments on to Engineering. Thanks for the input.]

Dear TH,

I have two questions.

First, I signed up to receive the *Transoniq Hacker* shortly after I purchased my Ensoniq KS-32 keyboard. I was charged \$14 on my VISA card 10/28/93. I haven't received any issues after the first issue, #100 October, 1993. Can you check on my subscription status?

The other question is more technical. Is it possible to *easily* create a single channel that con-

tains the general MIDI drums (or one sound/patch that contains the full general MIDI drums that can be assigned to one channel)? The built-in general MIDI drum patches #98 and #99 on the KS-32 are great but they require two channels to work with general MIDI sequenced songs. Since I am limited to 8 channels I would prefer to use only one of those channels for the drums.

Please send your reply via e-mail in case I don't receive the next issues on the *Hacker*. Thanks for your response.

Tim Cimbura
Cimbura@aol.com

[TH - The first issue of a sub always goes out First Class and is handled by hand. Then your name and address gets entered into our computer to handle the remainder of your sub. THIS is where we screwed up. We're sending #101 - #108 in tomorrow's mail. (Everyone - please don't wait so long if there's some problem!) Sorry about that.]

[CS - I'm afraid there's no way to create a single drumkit that contains more sounds than what you'll find in the factory GM kits. The best advice I can offer is to create custom kits with only the sounds you are actually using for

250MB Internal Hard Disk for your ASR-10

Do you wish that your ASR-10 had a built in hard disk like your notebook computer? Imagine having high speed access to all of your sample/sequence data onboard your ASR-10 with no external boxes, cables, terminators, etc.

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a particular sequence mapped to the appropriate locations on the keyboard. These custom kits can then be assigned into your sequences as needed for specific rhythm tracks.]

Dear THers:

I'm glad to be back after renewing my subscription to your most wonderful magazine. I have found TH to be an invaluable source of information and reading this column has helped me more than once solve a difficult glitch that I was experiencing. I currently own an EPS-16+ and a VFXsd. I've owned an Ensoniq sampler ever since they made one. Remember the DSK-8? I still have one, even with the better sampling option. This leads me to my dilemma.

I wanted to buy a new Ensoniq keyboard but I couldn't justify spending the money. There were two main reasons for this. The first reason was that with the TS or KS series I couldn't do my own thing editing samples and saving them like I'm doing on my EPS-16+. The second reason which kept me from purchasing their ASR series sampler was that Ensoniq never fixed some of the limitations that they were experiencing with their previous samplers. Two of these were hanging notes

when playing when you loaded a sample (even on my 16+) and trying to load a sound while the sequencer is playing. Okay, I'll give you guys one thing - you allowed us to do bank loads via MIDI and gave us more RAM with the ASR. Cool.

Anyway I'm sorry and happy to say that I went out and purchased a keyboard that Ensoniq should have made... the Kurzweil K-2000S with the sampling option which allows up to 64 Mb of sampling RAM and up to 24 Mb of ROM. So I propose this challenge to all of my fellow THers out there...

How about starting a K-2000S column? How about it, Clark? What do you think?

You can e-mail me on the net at Buchta@qmcumc.mail.cornell.edu

Sincerely yours,
Peter Buchta

[CS - While the K2000 is a fine product, "Transoniq Hacker" sounds strange enough as it is. Can you imagine the nightmare if we tried to work "Kurzweil" into the name, too? I mean, would you buy a newsletter called "Kurzoniq Wacker"?]

Dear TH,

I have a 21-voice SD-1 which I would like to upgrade to 32 voices. Do the upgraded SD-1s say on the synth that they have 32 voices? If not, how can you tell?

I bought a KMX-16 which, for the most part, I'm extremely happy with, but it doesn't appear to have an off-on switch. I would find one very useful since I don't need to use the KMX-16 all the time. Is there an off-on switch for the KMX-8 and KMX-16 that I'm missing?

