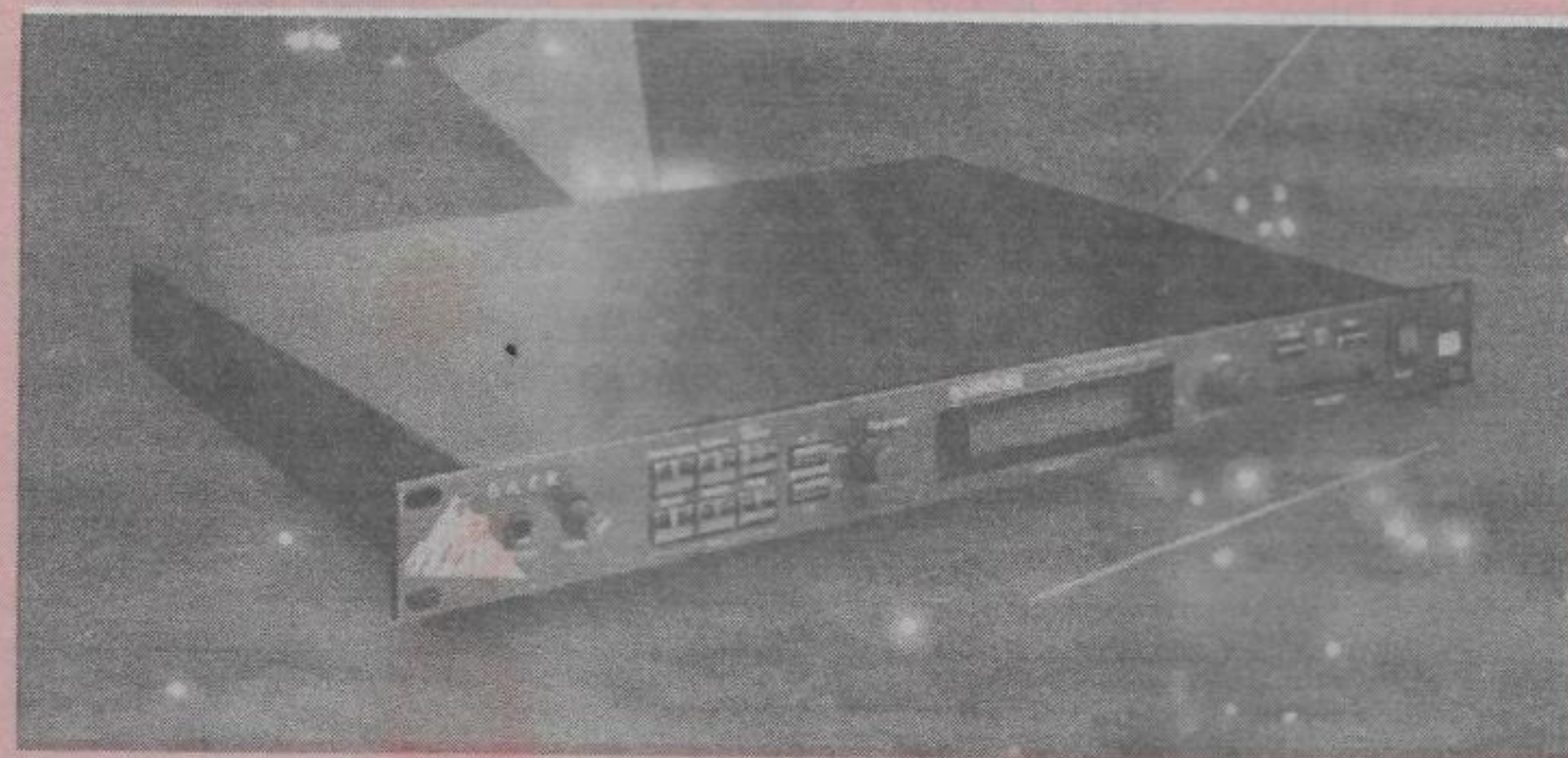# Transoniq Hacker

The Name is RACK. MR Rack!

Pat Finnigan

Yes folks, it's finally here. And that's *exactly* what the front panel says when you turn it on. From the people who, with an eyebrow raised, replied as from a form letter, "We have no plans at this time to implement the features of the Ensoniq XXXXX in rack form." Well, my little pretties, 1996 is here, and Malvern has done an about face and released one of the most powerful rack synths ever produced. With the inception of MR Rack, Ensoniq is now one of the major players in the synth module market, if not the one and only. And after you hear this piece you'll know why...

Rather than give you the blurb promo sheet rehash, this guy is a simply amazing 1-rack space, 64-voice synth module unlike Malvern has ever produced. It's totally different from the SQR-series,

from its HIGHLY readable front panel display down to its detented Value and Parameter knobs (thank you, thank you, Ensoniq!). For approximately $1700 MSRP this box is worth twice the price just for the Strings and Pianos; the Rhodes Bank is just unbelievable.

Oh yeah, there's 12 MB of waveROM drumkits, sterling acoustic guitars, tribal loops, and #$%^&* unbelievable pads ("LA Layer" is just dead *ON*), the best woodwind orchestra section you've ever heard, I really, really could go on. But this ain't a stripped down KT-76, kiddo. Ensoniq opened up its wave architecture, and if you pull the cover off MR Rack you'll find three open waveROM slots to add, get this straight now, Seventy-two (that's 72, kiddies) ADDITIONAL megabytes of waveROM!

So how's an 84 Mb single-rack-space module sound? Kinda puts all the competition's ballyhoo in perspective, eh? And yeah, there's a PCMCIA data card slot up front to store your favorite torques to those, lemme stand back here, Eight-Four meg of samples! Yikes! I think you'll find what you're looking for in 84 Mb of waveROM: Ensoniq seems to think so (all you ASR Attack heads notwithstanding).

No, I'm not gonna tell you about its onboard FX or its sound, because this is one module you're gonna have to see for yourself. It even sports GM sounds (for the musically challenged) and maps for you Multimedia-types, and one trick you absolutely have to do is hold a chord down using the "ChatterClav" patch and switch to "Clavicle" for a sonic treat. Select any sound or group of sounds (yes, we're talking SoundFinder here), and just press the "audition" button to hear some representative riffs: no MIDI input required to hear the sound! And the riff changes per bank! Just bells and whistles, I know, but very cool for checking edits without repatching MIDI cables. You get two stereo pair outputs (Main and Aux), but MR Rack is so new I didn't test to see if the Auxes were dry or not. A MR Rack Profile for MOTU's Unisyn Mac Librarian comes with the unit, so you're not paying $49.95 for a disk with six profiles you won't use just to get the one you need. And, as a cursory tip of the hat to the times, MR Rack does not sport the sustain or CV pedal inputs on the back panel as on the SQR-series: MIDI turned 14 this year, you know.

But here it is, kids, and now. Roland has tried pulling a slick trick and repackaged their glut of expansion cards (you know, those overpriced expansion boards that nobody bought for their JV-series synths) in rack boxes with power supplies and MIDI jacks. *Only* Ensoniq lets you buy *one* box with *one* power supply and lets you install three waveROM expansion cards in ONE single-space rack box. Nice try, Roland: I think I'll carry one box instead of four...

As powerful a rack synth yet designed, I forecast a glut of Y, K, R and P used synth modules at stupid prices (as well as gaping holes in synthesizer rack cases) this year in the music business. I don't think dealers will be able to keep them in stock, as do I question Ensoniq's ability to meet demand for an 84 megabyte synth module at this price. Fortunately, with this much waveROM I doubt MR Rack will ever spread itself very thin. The sounds you're gonna want, the polyphony you're gonna need, the expandability you can't get anywhere else, MR Rack is The Piece to get in 1996, if your dealer can get them and if you can get your hands on one.

I wonder what MS Rack thinks about all those groping hands. Hmmm... ◼

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.

HYPERSONIQ   New Product Announcements

DinosauRemains announces the release of their classic vintage sounds for the EPS — "While chipping away at Rock 'N' Roll's crusty bedrock, we discovered *DinosauRemains,* a tiny egg that wants to hatch into a full size T-Rex. These remains are the sounds of the long-dead prehistoric keyboard instruments — like the laser optic disc of Vako Orchestron, and the mechanical tape loop Mellotron. One foot stuck firmly in the ooze of an ancient tar pit. DinosauRemains specializes in the sounds that made groups like Yes, Genesis, Moody Blues, and King Crimson legendary. Sounds so creaky and sci-fi B-movieish that they nearly defy description, but come with names like 'Violins,' 'Choir' and 'Brass.' We have captured a moment in time — a sound memory if you will — with all its character and quirks intact: the grit of the violin bows, the realistic, out-of-tune quality of the choir voices, the flat warble of a brass section. DinosauRemains also has samples of other vintage keyboards like Moog Taurus Bass Pedals and Roland Vocoder Plus. You can order custom Vocoder 'spoken lines' if your techno song needs just the right touch. There are also several Moog, ARP and Paia disks. Take your music back to the distant past without the several tons of unreliable gear." Disks are $9.95 each, any five for $39.95. For further information, contact: DinosauRemains, 10702 Sagewillow, Houston, TX 77089. Phone: 713-481-1256.

RND (♪♪♪)

Ensoniq News

ASR/TS Series

SCD-2 "A Touch Of Jazz" — This Signature Series features D.J. Jazzy Jeff and his production company, creating the dopest grooves, tones, and effects for dance music. It also features the masterful scratching and turntable magic from Jeff himself — one of the pioneers of the art. We expect to have this title out in April. Suggested retail: $249.95.

SCD-4 "Keith Emerson" — We're going to press on this one as we speak! Amazingly aggressive organs and synths from a keyboard legend. This collection offers multiple versions of each sound; 44.1 kHz mono and stereo, large and small, and 30 kHz versions give you the choice of the highest quality to the most sequencing "bang-for-the-buck." Includes demos of *"Eruption/Stones of Years"* from Tarkus and *"Welcome Back, my Friends"* from Brain Salad Surgery. Suggested retail: $249.95, available in March.

AS-17 "WaveWorks Synth Basses" — a new collection of vintage analog bass sounds from classic synths such as the Cat ᵗᵐ, MiniMoog ᵗᵐ, ARP Odyssey ᵗᵐ, Juno 106 ᵗᵐ, MK-50 ᵗᵐ, SH-101 ᵗᵐ, and TB-303 ᵗᵐ. Contains five HD disks and a sound manual. Suggested retail: $39.95. Available in March.

AS-18 & 19 "Atmospheres, Attitudes, and Accidents" Vols. 1 & 2 — An evocative collection of ambient sound effects, mood loops, and imaginative textures. This is the perfect collection for film composers, experimental musicians, and dance producers looking for new sounds to use in remixes. Each set contains five disks and a sound manual. Suggested retail: $39.95. Available April, 1996.

MR-Rack

MRC-1 "Synth Banks" — the first ROM card release for the MR-Rack. MRC-1 contains 160 unique synth timbres, from vintage synth emulations to new and imaginative pads and textures. Also includes special Performances and a demo. Suggested retail: $99.95. Available in April.

Hacker News

Well, last month when we said that we're looking for someone who can put SQ, KT, VFX or TS patches into an "Internet-able" format and that it was also a good time to unleash the writer within — we gave the wrong phone number. It should be 503-227-6848. Sorry about that.

After years of doing a really excellent job at the never-ending and always growing task of reviewing *Hacker Basement Tapes*, Daniel Mandel's career has started putting demands on his time that make getting out these reviews close to impossible. So... the torch has been passed to Steve Vincent — a familiar name to regular readers. We'd like to offer enormous thanks Dan for all he's done with this column (it was actually his idea to begin with) and wish him the very best in his career. We also have a big thanks for Steve for taking over this job. Steve introduces himself and explains his methodology as he launches this month's column.

Fans of *Hacker* writer Craig Anderton will be happy to know that he's got yet another terrific do-it-yourself book out — *Projects for Guitarists — 35 Useful, Inexpensive Electronic Projects to Help Unlock Your Instrument's Potential*. Available at most music and book stores, or order direct from Miller Freeman Books, 6600 Silacci Way, Gilroy, CA 95020. Phone: 800-848-5594.

Vocal Distortion

Tom Shear

Five years ago when I wrote my first article for the *Hacker* (man, can it *really* have been that long ago?!?), I chose to write on the topic of nonconventional uses for distortion. Since that time, the listening public in general has been exposed to this more and more, particularly the use of distortion on vocals. It's not hard to turn on MTV (although turning it on without your gag reflex going crazy might be more difficult) and see any of a number of bands finally embracing a technique that has been used by underground musicians for nearly 20 years. Distorted vocals are now accepted by your everyday Joe MTV. This is getting scary.

So this month, I thought I'd provide you with an EPS/ASR effect that will allow you to turn your voice into the gritty, smog-encrusted shadow of its former self that'll drive the kiddies wild. Distortion is an easy way to add aggression to your vocal tracks. To utilize the patch described below, you'll either need the Waveboy *Audio-In Effects* disk for using the effect "live" with a microphone, or a vocal sample that you can feed through the on-board effects. Instead of going for your run of the mill stomp-box distortion, this effect is particularly nasty and is also prone to wicked feedback and ungodly other noises. Sure, it's more difficult to

control, but, hey, it's worth it.

The first step is to load up the CMP + DIST + REV algorhythm. This will be the basis for the effect. Press your left arrow key until you see the BUS 1 REV AFTER DIST page. Set this to 39, or to taste, my suggestion would be to keep it at a lower value though, as too much reverb will muddy this up to unhealthy levels. Next, set your BUS 2 REVERB MIX to whatever value you want. This will control the reverb level of any instruments you might be sending through BUS 2. After pressing your right arrow key again, set your REVERB DECAY TIME to 54. This, obviously, controls how long a "tail" your reverb will have. Because we want this effect to really cut through, we're going to set HI FREQ DAMPING to 0, or no damping at all. This parameter allows you to cut back on higher frequencies if you wish to have a "duller" reverb.

Scroll right again and boost that COMPRESSOR THRESHOLD all the way to 99. In the most basic sense, a compressor boosts the volume of quiet sounds so they are more in line with sounds of a louder, or normal volume. This makes mixing easier and also allows you to catch all those subtle vocal nuances that can make a vocal sound particularly intimate (think of Tori Amos, for example). What this means on this particular effect is that you'll need to be real careful about your mic technique because any nudge, pop, or deep breath is going to be boosted to a much higher volume. Of course, this is also what makes it possible to get some incredibly intense sounds.

Next you'll want to set your DIST GAIN IN to 99, and your DIST GAIN OUT to 33. This gives us a highly distorted sound without having it be insanely loud and frying the mixer. Punch the faithful right arrow key again and you'll find yourself looking at the values for DIST LPF and HPF. Set your LPF to 99 and your HPF to 1. Here, we're basically insuring that the bright sound of this effect is maintained. Next is the part of the effect that I think gives it a nice extra touch. Set your DIST FLANGE RATE to 3. This adds a flange (duh) to the sounds (well, actually it controls the speed of the flange), and as you probably know, flanging tends to sound the most noticeable on noisy sounds, so we are graced with a wonderfully aggressive sweep throughout the distortion now. Finally, set your SYSTEM FEEDBACK to -1 and FBACK MOD-WHEEL to 0. You can experiment here if you want, but trust me, this effect will already give you plenty of feedback to reckon with if you want it. Waveboy users will also want to set the input setting to MIC IN (or LINE IN if you wanted to use this on a guitar or drum machine).

So there it is... one nasty vocal distortion with a side of punctured ear drums. While I found this to be most useful on vocals, it can, of course, be used on any sound you care to subject to the grunge treatment. Once you've saved your creation, mess around with the various parameters to see how they affect the sound. This is really the best way to learn how these machines work, and who knows, you might just find something cool along the way. ■

Bio: Tom Shear is a hunky supermodel who sometimes also uses the name "Fabio."

How Sounds Work
Part XVII: Real Chorusing

Mark Clifton

Yes, I have been gone a while, and I do have myriad excuses to cover my tracks (moving to college, new job, etc.), but never fear, I am back with the column in full force, and a bit of a new direction. I was getting bored, to tell the truth, with the same old work I've done here the past couple of years. Too much technical emphasis, and the same stale old format: a patch or two plus obtuse opening paragraph, followed by boring list of each and every semi-relevant parameter and what its function and value is; no art, not enough of what we'll call "sonic appreciation."

Well, from now on I'll try to change that. It's time to move away from the code-crunching and toward a more open, nonstructured exploration of why sounds do what they do, literally "how they work," and why we lend them aesthetic merit. Maybe this new change of tone stems from the fact that I'm now attending art school, which involves a lot of study of subjective aesthetics, and have been viewing sound from more of an artistic, and not a utilitarian viewpoint. I want to meld the two viewpoints, and there seems no better sound to explore this with than that of the human voice — the most artistically expressive

and subjective of all instruments.

Trying to synthesize the human voice is just asking for trouble. I've spent the last few years in these pages complaining, mostly, that no modern synthesis technique is capable of equaling the expressiveness of an acoustic, human-controlled instrument (of course, synths are "human-controlled," but any true organic interaction with the actual materials and acoustics of the sound is brick walled by a network of switches and codes that will always prevent them from becoming as expressive as even the simplest of acoustic instruments). Acoustic instruments, while superior in their input capabilities (a synth's merits lie in other areas), are still inventions, and young ones at that. They are wrought by human hands and are forever separated from the performer's true thought processes by the limits of their external physicality.

These external devices are upstaged by yet one more instrument, one that is the product of millions of years of evolution, and which is built into the humans' natural framework, its express purpose to translate raw thought into sound. It is the most complex instrument imaginable, taking into account not only the delicate network of soft tissues and membranes which form its output, but also the network of nerves and synapses which lie behind its control; no silicon chip can reach this level of complexity.

Nonetheless, like every other sound on the planet, there has been some reason or another found to at least try to synthesize or sample this "human" instrument. The results, so far, sound pretty pitiful, and are universes from perfection. The products of these imitations must be taken in their own right, as the comically guttural mess of synthesized speech has become representative of the soulless aesthetic of computers, and not of the human beings which are its inspiration. Sampling, unlike synthesis, can at least capture the voice's timbre, but in its usual flat snapshot way, not the endless amount of variations by which it produces its "soul." Better luck has been had, though, in sampling the voice en masse, when its individual characteristics are swallowed up in the steady timbral characteristics of the group. This is why there are choir samples on your SQ and not solo vocal samples. The former is infinitely more useful and potentially realistic. This month we'll explore just how to use these raw waves to their true potential.

Prog: CHORALE

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Breath	Breath	Expansion
Wave	VoclEns	VoclOoohs	Choir
Delay Time	000	000	000
Wave Direction	Fwd	Fwd	Fwd
Start Index	00	00	00
MODSCR	Off	Off	Off
MODAMT	-	-	-
Restrk Decay	50	50	50

PITCH	1	2	3
Octave	+0	+0	-1
Semitone	+00	+00	+00
Fine	-03	+03	+00
ENV1	+00	+00	+00
LFO	+04	+00	+04
MODSCR	Off	Off	Off
MODAMT	-	-	-
KBD Ptch 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	32		34
Noise Rate	00		00
Level	17		17
Delay	66		66
MODSRC	Off		Off
Wave	Sine		Sine
Restart	Off		Off

FILTER	1	2	3
Filter 1	3Lo	2Lo	3Lo
Filter 2	1Hi	2Hi	1Hi
FC1 Cutoff	004	026	127
ENV 2	+85	+70	+85
FC1 KBD	+00	+00	+00
MODSCR	Off	Off	Off
MODAMT	-	-	-
FC2 Cutoff	000	064	000
ENV2	+00	+00	+41
FC2 KBD	+00	+00	+00
FC1MOD-FC2	Off	Off	On

ENV2	1	2	3
Initial	51	51	51
Peak	99	99	99
Break	92	92	92
Sustain	88	88	88
Attack	24	24	24
Decay 1	66	66	66
Decay 2	57	57	57
Release	92	92	92
Vel-Level	19	19	19
Vel-Attack	06	06	06
Vel Curve	Linear	Linear	Linear
Mode	Norm	Norm	Norm
KBD Track	+00	+00	+00

AMP	1	2	3
Initial	49	49	49
Peak	99	99	99
Break	94	94	94
Sustain	88	88	88
Attack	12	12	12
Decay 1	66	66	66
Decay 2	57	57	57
Release	46	46	46
Vel-Level	33	33	33
Vel-Attack	06	06	06
Vel Curve	Linear	Linear	Linear
Mode	Norm	Norm	Norm
KBD Track	+00	+00	+00

OUTPUT	1	2	3
VOL	80	89	84
Boost	On	On	On
MODSRC	Off	Off	Off
MODAMT	-	-	-
KBD Scale	+00	+40	+19
Key Range	A0-C8	C5-C8	C5-C8
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	+98	-98	+00
Vel window	>000	>000	>000

EFFECTS — HALL REVERB	
FX-1	62
FX-2	25
Decay Time	54
Diffusion	34
Detune Rate	40
Detune Depth	12
HF Damping	33
HF Bandwidth	86
LF Decay	+13
MOD (Dest)	FX1-Mix
BY (MODSRC)	Modwheel
MODAMT	+99

"Chorale" is a light, delicate sound, betraying an intimacy often missing in the impossibly huge, mass angelic choir sounds found on most synthesizers. In it I tried to include a great deal of breath, provided by the VOCAL OOOHS wave, over the flatter and more full-bodied foundation of the VOCAL ENSEMBLE waveform. The more nasal, synthy CHOIR expansion wave adds a bit of throat to the sound. These can be grouped in a loose progression of chest (VOCAL ENSEMBLE) to breath (OOOHS) to throat and inflection (CHOIR), covering all of the stages that the voice must go through before being released and heard. Detuning and panning between Oscillators 1 and 2 provide chorusing and stereo depth to the sound. LFO provides vibrato (no self-respecting singer would be without it) on oscillators 1 and 3 (the chest and throat), but remains inactive on Oscillator 2, where the breath remains constant.

A 2Lo/2Hi-pass filter with a fairly high cutoff removes the synthy body from the OOOHS wave, creating an almost sigh-like stream of unbroken, crystalline breath, the spring source of all vocal sound. The two remaining oscillators are also filtered in this manner, though with a 3Lo/1Hi arrangement and a lower cutoff, to emphasize the breathiness inherent in these waves. As with most sounds, the highest range of possible frequencies is exploited here. Too often synth patches sound constrained, filtered into an uncharacteristic midrange without the more extreme partials that often lend an instrument its subtlety and beauty. Here I tried to capture both the feminine sigh of human

breath and the deep resonance of the masculine diaphragm and throat, both of which would be present in the timbre of a large mixed choir.

The Output keyboard tracking in Oscillators 2 and 3 gradually fades out the breath and throat the farther down you go in range, bringing a duller, deeper baritone sound from Oscillator 1. In the envelopes, attacks and releases are realistically abrupt, but soft, simulating the staggered reactions of a large group of singers without a synthy, overdone "whaaaa." The attack may sound slightly hard to those of you who are used to ethereal pad-type choral sounds, but you'll find that it adds more realism to forceful staccato passages. The dynamics are programmed to take advantage of the amazing timbral range of the human voice, from soft sigh at light velocities to a full bellow at harder ones.

A large Hall Reverb with a medium-long decay blends the sound adequately and covers up the sometimes nasty loop artifacts that plague choir samples. Wetness is controlled by the Modwheel.

Hope I helped in some part to make your SQ sing. Next time we'll explore a very different instrument in the gap between the organic and the electronic: the Wurlitzer electric piano. ■

Bio: Everything about Mark Clifton is subjective.

Polygamy and Memory Failure

No, sorry — Polyphony and Memory Shortage

Paul Rowland

Setting the Scene — Thoughts regarding one's aging EPS-16+ sampler

If limitations with this sampler are perceived and endured then it follows that one is either poverty stricken, or that one's partner unreasonably sees priorities greater than shelling out gold on updating music machines. Lucky indeed are those in the latter category, for it is easily solved by getting rid of the partner. However, for the rest of us

moving on up to the ASR may just be beyond reach for now. Perhaps discussing some of the issues may abate frustration...

Causes of Frustration

The limitations of the EPS-16+ are:

• Shortage of RAM Memory — 2 MB maximum, plus a

Sample Organizer / Comparator

KEYS: A B C₀ D E F G A B C₁ D E F G A B C₂ D

PIANO 1

W/S No	Blocks	Comments
2	265	Massive, noisy
10	Copy	
3	256	Good tone
15	Copy	
5	277	poor tone muffled
16	Copy	
7	240	Clean, poor tone
17	Copy	
8	240	Chords Ok
9	233	

PIANO 2

W/S No	Blocks	Comments
11	215	Good
26	Copy	
25		Poor tone
12	254	Noisy
10	255	Fair
27	Copy	
9	254	Don't like ton
31		

PIANO 3

W/S No	Blocks	Comments
19	207	Boomy
5	220	**!@!!
6	171	Needs Filtering
7	192	Marginal
9	180	Good
10	175	

hybrid sort of 1 MB Flash (4000 — 6000 blocks).

- Lightness on Polyphony — 20 voices only, less with 44 kHz Effects.

Whilst better effects, stereo sampling and other advances are around, it is the small RAM that is the big demon. This memory is an integral part of the sampler and, although with appropriate software a computer can edit this memory, I believe nothing can enlarge it beyond the the 2 MB (expanded). So that leaves us with only one way to cope — improve housekeeping arrangements to minimize on memory and polyphony demands.

Minimizing Demands on Memory

The EPS-16+ memory is shared dynamically between instruments and sequencer, so one should first look to reducing the use of memory by:

- Replacing some instruments with others from external modules.
- Editing the remaining instruments to get economical memory usage.
- Limiting the number of instruments loaded, and replacing as needed whilst song is played.
- Offloading sequencing to an external sequencer.