The Secret Mystery Interfacer

[CS - 32-voice instruments produced at the factory are so labelled; instruments that have been upgraded are not, although the startup screen may refer to the fact (maybe Ensoniq can clarify). And the KMX-8/16 has no power switch.]

[Ensoniq - The startup screen does tell you what version SD-1 you have, as does the extra Bank of ROM sounds!]

But we must make you aware that the 32 Voice upgrade program for the SD-1 and VFX-SD was discontinued in March 1993 (see Hacker issue Number 93, pp.3). We were able to upgrade those units while the SD-1 was still in production, but when we stopped manufacturing it the component costs to continue doing upgrades became too expensive.]

Dear Hacker and Ensoniq,

In your Issue #107 response to my letter you misunderstood my question about Sysex documentation. I have Ensoniq's Sysex spec V2.0 for the TS-12. On page 15 of that document it says, "Note: The sequencer data format is not currently documented, so these blocks are only described in general terms." My question was Why isn't the sequencer data format documented? And, for that matter, why isn't the format of your floppy disks documented? If we know both pieces of information we could write programs to convert SMF to Ensoniq and vice-versa.

And speaking of standard MIDI files, I'd also like to add that your comments about why you don't support standard MIDI files don't quite jibe. SMF came out in 1989. Surely you could have developed support for them by this time if you had wanted to. And you don't need to support 16 channels of information in order to implement SMFs. Other manufacturers (Roland) don't. They just convert to and from their internal format as best they can given the number of channels that their machines can handle.

I have the impression after reading several issues of the Hacker that Ensoniq favors proprietary devices over open accessibility, perhaps to give themselves some kind of edge in the marketplace. I, for one, find this very disappointing. And I also find Ensoniq's usual answer to customer requests for OS changes very disappointing - sorry, that's the way we did it and we're not going to change it.

Robert J. LoSasso
Chicago, Illinois

[Ensoniq - You are right about the time that SMF's were first developed, but as a small company with limited resources we have to decide the importance on what to work on very carefully. There are issues (like SMF's) that we wait and see how important it becomes for our users before choosing to implement them. We can't work on every new technological development as soon as it first appears.

As a design philosophy we don't agree that "cutting corners" is always the best way, so a limited implementation may not be the best answer. Remember that the issue of supporting SMF's is both our disk format and our sequencer track structure. So it is the totality of the effort that we look at. If we had the disk format, we might very well have chosen a limited implementation as you suggest, but in the light of the size of the task we couldn't do it.

Again, remember the rest of our response - we recognize the value of SMF's and certainly plan to implement them in future disk-based products. As we stated in the earlier letter,



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don't despair because we can't read your request and promise that we will immediately implement it, nor raise the hope that it will come in the near future. But the input and dialog is very important to us - don't stop suggesting, cajoling us, or even demanding things. We do listen.]

Dear Th/Ensoniq,

What's up with my 2.0 software? I bought my ASR-10 strictly for the hard disk digital recording capability and five months later my 1.1 gig hard drive sits 95% empty because I haven't received shit from Ensoniq. Not a phone call, not a letter (except for the one telling me once again, about the digital hard drive recording capabilities that I can't use.) Nada! So please, TH, run an article on hard drive recording for all of us who Ensoniq has left hanging.

P.S. Manny's hooked me up with the 2.0 software, so it's loaded in the hard drive. All I need is some instructions. Word up to Steve at Manny's!

Thanks,
Bret Frederick
Brooklyn, New York

[CS - Ensoniq has notified all their registered (remember to send in that warranty card, folks) users as to the availability of the 2.0 OS for the ASR-10. The OS, including documentation, is available free of charge. Contact your local dealer, or get in touch with Ensoniq Customer Service (215-647-3930) directly.]

[Ensoniq - If you did not hear from us we can only guess that you never sent in your warranty card. (Or at least it never got to us.) We mailed out materials to every name that we had from the warranty database.]