External Modules

I can hardly imagine using an EPS-16+ as the sole sound producer when pads, chords, and some instruments often seem superior and less noisy on popular sound modules. A module also provides greater polyphony as external instruments don't subtract from your 20 voices. Certain solo instruments seem made for the EPS — of my favorite sounds, about half are EPS samples. If you can choose, those instruments that eat up the most memory should be the ones that are prime candidates for external modules — like pianos and stringed instruments. Easy things to loop like brass and reed instruments can often give good, playable samples, as do short duration percussion sounds.

Editing Samples for Memory Economy

There is an obvious potential for conflict here, between quality and quantity. If appropriate, looping can sometimes resolve this. Low sample rates, even among commercial samples, are often used to conserve memory. However, if we're very concerned about sound quality, a better way to do it may be to be very careful to pick and choose instruments as a whole and even wave samples within such instruments. Here is a simple way to ease such wave sample comparisons (see figure).

Essentially the method is to lay out the keys in strips to

cover the full range, and to enter information below as needed for either full analysis (with lots of information) for one instrument, or, comparative analysis of several similar instruments (with less information to avoid clutter).

By using highlighters to make the best wavesamples stand out and by patiently entering possible candidate instruments one may be able to edit and assemble a composite instrument that is both acceptable and memory efficient. This technique seems to work especially well for me in putting together pianos and string quartets. (Just a reminder — don't copy "copies" from one track to another. Rather copy the original, identified with "Wave Sample Information," and then "Copy Wave Parameters" — otherwise memory consumption will rocket.)

Notwithstanding my earlier remark about sampling rate, the option "Convert Sample Rate" may be useful for final adjustment — just watch those highs.

Loading Whilst Sequencer Plays

For economy of memory a song may require replacing an instrument with another while the sequencer is playing. This can also help if one is running out of tracks. It is done in the MIDI In Mode "Multi" with MIDI Prog Change "On" to receive through MIDI. The program Change Number is sent from a master — a computer, keyboard, event processor, patch bay or whatever is capable of sending the Program Change Number on the desired channel/track.

With the sampler in the Load mode and the disk inserted, the Program Change Number chosen should be the disk File Number + 1. There must be an instrument already loaded in the track for its replacement to happen when the change number is sent. Be careful with your message pathway to be sure that this message gets sent where it needs to and nowhere where it's not wanted. External sequencers work particularly well in this situation. Program changes can be sent over MIDI from another keyboard but I find this can be clumsy and I prefer to use my programmable event processor with a footpedal.

One could think that, with MIDI Looping, the sampler could look after its own reloading through MIDI using program change messages from its own sequences. For reasons I can't fathom I have have not found this method to be completely reliable. It does come through occasionally — perhaps a quirk of my own equipment or a skeleton in the EPS cupboard.

External Sequencing

If this is an available option, it can save memory at the rate of about 1 MB for each 150,000 notes sequenced externally at 30 kHz sampling rate. (100,000 notes at 44 kHz.) Computers meet this need, as do stand-alone sequencers and even sequencers incorporated in other modules or keyboards.

My limited experience (and hardware) has guided me to a compromise in this aspect — using the EPS-16+ sequencer for some track and song sequences. Other tracks are on my small external sequencer (in an M1). Clock control is easiest from the sampler. Having these tracks off the sampler also lowers its processing load and makes things run smoother.

Depending on the equipment, there may be some things to sort out when running two sequencers in parallel — Starting and Stopping being the most common. The external sequencer may start at countdown, for example, producing one bar of silence in the external tracks before the internal tracks start *after* countdown and play for the first beat in the track. With Countdown "On" this should present no problem on playback.

Another issue to watch out for: If the signals from the sampler are merged with other keyboard signals into the external sequencer, be sure the system clock signals have one and only one path — otherwise trouble may show up when using a patchbay and an event processor.

Incidentally, the Aux Foot Switch (of the Dual Footswitch) can be most useful to exit the internal sequencer from recording when Punching In.

What Now?

The old EPS-16+ can't really take full advantage of the CD and CD-ROM revolutions, with their beautiful long wavesamples. However, the hardware is undergoing similar revolutions. If you can work along the lines I've summarized to stretch out the life of your EPS, this should give you more time to hoard your gold and ponder your next purchase. With a little patience and luck you may be able to leapfrog the ASR crowd... ∎

Bio: Paul Rowland has been an engineer, irrigation farmer and academic. For now he's a small commercial flower grower in the Barossa Valley of South Australia.

VFX Meets VOX
Part 3 — The Jaguar

Kirk Slinkard

Not long before I wrote this article, I got to see *Iron Butterfly* perform near Denver, doing both new material and many of the classic songs they are famous for. Doug Ingle (the original writer, singer, and organist on IN-A-GADDA-DA-VIDDA) used a Roland keyboard controller and Yamaha tone generator. He did get a very good harpsichord sound, but his organ patches sounded inexpensive (that's as politely as I can put it). I guess that's what comes from not playing an Ensoniq board. But his performances on the various *Iron Butterfly* albums of the sixties and seventies where he played a Vox Continental organ are one of my inspirations for collecting vintage keyboards. So to celebrate a recent addition to my collection, here is my latest installment on synthesizing Vox organs on the VFX and other Ensoniq synthesizers with similar voice architecture.

When I wrote Parts One and Two about the Continental and Super Continental, I figured I would never obtain a Jaguar unless maybe I did some serious traveling or ordered one blindly through a rare mail order advertisement. But I recently found one in surprisingly good condition just two miles from where I live. I had to give it the routine minor electronics repair job and a good cleaning, just like on almost every piece of vintage equipment I get. So now it looks very good and plays just like new. Then I ordered a service manual with a schematic diagram in the mail. I always like to get a more intimate insight into the vintage keyboards I get by examining the electronic circuits and trying to copy the sounds on my Ensoniq syn-

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thesizers, so this article covers what I found out about my new Vox.

Life Is Cheap

Perhaps the single most important feature of the Jaguar was that it was the least expensive of the Vox combo organ line. By getting one of these, a lot of amateur musicians in the sixties and seventies were able to have a Vox brand organ without paying the higher prices of the Continentals. A touch of irony is that now the Jaguar usually sells for more than a Continental or double-keyboard Super Continental in similar condition. I remember seeing the Jaguar available as an unassembled kit in my local Heathkit shop along side their own line of amplifiers and fuzz units. Although I found no appropriate Heathkit label, my Jaguar might have been one of these because it had a few construction problems like one wire had never been installed and nails were used in a few of the places where wood screws were used in similar applications on the rest of the instrument.

The Jaguar's design and construction employ several money-saving features. On the outside, it looks almost identical to the Vox Continental except that it has tab switches instead of Hammond-style drawbars. Inside it has much less circuitry and a lot of empty space, making it as easy to work on as a stock '57 Chevy. Like the Continental, it includes a four-octave keyboard, but with only the upper three octaves having the traditional Vox reverse-color keys, and the lowest octave having the more usual white keys with black sharps and flats. This is to remind the player of the range of the bass voice. Although I am told that the first Jaguars had the reversed Vox color scheme across the entire keyboard. To the keyboard's left there is a control panel containing CONTOUR and BASS VOLUME knobs, as well as a row of tab switches for VIBRATO, BASS CHORDS, and the four voices: FLUTE, BRIGHT, BRASS and MELLOW. The bass volume knob doubles as a mains power switch, and has its own output jack on the rear panel of the organ. If nothing is plugged into its jack, then the bass voice is mixed with the main organ voices through the main output jack. The CONTOUR control is a passive treble-cut circuit, like most guitars' tone controls. When turned all the way up, it essentially passes the unaltered output of the four tone switches. As you turn it down, it removes some of the brightness from the sound. This is another feature missing on the first Jaguars. The VIBRATO, like on the Continentals, does not have user-adjustable frequency or amplitude — all you can do is switch it on and off. The BASS CHORDS tab determines whether or not the four

polyphonic tones play in just the upper three, or in all four octaves. All the tabs are white with black lettering except this one, which is reversed. This helps to remind the player that it affects the reverse-colored bass range of the keyboard.

Strange Jaguar Feet

Another *Really Important Feature* of the Jaguar is its distribution of footages (pipe organ terminology for different pitches activated by one key). This is really unique. I've never seen any other organ, combo or otherwise, that uses this particular method. Each of the oscillator/divider circuit boards inside the Jaguar gives off fewer octaves of square waves than you would find on the Continentals' oscillator/divider boards. Where the Continentals and other organs send each different rank through its own separate contact or switch underneath each key so you can control each one independently, the Jaguar's oscillator/divider circuit boards each have their own little mini-mixers (just a few resistors connected together), one for each octave on the keyboard. These composite signals are then sent through just one contact per key. So Vox hard-wires the footage combinations and gives the user no control over them. On "normal" organs, each footage (or rank or voice) usually goes all the way up and down the keyboard. But the Jaguar's preset mixture tries to make maximum use of limited footages by having a different combination in each octave — higher octave uses only lower footages, middle octaves use most or all of the footages and the lower octave uses only the higher footages. To be more specific:

POLYPHONIC VOICES:
C#4 – C5: 16', 8'
C#3 – C4: 16', 8', 4'
C#2 – C3: 16', 8', 4', 2'
C1 – C2:   8', 4', 2'

MONOPHONIC BASS VOICE:
C1 – B1: 16'

The chart shows the full four octaves, like when the BASS CHORDS switch is on. With that switch off, there would be no polyphonic voices from C1 to B1, so that the BASS voice has that range all to itself. The Jaguar actually has one more note than four octaves — the low C. So for the polyphonic voices, it gets a little help from one extra divider circuit on the bass divider/vibrato circuit board (they couldn't put it on the oscillator/divider circuit board for the C notes and keep it the same layout as the B through D# oscillator/divider boards). With this extra divider, C1 can have the same footage distribution as the

octave above it. Without it, C1 would only have 4' and 2' pitches. Was it worth this whole extra divider circuit just to add an 8' pitch to one note of questionable significance? The debate rages on! Other combo organ manufacturers would typically make their cheapest organs with oscillator/divider circuit boards pretty much like the Jaguar's, but then have only a few different 8' tones that go across the whole keyboard, giving thinner but more even sounds.

SD & VFX Hackerpatch

SD & VFX Prog: VOX-JAGUAR

By: Kirk Slinkard

WAVES

	1	2	3	4	5	6
Wave	Square	Square	Square	Square	-	Square
Wave Class	Waveform	Waveform	Waveform	Waveform	-	Waveform
Delay	000	000	000	000	-	000
Start	-	-	-	-	-	-

MOD MIXER

	1	2	3	4	5	6
SRC-1	-	-	-	-	-	*Off*
SRC-2	-	-	-	-	-	Timbr
SRC-2 Scale	-	-	-	-	-	1.0
SRC-2 Shape	-	-	-	-	-	Convex1

PITCH

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

PITCH MODS

	1	2	3	4	5	6
MODSRC	*Off*	*Off*	*Off*	*Off*	-	*Off*
MODAMT	-	-	-	-	-	-
Glide	00	00	00	00	-	00
ENV1	+00	+00	+00	+00	-	+00
LFO1	+01	+01	+01	+01	-	+01

FILTER 1

	1	2	3	4	5	6
Mode	LoPass/2	LoPass/2	LoPass/2	LoPass/2	-	LoPass/2
Cutoff	(see chart)	(see chart)	(see chart)	(see chart)	-	34
KBD	+00	+00	+00	+00	-	+00
MODSRC	*Off*	*Off*	*Off*	*Off*	-	*Off*
MODAMT	-	-	-	-	-	-
ENV2	+00	+00	+00	+00	-	+00

FILTER 2

	1	2	3	4	5	6
Mode	HiPass/2	HiPass/2	HiPass/2	HiPass/2	-	LoPass/2
Cutoff	(see chart)	(see chart)	(see chart)	(see chart)	-	34
KBD	+00	+00	+00	+00	-	+00
MODSRC	*Off*	*Off*	*Off*	*Off*	-	*Off*
MODAMT	-	-	-	-	-	-
ENV2	+00	+00	+00	+00	-	+00

OUTPUT

	1	2	3	4	5	6
VOL	85	85	85	85	-	99
MODSRC	*Off*	*Off*	*Off*	*Off*	-	Mixer
MODAMT	-	-	-	-	-	+99
KBD Scale	ZOn	ZOn	ZOn	ZOn	-	ZOn
LO/HI Key	C4-C7	C3-C7	C3-C6	C3-C5	-	C3-B3
Dest Bus	Dry	Dry	Dry	Dry	-	Dry
Pan	50	50	50	50	-	50
MODSRC	*Off*	*Off*	*Off*	*Off*	-	*Off*
MODAMT	-	-	-	-	-	-
Pre-Gain	Off	Off	Off	Off	-	Off
Voice Prior	Med	Med	Med	Med	-	Med
Vel Thresh	+00	+00	+00	+00	-	+00

LFO

	1	2	3	4	5	6
Rate	37	37	37	37	-	37
MODSRC	*Off*	*Off*	*Off*	*Off*	-	*Off*
MODAMT	-	-	-	-	-	-
Level	00	00	00	00	-	00
MODSRC	Wheel	Wheel	Wheel	Wheel	-	Wheel
Delay	00	00	00	00	-	00
Waveshape	Sine	Sine	Sine	Sine	-	Sine
Restart	On	On	On	On	-	On
Noise SRC RT	-	-	-	-	-	-

SELECT VOICE

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

ENV1

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

ENV2

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

ENV3

	1	2	3	4	5	6
Initial	99	99	99	99	-	00
Peak	99	99	99	99	-	00
Break 1	99	99	99	99	-	99
Break 2	99	99	99	99	-	99
Sustain	99	99	99	99	-	99
Attack	00	00	00	00	-	00
Decay 1	00	00	00	00	-	00
Decay 2	00	00	00	00	-	00
Decay 3	00	00	00	00	-	00
Release	00	00	00	00	-	00
KBD Track	+00	+00	+00	+00	-	+00
Vel Curve						
Mode	Normal	Normal	Normal	Normal	-	Normal
Vel-Level	00	00	00	00	-	00
Vel-Attack	00	00	00	00	-	00

PGM CONTROL

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

EFFECTS (1)

Effect	Chorus + Reverb.1
Delay Time	70
FX1	00
FX2	40

EFFECTS (2)

Chorus Rate	37
Depth	00
Delay	005
Mod	+00
Mod	+00
Mix	99

EFFECTS (3)

Waveshape	Sine
MODSRC	Modwheel
Reverb HF-Cut	On

PERFORMANCE

Timbre	00
Release	00

Notice on the above chart that the Jaguar's 8' pitch is the only one that covers the entire keyboard, so the Jaguar could have done it this way if its designers had chosen to do so. After you load up one of these Jaguar patches, run your finger all the way up or down the keyboard to see how strangely the octaves relate to each other. It's about half way toward having each octave sound the same. This footage distribution is why I didn't do any ESQ/SQ-80 patches for this article. While the VFX and more recent Ensoniqs have adequate KEY ZONE capabilities, the ESQ/SQ-80 type doesn't. The BASS voice has only one footage and one tone. Like the Super Continental, it has its own set of specially wired key contacts under the lowest octave (C1 through B1) of the keyboard to select just the 8' pitch from the only the lowest note played, which is then sent through a single divider circuit giving a resultant monophonic 16' pitch. Hey, I bet this is the real reason that the low C has the extra divider circuit for the polyphonic voices. This square wave is low-pass filtered down into a sine wave, sounding the same as the mellower of the Super Continental's two bass tones.

Synthesizing The Voices

The patch included here is a basic format patch that you plug filter cutoff values into to get the four voice patches. Note that in the following chart, a range of values is given to plug into the low-pass filter (FILTER 1). This covers the range of the Jaguar's CONTOUR control. On the Jaguar, the only difference in the 4 polyphonic voices is in the global filter circuits. Elsewhere in the Jaguar, all the polyphonic voices go through more some filtering which ends up reducing both the bass and treble content, helping to give this organ a "cheesier" sound than the Continentals. This was taken into account in these VFX filter settings. If the VFX-type filter architecture had included resonance, I believe I could have gotten these patches dead-on, but as it is, they are a very close approximation.

As you play these patches, note that the lowest octave is silent. Since the Jaguar is a four-octave instrument, I left out one of the VFX's octaves for the sake of accuracy.

Voice six of the FLUTE patch simulates the Jaguar's monophonic BASS voice. The TIMBRE slider is programmed to act like the BASS voice's volume control. Move it up to activate the BASS voice in these patches' lowest octave.

Think of the MOD WHEEL as a vibrato switch. All the way towards you is off, and all the way forward is on. And if you want the sound of the Jaguar with the BASS CHORDS switch off, just make sure that on the OUTPUT page of your synth, the LO/HI KEY setting never goes below C4 for the low key on voices 1 through 4 (leave voice 6 alone).

I recommend that you save all the described FILTER settings as separate patches with appropriate names. Just remember never to change voice six — the bass voice is always the same no matter which polyphonic voice(s) you select. And for the two BRIGHT layered patches, turn voice 6 off on one of them before you save it. This will keep you from having two identical unison bass voices layered together. The FILTER 1 values cover the range of the CONTOUR control. I recommend saving the patches using the higher value. Here are the filter plug-in values for each voice:

	FILTER 1	FILTER 2
FLUTE	50 to 35	62
BRIGHT 1	32 to 22	61
BRIGHT 2	94 to 40	127
BRASS	82 to 46	69
MELLOW	30 to 22	68

Flute

The first of the four voices on the control panel switches is this one. It is created in the Jaguar by sending the square waves through a passive two-pole low-pass filter, going first through an inductor, then across a capacitor. They are selected to filter out most of the upper harmonics, or brightness, and to leave in a little of the mids and most of the fundamental (unlike the MELLOW voice described later).

As with all the voices except BASS, this one has both

low-pass and high-pass filtering done on it. Also, each voice affects the final sound a little even when it is turned off by shorting certain frequencies to ground.

For those of you who are really into waveforms, on my oscilloscope the FLUTE voice looked pretty much just like a sine wave. But it actually sounds more obnoxious than that. In fact this sound is less like what you would expect from a jaguar in the wild, and more like what you might expect from an ocelot with nasal congestion.

Bright

This one takes the square waves and sends them through a bunch of high-pass filtering and some low-pass filtering for a resultant band-reject filter, with the bass part reduced a lot in volume. This filter circuit is the most complicated of all the Jaguar's voices, using three resistors and two capacitors — still pretty simple. Because of inherent limitations of the VFX filter structure, I had to do two different patches to layer together for this sound. Unfortunately, that makes this particular sound a bit too much to translate into any of Ensoniq's three-voice-per-patch synths, like the SQ-1 for example.

Brass

This sound is made more-or-less the same way that the Continental's brighter tone is made, and sounds closest to it. The BRASS filter circuit just gives the square waves a little high-pass filtering by sending them through one capacitor. After you plug the filter values into the format patch, the BRASS volume ends up being a little too loud relative to the other voices. So if you want to, you can turn down the OUTPUT page VOLume levels a little for voices one through four before you save this particular voice.

Mellow

This voice just sends the square waves through lots of low-pass filtering (across one larger capacitor), resulting in a bunch of sine waves, or just the fundamental tone with no harmonics. It sounds like the Continentals' mellower tone. It is also sent through an extra resistor to reduce the relative volume quite a bit. The values on the chart for the low-pass filter are extreme enough to appropriately duplicate this voice's lower amplitude.

Bass

This voice is set for monophonic response, and filtered into a sine wave. An interesting idiosyncrasy of the con-

tacts used on the Jaguar's bass voice causes a brief silence between every note when played in a legato fashion. It gives an interesting subtle effect to the sound that I have tried to duplicate in the volume envelope of VOICE 6 by having its level stay at zero for an instant when you first hit a key.

Epilogue

So now you have the Vox Jaguar's sounds for the vintage keyboard section of your patch library. If you have been subscribing to the *Hacker* for a while, you might have some really accurate vintage recreations from various authors including: three different Vox organs, Keith Emerson's Hammond organ and Moog lead synth sounds, and a Hohner Clavinet. Also there have been articles on programming patches in the authentic analog synth style with examples included.

The effects pages are set up (at least for VFX players) to give a global vibrato like the one mentioned in part 1 of this article. To use this, go to the PITCH MODS page and turn all LFO1 values to +00 to turn off the individual voice vibratos, then go to the OUTPUT page and set the DEST BUS to FX1, or to FX2 if you want some reverb added. Do these modifications to all voices simultaneously, even number 6.

For these Vox Jaguar patches, as well as other organs patches, you might want to set your MOD PEDAL to act as a volume pedal. Although my used Jaguar didn't come with a volume pedal, there is a space with a fastening strap just big enough for one in the stand case, so I suspect that Jaguars might have originally been sold with them included.

Since I was able to find a Jaguar so easily, I am filled with hope that I might someday obtain the ultimate Vox combo organ — the Continental Baroque (mentioned in Part One of this article). If I do, you will read about it in Part Four. By the way, if you have an old combo organ you want to get rid of — any brand and condition — ask Jane or Eric for my telephone number or address and let's work out a deal. ■

Bio: Kirk Slinkard is a member of Generation W who used to be a rock organist. He also collects and restores vintage rock keyboards, amps, & effects. His favorite monotreme is the Platypus.

DP/4 — Part Cinco
The Non-Linear Reverbs

Ray Legnini

Welcome, reverb fans. Our task today is to explore the DP/4 non-linear reverb algorithms. The three non-lin reverbs available in the DP/4 are unique in their structure. They are typically used to create a more unusual reverb space than could be achieved when using a conventional reverb algo. There are nine Envelope Levels that get combined in various proportions to give these reverbs their unique sound. As you look through the preset's editable parameters you will probably notice some familiar names, like "bandwidth" and "diffusion." They operate much the same; we've covered their functions in previous articles.

Setup

Again, we'll start with the basic items you'll need to have on hand to work with this tutorial. You'll need a source instrument to be processed, preferably percussive, sent to the DP/4's input one, rear panel. I suggest a sequencer be used to allow the source to repeat and leave your hands free to do some tweaking. Monitor the DP/4 output in stereo, of course. You won't need to monitor the source through your system, we'll do that mix inside the DP/4. Also, you'll need three 1/2-inch toggle bolts, glue, nails, and a chainsaw. (Just checking to see if you're paying attention.) Also, it's handy to have a computer librarian program running while experimenting. Save all of your variations as you work.

Select DP/4 Config preset #52 "Select 1U Psets." Hit the Unit A button to enter Select mode. Now, dial in 1U preset #60, "Non Lin Reverb 3." We're going to strip this down to the parameters given below. Take a moment to enter these values before proceeding. Save your work as "My Non Lin."

```
MIX = 50
VOLUME = 99              HF BANDWIDTH = 80
ENV LEVEL 1 = 50         DIFFUSION 1 = 80
ENV LEVEL 2 = 50         DIFFUSION 2 = 80
ENV LEVEL 3 = 50         DENSITY 1 = 50
ENV LEVEL 4 = 50         DENSITY 2 = 50
ENV LEVEL 5 = 50         PRIMARY SEND = +80
ENV LEVEL 6 = 50         REF 1 TIME = 250 MS
ENV LEVEL 7 = 50         SEND = +00
ENV LEVEL 8 = 50         REF 2 TIME = 350 MS
ENV LEVEL 9 = 50         SEND = +00
HF DAMPING = 30          LEFT/RIGHT BALANCE = +00
```

SET ALL MOD SOURCES AND AMOUNTS TO "OFF" OR "00."

Fun

Okay, now send your percussive source through this reverb. You'll hear a semi-gated sound; all the envelope levels are the same. For the first experiment, start at parameter 03, the first of the level controls. While your source is playing, start setting the values for this and the next 4 levels to "00" as you listen to the changes. The reverb will have a more obvious pre-delay, as if you were hearing the sound bounce off the rear wall of a room. This can be a useful component of a more complex reverb using multiple units; we'll get to that in a future article. Save this variation as "My Non Lin 2."

Recall the first example. This time edit the values for envelope times 5 through 9, setting them all to "00." You get a tight, close ambient sound. Again, useful as is or as a building block for something bigger. Save it. Continue editing this variation by changing the levels of the first four envelope values. Try descending values of 50, 40, 30, and 20, just to keep the numbers nice and round. You get a more natural decay shape because the reverb is fading away, like it does in real life. Save it.

Another variation: recall the original "My Non Lin" that you programmed. Try setting the envelope levels to 10, 15, 20, 25, 30, 35, 40, 45, 50. (Again, I'm using easy round numbers just for simplicity's sake.) You should hear a smooth crescendo of reverb. Here's a good programming tip. While you're listening, hit the "Edit/Compare" button to toggle between the original version and the new variation. The difference should be obvious. The flashing LED indicates the edited version, a solidly lit LED indicated the original you are comparing it to. Remember you can toggle this anytime during the editing process without damaging the work you've done. Get back to the edited version and save it.

There are many useful variations to be found by experimenting with these envelope values. Take some time to tweak them and build some presets of your own. The three Non Lin algorithms share the same parameters, but give different tonal results. See the manual for more details.

Fun, Fun, Fun

You may have noticed while programming the initial preset for this lesson that there values entered for parameters 19 and 21, but no levels. Why? For the next part, of course. Recall the original "My Non Lin" preset that you programmed. Go to parameter #20 and set it to a value of +25. This sends an echo of your source signal, delayed by 250 milliseconds into the reverb. You should hear a slight slap back effect within the reverb. Try other values; return this to "+25" when you're done. Now, go to parameter #22 and set it to a value of "+25." This sends yet another echo of your source signal, delayed by 350 milliseconds into the reverb. Now you have a swinging slapback echoing reverb. Setting the Reflection times to other values will allow you to time these to any tempo.