We also ran ads with coupons for you to clip out and send back to us. We ran a few display classified ads in Keyboard and Electronic Musician promoting the availability of the software. And we sent complete kits (including documentation) to our dealers so they could contact their customers. Even with all that effort I guess we missed you. Please - one call to our Customer Service would have gotten you the materials, free of charge. Writing to the Interface has simply slowed down the process by two months. Call us at (800) 553-5151 and ask for Justin. He'll get you the materials ASAP. We're sorry for the delay!]

Dear Interface,

I am one of those guys who is still using the old classic EPS-M. I still like this machine a lot. However, it would be very helpful to be

able to obtain the source code for the OS.

I firmly agree with Garth Hjelte of Rubber Chicken that giving this information will only benefit Ensoniq, as exciting new software could be developed which would make it possible to exchange sound and sequence information between the EPS-M and other computer equipment.

Sincerely yours,
Ruben Harry
The Netherlands

[Ensoniq - We're sorry, but we will not release the source code for any of products. That code is very proprietary information; the heart and soul of our development, and protected intellectual property.]

But we do have SYS EX documentation for all of our products, and that avenue does allow you to create enhancement products with computers that add value and functionality to our products.]

Dear Hacker,

1. I bought a new SCSI loaded ASR-10 in March to replace my EPS Classic. Right out of the box the ASR was defective. My pitch wheel did not work as the wrong cable was installed at the factory. After a call to customer service they gave me two options:

A. Ship the unit to the factory for service.

B. Ship the unit to the nearest authorized repair station (over 100 miles away) which would probably end up at the factory anyway.

I sold my EPS Classic the day before so either option would leave me keyboardless. I was told my MIDI studio would be down for no more than 6 days. I shipped my ASR UPS second-day air on the condition that it would be shipped back to me the same way. It was not. I received my factory serviced ASR-10 about 3-1/2 weeks later via UPS ground. After numerous long-distance phone calls to customer support they determined it was still at the factory and not shipped yet. So I spent over \$2500 for a defective keyboard that can't even be located. And when I finally get it back, guess what? No power cable was shipped with the unit. So after all that time, I still had no way to play it. Sweet. My suggestion to Ensoniq is that they have a toll-free support line and if a customer receives a defective unit send them a new one. Not the same factory serviced defective product. What if something else goes wrong? Do I have to wait another month before I can run my studio. Unacceptable.

2. What is this disk tracks thing?

I bought a Bernoulli 150 M hard drive for the sole purpose of adding extra tracks (digital tracks) to my eight-track recorder via chase lock. But, surprise, disk tracks can't sync to external clocks - the joke is on me. I read the letter from N. Grupstra about this subject and Ensoniq's response is unacceptable. ASR-10 owners need a detailed answer about why disk tracks will not sync to external clocks and if an upgrade solution is in the works. I am sure I am not alone. This is a major disappointment/limitation for ASR-10 users using Version 2.0.

Ensoniq is a good company with good products. But it is not far away from being a great company with great products. A few revisions and they could corner the sampler/keyboard market for price/performance ratio.

Sincerely,
Colby Watson
Clarkston, Washington

[CS - I can't comment regarding toll-free technical support on Ensoniq's behalf, but I do know that this type of support is becoming ever-more rare in the technical world in general; some rather gigantic companies (many times the size of Ensoniq) do not offer toll-free phone support. I guess it's just a fact of life that as we consumers become tighter with a dollar, and competition for those dollars heats up, companies have to dig ever deeper to control costs. Unfortunately, one of the things that companies view as non-essential for remaining competitive is toll-free support. Oh well.]

I agree that it would be really, really cool if you could sync disk tracks. In all fairness, though, I think it's pretty cool that disk tracks came to be at all. Certainly, this capability was never mentioned in the original spec for the ASR-10, and I could never have faulted Ensoniq if they had decided to forego designing hard-disk recording for the ASR-10 altogether in favor of developing software for other new products.]

[Ensoniq - 1) Steve Coscia replies: We apologize for the inconvenience with your ASR-10. Our repair authorization system usually works well. But as your experience indicates, we can make mistakes. While we can not change the past, we do try to learn from our mistakes and make improvements.]

At this time Ensoniq has no plans to offer a toll-free number for technical support. Ensoniq dealers are the primary network for technical support. In the last year we have added more people to the department, which we believe is the best use of the dollars we have to spend. More people to answer calls seems a better answer than adding toll-free support and leaving you on hold for an unreasonable length of time.]

Ensoniq has fewer Authorized dealers than any of our competitors - this has been true since we started manufacturing keyboards in 1984. Having fewer dealers enables Ensoniq's District Sales Managers to do more in-store training. This makes our dealers more qualified to provide greater value and service at the customer level. In addition, we invest significant resources into special training (like our award-winning Ensoniq School) and in-store workshops to educate our dealers. Our Customer Service department, while a secondary level of customer service, does assist customers with the technical issues that dealers are unable to resolve. Ensoniq has a commitment to its customers, which we take seriously. And we are constantly looking for ways to improve that system of support.

fine options out there for you.

Please don't take this response the wrong way, but we are in a no-win situation. We have delivered a product, and for you it is not the right design/solution. We did the best we could with our hardware/software platform. Remember, this is an addition to a sampling/sequencing keyboard, and one that was developed and released for free. It is an enhancement to an already good product, and should be looked upon as an enhancement for the user who wants to work with the ASR-10 as a self-contained system. We're sorry to have disappointed you.]

Dear Hacker,

First I would like to give recognition to Dennie Edwards of Ensoniq's Customer Service for his help as I battled dilemmas with my ASR-10. My board was freezing up on me perpetually and permanently corrupting existing sample and sequence data. The malfunction was eventually remedied by Ensoniq, although I have to throw out a remorseful RIP to lost and cancerous samples and sequences. The now malignant samples and sequences, I am told, may load and function fine for any amount of time and the ERROR #BLAH BLAH - REBOOT? -

as though there were a choice. This results in the extreme inconvenience of rebooting everything and often losing essential creations. Fellow ASR-10 users: If you are experiencing excessive breakdown, discontinue loading and saving on floppy disk immediately. Call Ensoniq now!

Which brings me to comments and questions.

Comment: Ensoniq should definitely provide an 800 number for its customers.

Question: Is there any way to rectify corrupted information, short of resampling everything from the original sources - which is, in most cases, impossible.

Question: Wavesamples lose fidelity as they loop. What could possibly be causing this? Also, wavesamples lose fidelity and smoothness very noticeably with minute changes in pitch value.

Comment: Loading up old EPS sequences into the ASR-10 results in all that translated data being 2 (two) clocks slow. In other words, every event in every sequence that should start at 1.01.01 instead begins at 1.01.03. This means that I have to go through every track of every sequence and requantize.

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Comment: I have received no further information on a few problems that the ASR's sequencer has. #1, the "hiccup" syndrome. Chained sequences delay at the point of connection. This seems to happen especially when certain wavesamples are held for the duration of the sequence (ie., 7 beats/96 clocks in a two bar, common time sequence). #2, manipulation of the duration values of such events results in a non-desired value after entering the change. Usually the desired duration is obtainable after repeated tries, but not always. #3, quantization of events of, for instance, a two bar, 4/4 sequence consisting of 16th note closed hi-hats often results in the last note of the sequence having a positioning of 2.04.72 (seventy-two) when it should be 2.04.73 (seventy-three). Silly little quirks that add up to big hassle and undesirable results.

Ensoniq, I am extremely impressed with the ASR-10 and I was similarly impressed with my EPS when I still owned one. But I must make this statement:

It seems that when your new innovative products are developed, you rush them out onto the market before you have worked out all of the kinks. I can see why this can be a positive policy from a business mentality, because it keeps Ensoniq much more competitive. But, from the consumer end, we can come up short.