Save your work. Lastly, try sloping the values the envelope levels 6 through 9 downward to something like 40, 30, 20, and 10. This will give a more natural decay. Save it.

You should have a nice collection of starting points on which to build, now. Send in your favorite preset to the *Hacker Patch Head Patch Hack.* (Say that 5 times in a row fast and win a free car!) That's all for now. ∎

Bio: Ray Legnini is one of the original Apollo 13 astronauts. Look for his cameo appearance in the hit movie.

Squaring Off with your SQ/KS/KT

Dan Rohde

Question: What do you get when you combine a square waveform, an electric guitar sample, and the Eiffel Tower?

Answer: The EuroSiren patch! (I threw in the Eiffel Tower to make it tougher.)

An accidental setting I found recently while working on a different patch reminded me of a European police car siren. I have tried to capture this sound and, just for fun, give it a passing-from-left-to-right stereo effect. The "coup" of this patch is its slowly rising and falling pitch.

Begin by selecting the Electric Guitar sample, then going to LFO section to set its values. Speed=19 will give you one cycle per second (two separate .5 second pitches). The square waveform and ModSource=Keyboard will give you the abrupt shifts in pitch.

To get the two frequencies about a fourth interval apart, set Pitch's hardwired LFO=+50. Varying this value changes the interval between the two pitches created by the square waveform.

The Octave, Semitone, and Zone parameters under Output mean that when you play either or both of the top two notes of a 76-note keyboard, you will hear EuroSiren at the correct frequencies. I prefer playing both notes simul-

taneously. But that's just the kind of wacky guy I am.

Env1=+99 under Pitch enables Envelope 1 to slowly increase then decrease both pitch levels. This is meant to mimic the Doppler effect of a sound's frequency rising as its source, such as a moving vehicle, approaches at a high speed then falling as it gets farther away.

As the Program and the figure show, all time settings for Voice 1's three envelopes are identical. This synchronizes the peaks of Pitch, Filters, and Amp envelopes at 6.0 seconds. The Envelope Times (values to seconds) conversion table in the *Musician's Manual* reads as follows:

Attack=value 63=4.0 seconds
+ Decay1=value 53=2.0 seconds
Total to peak 6.0 seconds
Decay2 value=53=2.0 seconds

...Which takes the Level back to 00 relatively quickly. Voice 1 is also Panned to -42 so all envelope levels for Voice 1 rise slowly, as if, say, an Interpol unit was approaching from your left side.

Voice 2's envelopes are also synchronized to peak at 6.0 seconds, but with different values:

SQ, KS, KT Prog: EURO SIREN

By: Dan Rohde

WAVE

	1	2	3
Select Voice	On	On	Off
Wave Class	String	String	
Wave	El Gtr	El Gtr	
Delay Time	00	00	
Wave Direction	For	For	
Start Index	00	00	
MODSCR	-	-	
MODAMT	-	-	
Restrk Decay	00	00	

PITCH

	1	2	3
Octave	-1	-1	
Semitone	-10	-10	
Fine	+01	-01	00
ENV1	+99	+99	+00
LFO	+50	+50	
MODSCR	-	-	
MODAMT	-	-	
KBD Ptch Track	On	On	
Glide	Off	Off	
Glide Time	-	-	

ENV1

	1	2	3
Initial	00	00	
Peak	05	05	
Break	11	11	
Sustain	00	00	
Attack	63	59	
Decay 1	53	59	
Decay 2	53	69	
Release	00	00	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	-	-	
Mode	Norm	Norm	
KBD Track	00	00	

LFO

	1	2	3
LFO Speed	19	19	
Noise Rate	-	-	
Level	30	30	
Delay	00	00	
MODSRC	Kybd	Kybd	
Wave	Square	Square	
Restart	On	On	

FILTER

	1	2	3
Filter 1	3Lo	3Lo	
Filter 2	1Hi	1Hi	
FC1 Cutoff	00	00	127
ENV 2	+99	+99	+00
FC1 KBD	+50	+50	
MODSCR	-	-	
MODAMT	-	-	
FC2 Cutoff	00	00	
ENV2	+99	+99	+00
FC2 KBD	+50	+50	
FC1MOD-FC2	On	On	

ENV2

	1	2	3
Initial	15	15	
Peak	60	60	
Break	99	99	
Sustain	00	00	
Attack	63	59	
Decay 1	53	59	
Decay 2	53	69	
Release	00	00	
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	-	-	
Mode	Norm	Norm	
KBD Track	00	00	

AMP

	1	2	3
Initial	15	00	99
Peak	60	00	99
Break	99	99	99
Sustain	00	00	99
Attack	63	59	20
Decay 1	53	59	20
Decay 2	53	69	20
Release	00	00	10
Vel-Level	00	00	
Vel-Attack	00	00	
Vel Curve	-	-	
Mode	Norm	Norm	
KBD Track	00	00	

OUTPUT

	1	2	3
VOL	80	80	
Boost	On	On	
MODSRC	-	-	
MODAMT	-	-	
KBD Scale	Zone	Zone	
Key Range	F#7-G7	F#7-G7	
Output Bus	FX1	FX1	
Priority	Med	Med	
Pan	-42	+42	00
Vel window	>00	>00	

EFFECTS — Any Reverb (Default)

Modulate	FX1-Mix
By MODSRC	Wheel
MODAMT	+30

Notes: Creates the effect of siren passing from left to right, including doppler effect on pitch.

Envelope Parameters for Voices 1 and 2

— Voice 1
---- Voice 2

ENV2 & AMP Peak →

ENV1 Peak

Level (99, 90, 80, 70, 60, 50, 40, 30, 20, 10, 00)

Key Down / Seconds (1–12)

16
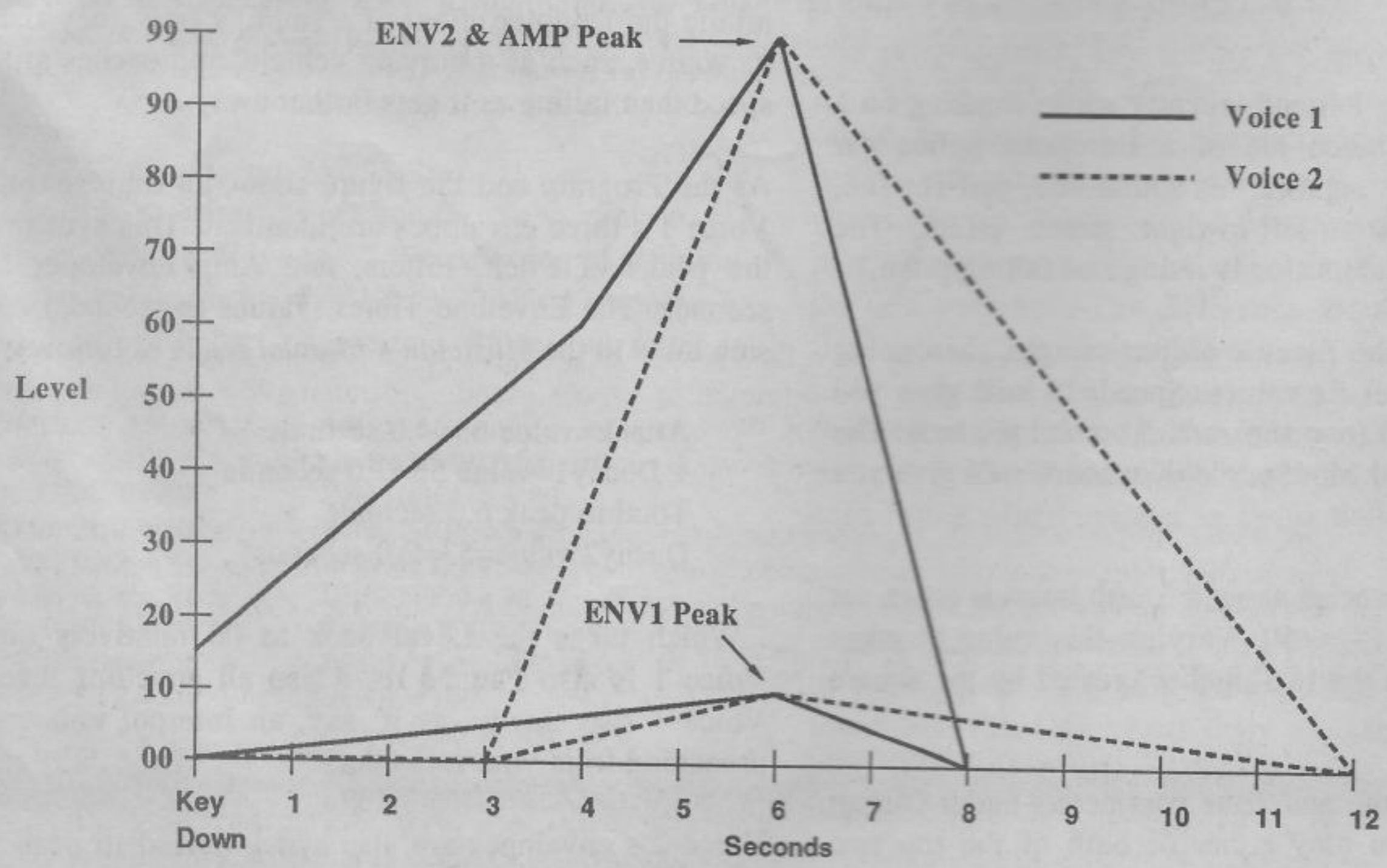
Attack=value 59=3.0 seconds
+ Decay1=value 59=3.0 seconds
Total to peak =6.0 seconds
Decay2=value 69=6.1 seconds

...Which means that Voice 2, panned +42, fades slowly to the left. All release parameters for these envelopes are set to 00 so holding the key down will not sustain sustain the samples.

If you decide to change any envelope time values, be sure to change ALL the other envelopes' time values, too, or they'll be out of sync. Use the Envelope Times conversion table to avoid hours of frustrating button pushing — not to mention a self-induced seizure.

Under Effects, Wheel modulates FX1-Mix to add a little alley echo.

Though Voice 3 is Off, I have shown what parameter changes would be required to make an instantaneous, continuous one-Voice monophonic EuroSiren patch, in case you'd like to use it to replace an used Voice in a different Sound. First, disable Env1 under Pitch so the two frequencies remain constant instead of slowly rising and falling.

Under Filters, disable Env2 so the tone remains constant. Also, set FC1=127 to allow all frequencies past Filter 1. You can set all the Amp settings by selecting the Full On Default. Finally set Pan=00 to put it in the middle of the stereo field.

Question: Where could you use EuroSiren?

Answer: Good question. *"Happenings Ten Years Time Ago"* by the Yardbirds uses this effect at the beginning of Jeff Beck's guitar solo. Another use might be to wake your neighbors up really early in the morning. Or you might play it to reminisce about your trip to Paris back in '75. Yes, that's it, you were walking along a cobblestone street in the Latin Quarter, the moonlight reflecting off the Seine. And there she was, sitting at a cafe under one of those big umbrellas. Your eyes met hers, and...

I Better check to see if my passport's expired. I need a vacation. Over the wire. ■

Bio: Dan Rohde hopes someday to balance his classic-motorcycle-repairperson self with his romantic ride-the-wind self. He also hopes to win the Powerball and to see the end to all conflicts in the world.

TS Sequencing Q & A from Authorityman Tony

Part Two — Scaling, Velocity, and Volume

Tony Ferrara

We here at Ensoniq been getting lotsa technical inquiries from a variety of on-line sources, including our web site and Compuserve. The questions continue to pour in from novices and power-users alike relating to TS sequencing functions.

Q: "With the SCALE parameter being 0-99 how do I know what the effect will be on the volume (controller 7)? If I scale a track with 30, will that make the track softer than the original? If I scale it to 60 will that make it louder? Do you see my point: I need to know, conceptually, what those numbers will do to the track. I want to be able to make certain drum sounds in a track quieter in certain spots by simply scaling the volume down on those notes. I need to know what values to set the 'scale' control to in order to accomplish this."

A: The number values on the Scale parameter for example KEY-VELOCITY will range from 0.00 to 9.99. Any value lower than "1" (such as 0.50) will result in a negative scaling value. If we choose 0.50, the volume or KEY-VELOCITY parameter will be cut in half.

Once you have altered the data on a particular track by using the SCALE function, you will get to a screen that asks whether you want to PLAY ORIGINAL TRACK or PLAY NEW TRACK. By playing these two versions of your track, you can hear what the change sounds like in comparison to the original. You can then choose to KEEP ORIGINAL TRACK or to KEEP NEW TRACK.

Q: "I am anxious to learn specifically how to scale back the volume on various tracks I am working on."

A: The Scale command lets you increase or decrease the level of any specific MIDI controller information in the selected track by a specified amount. To scale normal sequencer track mode volume, select controller 07 "(CNTL-7.VOLUME)." This type of volume controller is recorded to the individual sequencer track during the initial recorded pass.

If you select the SCALE function under EDIT TRACK, you can choose the range to scale, which pertains to the times in and out. You can also set the SCALE-AMT on a range from 0.00 to 9.99.

Q: "How do I change the relative volumes of individual drum waves in my TS drum or percussion sound program?"

A: First, select the specific drum sound program that you wish to work with. Let's choose "MULTI-KIT-2" in Bank U1-9 as a point of reference. Next, press the Select Voice button at the bottom of the TS Programming section. On the bottom right of the screen, you will now see the option "EDIT DRUM-MAP." Go ahead and select it. The next page that you see will say "DRUM-MAP" on the top left of the screen. As you will see, various parameters can be edited from this page, including the wavesample volume, which has a range of +00 to +15. You can now play through each drum wave by playing the TS keys, which will give you a chance to check your relative volume for each drum or percussion wave.

After you have set your volume changes, save your changes by writing your edited program into a RAM location that contains a sound you're willing to part with for now. Don't worry — all internal factory RAM sounds can be re-loaded from your TSD disk. Now you will have a drum set balanced to your liking when you select this sound program for use in one of your sequencer tracks.

Keep those questions coming! Happy New Year, and I hope that your holidays were great! I'll be back with more soon. ∎

Basement Tapes: The Next Generation

Steve Vincent

[TH — For the next several months, Hacker Basement Tapes is going to be in "catch-up mode." We've divided the column into three sections: A main review section, in which we'll try to have at least a couple reviews per month. A "Short Takes" section. This will just be a few sentences on some of the submissions that have been piling up the longest. If your music falls into this category, and you'd like to have a more thorough going-over, please feel free to re-submit. Some of these (unfortunately) have been here so long that we feel that there's a fair chance that they've since been updated, superseded, or otherwise rendered no longer relevant. Our third section will just be a short listing of tapes received during the last month. This is just an acknowledgement that we got 'em. They're in the queue.]

The Basement Tapes column has always been one of my favorite parts of the *Hacker* because it brings the *music* to center stage instead of the technology. So it is with delight that I "take the bridge" as reviewer of the mountain of tapes and CDs already filling my studio. But before we get down to work catching up on the backlog of Basement Tapes to review, I'd like to say a few words about my approach to tape/CD reviews.

One thing I have always appreciated about the *Hacker* is its accessibility to people with any and every level of musicianship without prejudice. Other supposed "users group" mags only highlight the rich and famous professionals, but the *Hacker* has always appealed to a broad range of musicians, from rank newbies to seasoned samplemeisters. Back in 1990, I compiled a tape of songs contributed by *Hacker* subscribers called, ingeniously, *The Hacker Compilation Project*. It showcased a wide range of songwriting, performance and production abilities, and everyone who contributed music got published. The tapes and CDs sent in for review in this column also cover the entire quality and talent spectrum.

So what kind of criteria do we use to evaluate your works? First, my overriding interest here is, "What is the intention of the artist?" If the tape is part of a demo package, it will be evaluated as a demo; if it's a personal project duplicated for family and friends and sent into the *Hacker* with a stickie note saying, "How about some suggestions?" it will be treated as such. Same for indie releases, works in progress, compilations of film scores, etc. Not all music will be sent through the same "demo" wringer.

Second, I ask the question, "What is this music/project good for?" What kinds of needs will be met by this artist's work; where would this music find a home?

Third, what can we learn from this artist's work? This is where the "thorns and roses" evaluation comes in. I have yet to listen to any musical project that doesn't contain a lesson for me.

I think in terms of four major categories when checking out a project: composition, performance, production, and engineering. Strengths and weaknesses in each of these areas will be noted and commented on as appropriate.

When I think about what I like to see in a music review, I come up with two things: 1. Description: accurate enough to let me know if I want to acquire this artist's music, and 2. Evaluation: I want to learn something about the process of making music.

Let's get busy — we've got a lot of catching up to do!

Tape: *Ian Rush,* Demo Tape.

Artist: Ian Rush.

Contact info: Shoestring Productions, P.O. Box 87211, San Diego, CA 92138.

Equipment: Ensoniq SD-1, Korg M1-EX, Korg DSS-1, Yamaha TX-7, Alesis HR-16, Alesis ADAT, Mackie 1604, Macintosh running Opcode EZ Vision, various outboard effects.

Ian Rush has presented a high-quality, well-produced demo of his songwriting/sequencing/vocal abilities, reminiscent of Christopher Cross, but to my ears more closely resembling the work of contemporary Christian crossover songmeister Michael W. Smith. Ian's vocals absolutely shine, with excellent use of effects and doubling. His very pleasant voice sounds like Christopher Cross, but more expressive. The vocals are featured up front on all tracks, the synth and percussion parts supporting them with panache and tasteful embellishments. The mix is open and transparent: Ian avoids the common home-studio pitfall of filling up every frequency range with sound, but leaves plenty of room for his great-sounding vocals to take center stage.

Ian's style places him squarely in the pop-rock pigeonhole, with side trips into funk and ballads. Some samples: BORDERLINE is a "Journey lite" rocker (images of SEPARATE WAYS), while TOO MANY WORDS morphs a Christopher Cross RUN LIKE THE WIND style with the pulsing of Phil Collins. DEEP AND WIDE opens with a reference to the old church youth group chorus, then breaks into a funky Toto-esque tune punctuated with clavinet. This song, along with THE MAN WHO WANTS TO LIVE, reminds me of a number of Michael W. Smith compositions. Ian's lyrics, like those of Michael W. Smith, sound like the reflections of a man who has crossed over from simplistic contemporary Christian musings to more seasoned and philosophical meditations that anyone can relate to. One can sense his religious roots, but he gets his ideas across with mass appeal.

On the nitpicky side, some of Ian's sequencing feels, well, sequenced. It's all tastefully done, however, so the only cure to the quantization blues in this case would be to drag a crew of live musicians into the studio.

What can we learn from Ian? 1. Showcase your strengths; here, the vocals are central, as they should be. 2. Do what Ian does: work hard for a transparent mix! It's a lot more pleasant to listen to tracks with some breathing room. 3. Bring in a live musician or two to humanize the groove.

This is a "Class A" example of a top-notch demo of expert vocals and strong composition skills. Great 8 x 10 mug shot, too!

If you like to listen to music to create a mood, *Twelve Tablets* will definitely fill your listening space with plenty of mood, albeit a relatively dark one. If there were a spectrum analyzer for the mood of music, these tracks would show a boost between 100 Hz and 500 Hz; in other words, this is not "downer" music, but it does have a dark tone, and it does not vary in its mood bandwidth from track to track.

BLACK ACACIA: Dark, slow swing with fugue-like (and fugue state-like!), dreamy vocal overlays. Great for inducing a dark trance, or if you've forgotten to take your lithium.

SNOWING IN PALERMO: Cheery by comparison, lyrics remind me of Peter Gabriel's early work. Dulls and muffles the depression from track 1 like a blanket of snow.

VINDALOO: Sci-fi score references mixed with Middle-Eastern motifs. *Blade Runner* on location in Khartoum. Great use of real violin!

A NICER VIEW: Real Trumpet! Very nice touch; adds a whole dimension in itself.

EMPTY STREETS: More real trumpet featured on this short reprise; a real treat. More hard-driving and percussion-intensive than other tracks, although the rhythm tracks use no cliche sounds. This song comes the closest to containing a hummable melody.

LIQUID AMBER: Ingeniously nondescript, but the snare is so busy it broke my trance. Darn.

WALK FOR MILES: Actually contains some major thirds! On the brighter side for this duo, but don't worry, it still won't get the "perky" award. Keeps with the mellow-dark trance genre.

THE SHIFTING SANDS: More middle-eastern ambience, uniquely executed. These are no cliche or obligatory ethnic references, but tastefully interwoven motifs.

Anatol Sucher and David Derrick have expertly interwoven elements of sequenced percussion, live vocals and real instruments to create a trance ambience that is riveting while being unobtrusive. Nice drum programming; it doesn't call attention to itself, but holds a strong presence. They could have filled in the lower frequencies to root the music more; but on second thought, the lack of grounding leaves the listener free to either dreamily dance or enter a holotropic breathing trance. Anatol Sucher's voice "works," and works well, even though it doesn't command a strong presence. In fact, no individual element commands a presence in these tracks — the mood is central. A truly magical synergism is at work here. It's refreshing to hear "real" vocals used for ambient soundbites versus the expected found-sound samples. This implies a lot of thought and production work by this dream-state duo.

Lessons from *Twelve Tablets*: 1. There really is something to be said for staying consistent in your style from track to track. 2. Unless your musical goal is for your tracks to sound electronic and showcase technology, this duo is a study in the tasteful and unobtrusive use of technology to serve a higher goal: the music. 3. There is no hype in this demo package: the quality of the music speaks for itself.

Short Takes

CD: *Under The Moon* (c) 1992.
Artist: Evan Grey.
Contact info: GRM Records, P.O. Box 66010, Auburndale, MA 02166.
Instruments: Ensoniq VFX-sd, guitars, Rockman XPR, Tascam Midistudio 688.

Eighteen tracks of vocal rock, some with a country edge, others follow the '60's G.L.O.R.I.A. progression formula, and we're even treated to some blues (FAX MACHINE BLUES), and an Elvis impersonation (LOVE WAVES). Amazingly big sound with minimal equipment; very thick vocals (must have done a lot of ping-ponging). Weaknesses: arrangements tend to be too busy, not much room in the mix; some pitch inconsistencies in the vocals with some forced phrasings. Highlights: tasty guitar work on a great-sounding Strat; excellent background vocals (a la Crosby, Stills & Nash).

Tape: *City Lights* (c) 1992 Dancing Bear Studios.
Artist: Duane Frybarger.
Contact info: Dancing Bear Studios, 1146 N Tamarind Ave #5, Los Angeles, CA 90038 (213) 461-0714.
Equipment: Ensoniq ESQ-1, Mirage, Roland U-110, TR-505, Fostex X-26, Yamaha digital reverb, Sony TC-K690.

Duane is another do-it-yourselfer with his third indie release in a light jazz and ethnically-inspired pop style, sequenced on an ESQ-1. The strength in his music is its melodic content, although his overuse of unconvincing sax and electric guitar samples for melody detracts from the creative lines. Duane offers free demo tapes as a promo to sell his wares.

Tape: *In This Mood*.
Artist: Jarmo Rantala.
Contact info: Jurva 66300, Pappilankankaantie 133, Finland.
Equipment: Ensoniq SQ-1, Sony tape deck.

Assuming Jarmo's arsenal consists solely of his SQ-1 (there was no letter with his tape), this offering of mellow new-age instrumentals is a monument to what you can do with just one powerful keyboard. Moody pads weave lush chords around ethereal chime sounds. Very relaxing music. And if you can correctly pronounce Jarmo's street name, Jane will give you a free ASR-88 (no Fins, please). *[TH — Hey! Hold it right there!]*

Tape: *The Nerve: Megademo-93*.
Artist: The Nerve (Hannu Konttinen, Boy Kim Alexis, Kari Tukkiniemi).
Contact info: Kirkkokatu 7 as. 15, FIN-90100 Oulu, Finland.
Equipment: Ensoniq EPS 16+, Roland U-220, Alesis D4, Yamaha DX-7, Akai S1000, Voyetra Gold sequencer, Lexicon and Eventide effects; digitally recorded direct to disk with Sound Designer (Mac).

This digitally crystal clear demo of Madonna-esque dance grooves could jumpstart any party with its burning tempos and shamelessly erotic vocals. Information Society with a Scandanavian accent, this music is the perfect medicine for the seasonal affective disorders that must plague our arctic-dwelling friends.

Tape: *Time Without History* (c) 1992.
Artist: Gary Stone.
Contact info: 5906 Beacon Dr., Austin, TX 78734 (512) 266-3261.
Equipment: Ensoniq VFX-sd, Tascam Portastudio 424, Boss SE-50, Gibson ES-347 and '52 Les Paul Custom guitars.

"Intended to be a compilation of works in progress made for a friend," Gary Stone's *Time Without History* covers a wide range of styles, from Beatlesque ballads (*Sgt. Pepper* era) to hard rockers with track after track of buzzing guitars to prog rock-like instrumentals. Strengths are Gary's whimsical, upbeat attitude in his lyrics and Stones-like harmonizations. For the woodshed, work on vocal pitch (or borrow Ian Rush's VHM-5!), don't layer so many tracks of distorted guitar, and consider choosing a solo sound beside the ubiquitous sampled sax. ■

Tapes Recently Received

Quiet Places from Lloyd Joseph Rose

Hog House Records – Country Demo #1 from Stuart Clark

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

Bio: Steve Vincent produces demos and CDs at his home-based Portent Music, and can be reached via email at vincents@harbornet.com, or at his website at http://www.kspace.com/vincent.