This (assumed) policy has caused me great frustration, as I have no choice (other than returning the board) than to wait with bated breath for the release of a new operating system and pray to Moog that these electronic nuisances and impediments are quelled with it. This (assumed) policy has also resulted in the loss of many of my carefully constructed homemade wavesamples, as well as an array of sounds from your EPS library. Would it be at all possible for me to send you a list of lost samples and have you replace them? I don't really think that this is an unfair request, as it is your product which destroyed them. Please contact me at your earliest convenience. My vital stats should be in your files, perhaps with Dennie Edwards. Thanks again to Dennie and don't be a stranger.

Ensoniq sample users, my invitation remains open to all of you with questions, comments and experiences that you would like to share. Please write! It's good to have a fellow user's input.

Aeron Autics
613 So. Lombard Ave.
Oak Park, Illinois 60304

[XS - (In deference to Aeron, I've changed my first name to Xavier. Has a nice ring, don't you think?)

As I mentioned in the response to Gary Mor-

ison's letter, I've found that you can sometimes load data from a corrupted disk if you try again; sometimes the data will load after several attempts. The best solution, of course, is to keep anything important backed up.

The ASR-10 uses a sample transposition scheme called "first-order interpolation" to accomplish pitch-shifting of sampled data. This process has a major advantage over other processes in that it allows you to transpose samples over a much wider range (with some other schemes, samples created at high sampling rates cannot be transpose up in pitch, for example). The downside is that very small pitch shifts (a cent or two) are sometimes not handled very gracefully, as you've discovered. And for the same reasons that small transpositions can be a problem, loops that use a fractional end point (setting the last number in the loop end display to something other than ".00" will force the ASR-10 to interpolate samples to make up the difference) can sometimes suffer. The only workaround (admittedly, somewhat lame-o) that I can recommend is to try to avoid putting yourself into situations where samples in the ASR need to be tuned by such small amounts. If you're creating the samples yourself, try to make sure your source material is in tune before sampling, for example.

I have no information regarding sequences converted from the EPS being 2 clocks slow, but one thing I might suggest checking as regards your "hiccup" problem. Try to make sure that you're not asking the ASR to play too many notes (and other events) all on the first beat of a sequence. You can run into this problem if you have fairly dense orchestration, and you tend to quantize a lot (this is true not only for the ASR-10, but for most sequencers). If you want tracks to sound tight, quantize only the percussive foundation instruments. For example, if you have a sequence which includes bass, drums, sax, strings, piano, and synth pad, try quantizing just the bass, kick drum, snare drum, perhaps some of the cymbals and other percussion noises, and possibly the piano. Since none of the other instruments has a very defined attack, quantizing them will not necessarily tighten up the overall feel of your sequence - unless they are way off the beat in the first place.]

[Ensoniq - Time did not permit us to digest and develop responses to your many technical issues. Suffice it to say that your letter has been passed on to Engineering and we will have to get back to you. The Hacker does have publishing deadlines, you know, and this month we were hard pressed to make the deadline (it's 8:30 at night and my family is still waiting for me to come home!)]

[TH - And we're waiting to lay this out and rush it to the printer tomorrow morning! Hopefully, we'll have more on this next month.]

Dear Ensoniq:

"General MIDI for the TS-10? Yeah, and curb feelers on a Porsche." - Al Unser, Jr.

...quoted from the garages here at the Indianapolis Motor Speedway May 1994.

Pat Finnigan

[CS - Obviously, none of you has ever seen me parallel-park.]

[Ensoniq - Well none of us have a Porsche, so we can't comment. We do use training wheels now and again...]