Classifieds

HARDWARE/SOFTWARE

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

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

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

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

RAM for sale: four- 4 Mb 30 pin, 70 ns SIMMS (total of 16) $420 for all Rick; Ph/fax: 601-792-5723 or e-mail: smalldog@netdoor.com

SAMPLES/PATCHES/SOUNDS

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

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

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

FINALLY! A new set of 16-bit samples from Tom Shear. This time he tackles the Waldorf Microwave! For only $15 + $3 S/H, you can have 3 disks packed with the fattest digilog synth sounds you've ever heard! Send an SASE or e-mail (tomshear@AOL.com) for free catalog. Tom Shear, 805 5th Avenue, Williamsport, PA, 17701.

MUSIC

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

Unfinished Dreams is a self-produced album by Johnny Klonaris that features the Ensoniq VFX, DP/4 and good old Mirage on 17 vocal and instrumental tracks. Send $10 US for the CD to Catharsis Records West, P.O. Box 361074, Milpitas, CA 95035-1074.

OUT-OF-PRINT BACK ISSUES

M.U.G. will provide Out-of-Print issues for cost of materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4

Productions, PO Box 615TH, Yonkers, NY 10703. Attn: TH Back Issues. Phone: (212) 465-3430. * * * Folks in the New York City area can get copies of unavailable back issues of the *Hacker* – call Jordan Scott, 718- 983-2400.

FREE CLASSIFIEDS!

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

Current Ensoniq O.S.
(Disk/EPROM)

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

The Interface

Hacker –

I've been a subscriber since '92 and find the issues informative, enlightening and (sometimes) quite funny. I own an SD-1/32 and have, on occasion, had to call the "help-net." Phil Magnotta is nothing short of brilliant when it comes to the care and feeding of the SD-1. I use my SD-1 for "live sequencing" and have become an SD-1 sequencer whiz-bang in my own right. I will gladly answer any SD-1 sequencer questions from other readers. They can contact me on the internet as follows: GJMiata@aol.com.

I was recently rereading an older issue of the *Hacker* (Issue 123, Sept '95) wherein one of the reader's letters was answered by Ensoniq in which they stated that increasing the sequencer memory (using the SQX-70) will allow copying a whole disk in one pass. This is incorrect. This will allow copying in 3 or 4 passes rather than 8 or 10 but NOT in one. I called Ensoniq to verify the existence of this miracle expansion and was assured it did not exist as described. Ah well c'est la vie....

Please send an Internet issue to me. I have about 20 issues left on my current subscription and am not sure if I want to change formats – there's something about having to take my computer into the bathroom to read the Hacker that is less than appealing. Although I suppose I could print it out.

Oh, before I sign off I have a question. I recently downloaded some "Beatles" MIDI files from the Internet and converted them to Ensoniq format with Giebler's disk manager. When I loaded them on the SD-1 they played as well as could be expected for free sequences. The really strange thing that occurred was that during playback there were program changes (i.e. the trumpets on track one switched to a cello and then switched back 20 bars later). Even replacing the voice did not alter the program change. The other items I saw that were odd were tracks that had program names like "cart-snd-18." I could not figure out where the voicing was coming from. I don't use cartridge based sounds. Any ideas here would be appreciated.

Thanx
Guy Miata
aka "The Maestro"
Yonkers NY

[CS – Finding program changes embedded in sequence tracks is not unusual. The program changes in the sequences you downloaded are probably meant to select sounds in a General MIDI-compatible sound source (the reason some of your tracks display names like "cart-snd-18" is that high-numbered program changes are attempting to select sounds located on a non-existent cartridge).

You can remove unwanted program changes from a track by using the "Filter" command, found in the track editing menu.]

[Ensoniq – Sorry for the incorrect answer – we try to pass these questions on to a number of people here (no one person is the ultimate answer-person). What we should have said is that the SQX-70 will reduce the number of disk swaps, but not guarantee a single-pass copy. Where this gets tricky is that the time it takes/numbers of swaps to copy a disk is dependent on the amount of data on the disk. A less full disk may be copied in a single pass, a full disk in the 3 to 4 you mention. Thanks for helping to set it straight!

Regarding the SD-1 program changes, the SD-1 has 60 locations per Bank (program changes 00-59). Program changes from 60 to 119 select Cartridge sounds.]

Dear TH (and Ensoniq),

I use a preset on my KS-32 configured to receive MIDI channels 1-8 to communicate with my computer sequencer (Freestyle on a MAC).

I recently noticed that my KS-32 didn't respond to pan changes. I was told by Ensoniq tech support that this was a limitation of the KS, i.e. that it could not receive pan changes via MIDI.

Is it possible that a future version of the KS operating system could be written so that the KS could receive MIDI pan data? If so, PLEASE make it so! I really like my KS, and this is the first time I've gotten the feeling of bumping my head on its ceiling.

Panless in Boulder,
Joe Isler
Via Internet

[CS – There's pretty much no chance that new features will be added to the KS-32 at this point; after all, the instrument is no longer in production.

I can think of one work-around, though. You could set up different sequencer "templates" (presets) to control panning for individual tracks. When you need a different panning setup, you can select a different template. It may even be possible to use song select messages from your sequencer to select templates remotely (I haven't been able to try this myself).]

[Ensoniq – It is unlikely that we would revise the KS-32 to receive Pan change messages. Clark's idea sounds worth a try. You could also program multiple versions of your favorite sounds with different panning settings, and then send program changes to select the "center" sound, then the "far left" sound etc. This is definitely a work-around method, but it will get you closer to your desired goal.

Newer models like the TS, KT, and MR synths all respond to Pan change messages. Sorry about your situation.]

To: interface@transoniq.com
Subject: Ensoniq EPS and the PC

Is there such a thing as a program that reads EPS disks and sound files and converts them to .WAV files?

I need help?!?

Frog Brother
Via Internet

[TH – Well, you were probably happy to see Steve Vincent's article in last month's Hacker (#128).]

[CS – My favorite source for info on software for the EPS/ASR is an article Garth Hjelte published in Issue #112 of TH. The article does not list anything that does specifically what you ask for, but I think it's likely that some software mentioned therein might do the trick.

You might also try checking out Mike Hyman's excellent "Ensoniq Resources on the Internet" page (http://www.netaxs.com/~mikeh/ensoniq. html), where you may find a link or two to something helpful (Mike's page can also be accessed via the Hacker's web site).]

To: Hacker
Subject: ASR OS Defect

Mega-boos to the munchkins of Malvern for massacring my marital mellowness!

My wife's new ASR-88 arrived yesterday (her third Ensoniq sampler, and awesome to be sure). She spent the afternoon auditioning samples from the CD-ROM and composing a song. Helpful me, I thought I'd knock off a safety copy of the OS disk before retiring.

I selected "Copy O.S. to disk" and the ASR obediently began (apparently) trying to write to the CD-ROM! It soon realized its error, and advised "Disk Not Responding – Hit Enter or Cancel." Fine, I thought, and hit Cancel. Nothing happened! To make a long story short, the ASR was unrecoverably hung trying to write the OS to a read-only device! Not even turning off the CD-ROM drive cleared the hang, and my wife's song data (and my face) were lost!

Though we love Ensoniq dearly, this kind of "gotcha" is, dare I say, UNCONSCIONABLE in a device intended for mere mortals to operate. It is unthinkable not to allow the user to back out of a data-destroying operation (especially an illogical one like writing to a CD).

Rob Lewis
<70250.251@compuserve.com>

[CS – I've made similar mistakes (trying to save a sound or sequence a non-writable device) but with no ill consequences other than an error message or two. I know it's small consolation now, but always back-up anything you don't want to lose, particularly when initiating a new or unfamiliar procedure on your instrument.]

———————————

Hi Hackers!

I finally picked up a copy of Waveboy's "Voder." It's loads of fun to play with, and it does indeed produce some vocal-like sounds. Come to think of it, it also makes you think and learn about how the heck WE produce vocal sounds. It might even be a good study tool for speech therapists!

Anyway, I recommend it highly to the inquisitive hackers of the world. So, good work, Waveboy!

But I do have one minor gripe: It's a 30kHz effect only as far as I can tell, whereas I'm trying to do everything 44kHz direct S/PDIF to DAT on my ASR-10. Any thoughts of doing a 44kHz version? Pleasyweazy? Or am I missing a way already available to make it work at 44KHz?

Thanks WB!
Gary Morrison
Austin, TX

[WaveBoy – Thanks, I'm happy you're having fun Voding. 44K is a great idea; it might fit if I leave out the chorus effect. I've had a request for a stereo voder too. I'll put it on my list.]

———————————

TH –

This is in response to Issue 128, February 1996, page 27 and a message from Martin concerning an editor for his KT-76 keyboard.

Here is a site where Martin can get the editing software he needs for his KT-76: www.toad.net/atari/st/emagic.html.

Regarding the XoR 2.0: patch Librarian: XoR began as a Dr. T product and now is developed by Mark of the Unicorn. XoR 2.0 is a universal MIDI patch librarian editor. It supports a wide variety of MIDI devices and even supports MIDI expanders such as Export and Unitor. XoR provides a graphical editing environment for your patches, and also has a "quick find" feature. XoR works on any ST, TT, or Falcon with 1MB or more.

I also have another excellent editor for the Atari platform called GenEdit. It's produced by Hybrid Arts (now called Binary Sounds). Phone: (713) 776-9118. Perhaps Martin would be interested in this editor as well. Both editor/librarian programs allow you to create your own templates so that you can create your own unique editors.

If Martin would like to contact me my E-mail address is jrosand@olympus.net.

I'd be happy to give him more information about both editors.

A loyal Transoniq Hacker subscriber!
James Rosand
jrosand@olympus.net

[CS – Thanks for the tips, James! I dropped in at the site, briefly, and it seemed pretty cool.]

———————————

To: interface@transoniq.com

I am considering chaining my Ensoniq and computer stuff together in order to take advantage of my CD ROM drive for the '16+, and to use the Mac/Ensoniq sound editing and file storage programs. I have a '16+ Turbo, with a 750 MB APS drive, and a Radius 81/110 Mac clone with an internal 750, a 4x CD ROM drive, and an external 1080 APS used for digital audio storage.

I recently tried to run scEPSiV144 by disconnecting my Ensoniq HD from the '16+ and connecting it to the Mac, but this resulted in a "dead Mac" icon at start up, despite re-checking for termination and SCSI ID problems. I am hoping that a daisy chain will solve this. I have the Ensoniq SCSI manual, and I understand that I should de-terminate the drives and make sure that no common SCSI ID numbers are in the chain, but is there anything else to watch out

for? Will I need to order some of Garth's "Rubber Chicken blood gris-gris anti-SCSI voodoo charms" in order to make this work? I would also like to know if doing this would mean that I will always have to power up my '16+ when I want to work on the Mac, to ensure proper termination – especially tricky when I am running Sound Designer II.

Your help is appreciated.
Rick Ledbetter
smalldog@netdoor.com

[CS – For what it's worth, I've seldom had good results when stringing together more than four or five SCSI devices, and you list six in your setup. I'd try troubleshooting the system with the fewest number of devices possible. Try unplugging everything but your 750 meg APS drive. If everything's in a row, duck-wise, (meaning termination is correct and no SCSI IDs conflict), scEPSi should find your APS drive (by the way; when checking SCSI IDs are you accounting for each of your Mac's internal drives, as well as the Mac itself?). Apart from this, here are a few general SCSI-type tips:

1) Ensoniq devices use a SCSI ID of 3, the Mac uses an ID of 7, the Mac's internal hard-drive uses an ID of 0, and the Mac's CD-ROM drive may be using an ID of 3. (This will conflict with Ensoniq's ID. If you want to use your Mac's CD-ROM drive with your EPS-16, I suggest setting it to SCSI ID 4. This will allow banks to load properly when using Ensoniq CD-ROMs.)

2) Be sure to terminate properly. The first and last devices in a SCSI chain should be terminated. For complex systems some sort of active termination (such as the SCSI Sentry from APS) may prove helpful.

3) Use the shortest SCSI cabling possible. SCSI chains should not exceed 20 feet in length, and can become troublesome even at shorter distances.

4) Make sure your SCSI cables are functioning properly. SCSI cables seem to have an inordinately high failure rate.]

[Rick Ledbetter – Thanks for getting back to me so quick. This answered most of my questions, but a couple need clarification: The original problem I was having, with the Dead Mac on start up with the Ensoniq formatted 750 drive, was with a set up of only the 750 as an ext HD, and no other drives, chaining or other connections – just 750 ext., terminated w/ SCSI of 6, to Mac.

If I do attempt to hook this all up, '16+ to 750 HD to 1080 HD to Mac CPU containing a 700 int. Hd, and int. CD ROM, will I have to have both the Mac and the '16+ turned on to insure proper end termination? That is, if I wanted to

use the '16+, would I have to turn on the 1080 ext HD, and the 750 ext HD, and the Mac? (Of course the 750 would have to be on.)]

[CS – Obviously, you've checked all the obvious problems and are still having difficulties. The only other things I can suggest are to try different SCSI IDs for your EPS drive (I know it shouldn't make any difference, but getting SCSI to work can be something of a black art), and (if possible) try another type of hard drive (formatted for your EPS-16). I know this might be a pain, but at least it would provide a clue as to whether the problem lies with the Mac or the hard drive.