Dear TH,

In response to Daryll's problems mentioned in TH #107:

Dear Daryll,

Okay, so someone out there has had as much frustration with certain EPS Classics and certain SCSI drives as I have. My first EPS was delivered exactly as yours was: an Ensoniq 4X with a PS SCSI card. Worked with an Eltekon 90Mb that crashed three weeks after I got it. Eltekon replaced the hosed HD mechanism with a Quantum 80Mb HD with no explanation (just another in a long string of disquieting behaviors which probably has something to do with their whereabouts now.) My SCSI cable (from Eltekon) had pin 17 removed at the DB25 end and if I used a standard 25-50 Apple SCSI cable, the system would not boot from HD or even recognize it ("Invalid Load Device" or "File Operation Error"). And this was before 1/3rd height SCSI drives were even available: You got a HH 3-1/2 or 5-1/4 80 Mb mechanism for your hard-earned \$1200 from Eltekon three years ago.

Here's the deal: you *must* have RAM version 2.49 (O.S. 2.49 in Ensoniqspeak), and ROM Version 2.40. This fixes the "reset line" bug in the earlier versions and allows use of a standard DB25-to-Centronics 50-pin Apple SCSI cable. Oh, yes, don't believe anything about the PS card being compatible with the Ensoniq 4X & SCSI card, 'cause it ain't and it won't. Period.

The reason your drive has slowed down is because: 1) Wrong SCSI card. Unless it says "Ensoniq-EPS-SCSI" in plain silkscreening on the board, it ain't and it won't. I think this is the case, because if you can't change the interleave at the "Format SCSI Drive" it isn't the Ensoniq SCSI card. Which, by chance, brings us to...

2) Wrong Interleave. When you reformatted

the drive, it's quite probably (e.g. damned likely), that you either reformatted it at a 1:1 interleave, or the EPS didn't give you the "Interleave = X" prompt (indicating a non-Ensoniq card) if you indeed have ROM Version 2.40. This isn't a problem with the EPS-M as it contains an Ensoniq SCSI card, but you'll need Version 2.41 ROMS for it. Format the drive at 2:1 for best response. I read in an earlier issue (circa 1990) that 3:1 works for some squirrely old SCSI drives, but 2:1 works fine on most unbuffered drives – the EPS can keep up with that speed. Expect 400-500 k/sec data transfer rates on an EPS Classic. An unfragged drive can load all 4096 blocks in about 4 seconds when the EPS's karma is cool. The EPS likes SCSI drives with large RAM buffers built into the controlled card (on the bottom of the drive), as buffers can pre-fetch sequential blocks of data faster from buffer RAM than slamming the disk for info. 32k to 64k is common for drives in the 40 – 105 Mb zone. 240's and above have 128k and more to pre-fetch data from the multiple platters of these bigger drives. But you knew that.

3) Incorrect SCSI card installation. I've done this too. It's really tricky to get those wanker-type pins of the SCSI card lined up with the corresponding pins on the socket of the memory expander. I did that to my first EPS and blew out the 74LSXXX TTL chips on the SCSI card. Fortunately, it was a PS Systems card and I had the dealer replace it with a genuine Ensoniq SCSI card. (Don't tell anyone). This also is not cool to some of the stuff on the 4X board, so make damned sure you've got it right the first time, 'cause if you don't it won't and you can't...

4) The moral of the story: buy Ensoniq. These guys do software embodied as hardware for a living. And, not to knock in-the-field support, you probably know more about SCSI than your local dealer. (How many SCSI devices are hooked up to the store's Ensoniq equipment, anyway?) So renew your subscription to the *Hacker*, because Ensoniq's engineers are the giants... We readers are merely the Shell Answer Men...

Pat Finnigan
Raster Ops/TrueVision Tech Support

[CS – Thanks for writing – again – Pat. (One more, and I think I'll change the name of the column to "Finnigan's Take.")]

Greetings and salutations:

I have a question regarding my ASR-10. Recently, I mixed down my band's demo. The ASR and drum machine were virtual tracks. The 4-track recorder was synched to another sequencer. Now that I think about it, I have two questions.

1) My ASR did not receive (or at least respond) to pitch bend data from the sequencer it was enslaved to. When my ASR was set to MULTI mode, it ignored pitch bend; when it was set to POLY mode, it played the pitch bend data. Unfortunately, I was using more than one sound so it needed to be in MULTI mode. Does the ASR not respond to Modulation info such as pitch bend when it is in MULTI mode? As far as I know, all global MIDI parameters were set to receive everything. Any suggestions?

2) Is there any way to lay a sync track on to a four-track recorder, or at least read the sync track so I do not have to slave my ASR to my friend's sequencer?

Whoa, last minute addendum regarding that problem syncing the ASR to another sequencer: I think I may have solved the problem of it not receiving pitch bend data. I used a piano sound that I programmed to bend (the factory setting does not bend). I only programmed the bend to patch 00. Patches 0*, *0, and ** were not set to bend. I think that somehow the sequencer sent a patch change that I did not require and therefore used a patch that did not bend.

Other than that and the semi-regular crash, I love the product.

Thanks,
Daniel Acquisto
Buffalo, New York
INTERNET:acquisto@acsu.buffalo.edu

[CS – 1) You're probably right on this one. The ASR-10 should respond to Pitch Bend no matter what mode you're running it in. (Assuming, of course, that the patch has pitch bend...) From here it's hard to tell what might have happened to cause your unexpected patch change.

2) The ASR-10 can not directly read the sync code from your 4-track deck (or any other non-MIDI sync source, for that matter).]

Dear Hackers,

In late September I had the misfortune of attempting to order disks for an EPS-16+ from one of your advertisers – Tim Hamel of Neanderthal Organization Techniques (N.O.T.).

As I was in the process of moving when the disks arrived in late October, I put off checking them till December. Finding one sound that would not load, I wrote to Mr. Hamel to obtain a replacement and received no response. I waited a month and wrote again – no response. I waited another month and wrote again, including that he should call me collect to rectify this situation – no response. It has become ap-

parent that Mr. Hamel hasn't a clue about how to run a business.

Anyone considering ordering merchandise from N.O.T. should NOT.

Glenn Bering
Ann Arbor, MI

*[TH – We suspect that Mr. Hamel came to a similar conclusion about Mr. Hamel running a business. We haven't been able to contact him for a reply either. Sometime during the months between receiving your order and your first letter N.O.T. probably went out of business. (Of course, if we're wrong and we hear from him again, we'll be sure to ask, "Why the %^&** don't you respond to letters from customers??")]*

Mr. Interface:

In the review of our Rubber Chicken's Country Set, I wanted to make a clarification: the reviewer (thank you, Pat) quotes our documentation as saying, "If the ASR-10 or TS-10 had a feature called polyphonic glide, a pedal steel sample would sound a lot better." Actually, as we have later realized, the EPS/ASR/TS has polyphonic glide, but only accessible with the sustain pedal through Glide Mode=PEDAL. Bill Mauchley of Ensoniq had this helpful instruction:

*** PEDAL GLIDE MODE ***

The *Best Kept Secret* about the EPS/ASR is the pedal glide mode. It allows polyphonic glide to be turned on simply by pressing the SUSTAIN pedal. The number of notes that are sounding when the pedal goes down is the number of notes that will glide. In other words, you can set the "N-PHONY" dynamically.

1. Set Layer glide mode to pedal. set glide time to 10.
2. Play and hold, say, C & F.
3. Press sustain pedal. Lift up C & F.
4. Play two different notes.

Hint: The notes steal each other in the order that they were depressed.

We have since included this feature in the Pedal Steel, although in my opinion, it's not completely satisfactory polyglide because we'd still like to use the sustain pedal for sustain. I still wish Ensoniq would put polyglide as a normal option into the OS. Now, it does take some practice to get good with the pedal glide, but it does make it sound more convincing. Anybody swear by it? Thanks, Bill, for the hint!

Garth Hjelte
Rubber Chicken Software Co.

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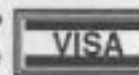
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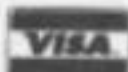
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