As far as termination goes, I don't believe you need to supply power for termination to function. You may, however, find that all the equipment does indeed need to be powered up for the components to function. Then again, maybe not...(bubble, bubble, toil and trouble...).]

[Rick – Thanks guys for looking into this for me. I think it has gotten beyond me, at this point, and it might be better to leave it as two independent systems. I definitely am now a believer in SCSI voodoo. I will be going to New Orleans soon and I will stop by a voodoo/magic potions shop and see if they have anything to offer – maybe hang a chicken claw (rubber?) over the CPU or something...]

[Ensoniq – It is likely that you need a switcher involved in this setup, so the Mac can wake-up without initially seeing the Ensoniq-formatted hard drive. Switch the hard drive off-line, with a powered terminator (like the APS SCSI Sentry) on the buss so the Mac gets termination power from that end. After the Mac boots up then switch in-line the drive and try running scEPSi. Let us know if this helps.

P.S. Regarding Clark's comment (at the end) about needing to supply power for termination to function – we recommend that you do supply power.]

Dear TH,

I'm the proud owner of an ASR-10. It works great but I have one gripe (don't musicians always?). I would like to be able to delete the front portion of a sequence instead of just the "tail" (i.e. 4 bar sequence and I only like the last two bars). I have an Alesis MMT8 that gives me this ability and I was wondering if any future OSs might integrate this. Also (I thought I had only one gripe... sheesh), there's a nifty quantize note start/note end feature on the MMT8 that I would love to see on the ASR-10 sequencer.

Just Dreaming,
Jo-L

ExSinnical@aol.com

[CS – The beginning (or middle, for that matter) of a sequence can be deleted as simply as end. Simply select the CHANGE SEQUENCE LENGTH command, press ENTER/YES, select DELETE, the number of bars you wish to delete, and bar you want the deletion to begin at.]

TH –

I have an EPS-16+ and a PowerMac 7200. I would like to know how I can use sound files downloaded from Internet sources. Is there a program or shareware for transferring Mac files to EPS files? Also, where are the best sites for sound files?

Finally, I have RAM 1.10 and ROM version 1.00. Where do I get upgrades and how do I install them? (I write music for a number of major artists.)

P.S. How do I connect my PowerMac to the EPS-16+ for storing and quick loading of samples?

Thanks,
John Palermo
jpalermo@haven.ios.com

[CS – First, start out by reading "From Cyberspace to Your Ear" by Garth Hjelte (you'll find it posted at the Hacker's ftp site). This should get you most (if not all) the way toward becoming a full-fledged sample-cyber-jockey. If you still have questions once you're through the article, post us again.

RAM OS upgrades are generally available from the dealer that you purchased your instrument from, and directly from Ensoniq. In the case of ROM upgrades, though, it's highly recommended that you work with your local authorized service center, as upgrading involves opening up your instrument and monkeying around inside (the actual process – a chip swap – is not too difficult, but there is potential for things to go wrong; best to leave it to those qualified if you've never attempted it solo before).

Using a SCSI cable and appropriate software, you can transfer samples from your EPS to your Mac for editing and/or storage on your Mac's hard drive. However, only the raw sample data (and none of the Instrument parameters) is transferred to the Mac (or PC, or whatever computer you're using). This means that you lose all the program parameters that can help make the EPS Instrument what it is: envelope parameters (which control attack, sustain, decay, and velocity sensitivity parameters), filter settings (which control brightness), LFO (which control vibrato, tremolo, and so on), ef-

fects settings, and others. These parameters will all have to be either recreated manually once the sound is sent back from the Mac to your EPS, or you'll have to copy them from some other sound. At any rate, it is far quicker (and much more convenient) to save and load sounds using plain old floppy disk. Better yet, invest in a removable media or fixed hard disk drive. These seem to be getting cheaper by the minute.]

[John Palermo – Thanks a million for taking the time to answer my questions about the EPS-16+.

BTW, my brother's 18-piece band just got signed to Profile Records. His record will be out later this year. Look for "Ed Palermo – Tribute to the Music of Frank Zappa."]

[Ensoniq – You don't mention where you live – if it's in the US, contact us at 800-553-5151 and we can tell you where your nearest service center is. They can upgrade you to ROM version 1.5 and RAM version 3.53. The only charge is bench time to install the ROMs – the chips and software are free!

If you're out of the US you'll need to contact our distributor in your country. You can get a list of the distributors from our Web Site (http://www.ensoniq.com) or call us at 610-647-3930.]

TH:

I have an EPS-16 Plus and a Power Macintosh. These two units seem to be like oil and water. Is there any info on software for the Mac? I am looking for software to control the sounds off my hard drive through the Mac and any sampling software to get files from the Net and convert them to Ensoniq format. Also, are there still any accessories for the EPS? (Expansion cards, etc...)

Thanks!
Sean Mackie
<mackman@primenet.com>

[CS – When you say you want to "control the sounds off (your) hard drive through the Mac," do you mean you want to be able to play sounds directly from your Mac's hard drive, or that you want to edit (or not) the sounds and upload them to your EPS? There is software for doing either. For example, The premiere sampling-editing program for the Mac, Alchemy, (from Passport Designs, 800-443-3210) provides a number of powerful tools for manipulating digital audio, and also handles sample transfers between the Mac and most samplers (Ensoniq samplers included). In addition, it will play audio directly from your Mac. Alchemy, however, is aimed at the sound design professional, and this is reflected in its cost ($695.00 was the

last price I heard).

There are other good sample-manipulation programs, too. Infinity, from AnTares Systems (distributed by RiCharde and Company), provide strong editing tools, particularly in the looping realm. Also, they include a nifty little Mac utility called ASR_SCSI, written by Steve Berkely and licensed through Ensoniq. ASR_SCSI does one thing alone – it transfers samples between the Macintosh and the ASR (and I believe the EPS) range of samplers. As far as I know, ASR_SCSI isn't available by itself, which is too bad.

If you're interested in freeware or shareware utilities, be sure to explore Michael Hyman's most excellent "Ensoniq Resources on the Internet," at the Hacker's web page "other links" and also check out "Mac Sound Utilities" at http://www.wavenet.com/~axgrindr/quimby4.html, where you'll find several useful programs.

For more information on actually moving and manipulating the bits that make up sampled sounds, you might start by checking out Garth Hjelte's article, posted at the Hacker's ftp site. It's a two-part article describing how to move sounds from the Internet and various BBSs into your synth or sampler.

By the way – in the article Garth mentions EPSm, written by Terje Finstad. This might be another program worth looking into, but I'm afraid I don't know how one goes about acquiring it. If anyone out there has a clue, please let me in.]

[terje.finstad@fys.uio.no – I just surfed in. I know the program EPSm. It is a $20 shareware program. If you can not get it from anywhere else or want the latest version (there are 135 releases) you can email to noice@fys.uio.no. If your mailbox can stand the weight of a 700 kB binhex4 encoded attachment, ask me to email it, otherwise make other arrangements.

In case you did know nothing about it – with EPSm you can transfer instruments and individual samples between a Mac and EPS/ASR by floppies or SCSI drive. You can export and import in various sample formats. You can organize and backup your SCSI Ensoniq drive. Format ZIP drives and other Media, Convert standard Midi sequences between the sequence formats ASR/16+/EPS. You can read all the various formats Ensoniq samples are stored by on the Net.]

[Ensoniq – We still support the EPS-16 PLUS with the ME-16 PLUS memory expander, the SP-2 SCSI interface, the OEX-6sr output expander, pedals, and loads of sound libraries (floppies and CD-ROMs). For more information about what's available call us – 800-553-5151.]

Hacker:

I have an **EPS-16**+ w/ memory expander but no SCSI port. There is a cutout for one on the memory expander, but I need some piece to complete it. I'd eventually like to be able to hook up an external hard drive or removable disk (i.e. zip drive, syquest, etc.).

What do I need? Where can I find it? How much should it cost? and what externals can I use?? Please help!

clarkovsaturn@ouray.cudenver.edu

[CS – The EPS-16 PLUS SCSI kit includes a circuit board, cables, connectors, and so on which should be installed by a qualified technician. However, (as I mentioned in my response to AlC43@aol.com's letter elsewhere in this issue), I'm not actually sure if the kit is still in production. Contact Ensoniq Customer Service directly to find out if the kit's still available (I'm guessing it is).

As far as what peripherals might make a good match with a SCSI-equipped EPS-16 PLUS, I'd suggest getting a start by checking the "list of approved SCSI devices" at http://www.ensoniq.com/mid/scsi.html.]

[Ensoniq – The SP-2 SCSI kit for the EPS-16 PLUS is still in production, and costs $199.95 (US) including installation at a service center.

The approved SCSI device list is also available as document #0015 on our Fax Retrieval System at 800-257-1439.]

Hi,

I have been having a problem with the Samplevision for Windows program. Turtle Beach seems to have dropped out of sight and I cannot get hold of anyone from the company. No one answers their phone or the number has gone out of order in some cases. Perhaps someone here can help.

My problem is in trying to send a sample from my **ASR-10** to the computer. The SV dialog box pops up when I select the "Get Sample" command. I can hit the little keyboard on the screen to select a sample and the appropriate sample then sounds on the ASR-10. However when I attempt to get the sample, SV always gets the same sample (if there is one) located at key #48. If there is no sample on that key for the instrument selected then I get an error message saying the command timed out. No matter what key and sample I select, SV always attempts to get the sample that is located on key #48. This is very bizarre. I have used the original Samplevision for years and had no problems with it

from the EPS through the 16+ and the ASR. I was looking forward to the new version but this bug is very frustrating. I have looked all over my MIDI configuration trying to find something that might be causing this but to no avail. Has anyone else ever heard of such a thing?

Jon Ernest Amsler
E-mail: jeamsler@interramp.com

[CS – As far as I know, Turtle Beach is alive and well. You might try checking in at their web site (http://www.tbeach.com/). When I was there, I grabbed the following info about their service department:

Support: 717-767-0300
Support Fax: 717-767-0303
Faxback: 717-767-0309
BBS: 717-767-0250 – up to 21.6kbps
E-mail: support@tbeach.com

Support hours: Mon-Fri 9:00AM to 11:45AM (EST) and 1:00PM to 5:45PM (EST). Closed Public Holidays. BBS and Faxback available 24 Hours.

Also, they maintain a number of links, including links to their user group and their parent company, (http://www.icsinc.com) Integrated Circuit Systems.]

Hi again,

I saw the mail from Jon Ernest Amsler and I have exactly the same problem with my EPS-16+. When getting to the sample selection windows (takes about a minute and a half, though MIDI runs at 3000 chars./second, the EPS is sending data in short bursts every 10 seconds), the instrument layer information gets garbled if I use my Voyetra V22 MIDI interface, but reads okay with the TB Tahiti MIDI port. Again, selecting sample works at audition level but the download is from key, you guessed it, #48.

Downloading is an even bigger nightmare: Downloading to a new instrument creates it, it loads about 128-256 samples and then, GPF (protection fault). Samplevision goes dead for real. The only way to restart SV it is to restart Windows.

In addition to that, some minor (at least for now) bugs exist in the select I/O devices window – the MIDI port selection can only show 7 inputs/outputs, which means that if you have more than that, you can't select them if they "fall out" of the selection list window. You have to edit the SV.INI file manually. Also, the frequency analysis setup screen is "one way" – you can enter it but you can't exit, Ctrl-Alt-Del!

I've hoped for a long time now that TB would

recognized the problems with SV4WIN but no signs of that. For now, SV is useless.

I tried using SCSI to transfer sample data but there is really no difference in behaviour.

In order to stop getting (reduce rather) the "timeout waiting for sysex" messages, I had to set the timeouts to short=1000mS and long 10000mS.

Anyone besides us two with similar experiences?

Gvran Ekstrvm
100337.3217@compuserve.com

[CS – I forwarded this info (along with the previous letter) to Turtle Beach via e-mail on January 25th. So far, I've heard nothing back, but I'll let you know when (and if) I do (although it doesn't look too good at this point).]

[Gvran Ekstrvm – Thank you for your help with my and Mr. Amsler's problem.

Just thought I'd mention that I finally got some response from TB about Samplevision. I'll get back as soon as I know more.]

———————

Hacker:

I'd like to get my **EPS** connected to my PC to be able to transfer edited samples and transfer my EPS floppies to hard drive to catalog them, etc. What software and hardware (other than the SCSI adapter on the EPS) do I need to make this work? Does Ensoniq even still do SCSI installs for the old (but cool) EPS?

Thanks!
ZEPPEZEL@aol.com

[CS – First, (as I explained to John Palermo, above), transferring samples to your PC is not the same thing as transferring your EPS Instruments. EPS (and EPS-16 PLUS, ASR-10, and so on) Instruments are comprised of a sample or group of samples (called a multisample), along with a bunch of synthesis-style parameters – things like filter settings, envelope settings, LFO settings, and so on. These parameters can shape the raw sample(s) in some pretty significant ways – control attack and decay characteristics, brightness, touch-responsiveness, and so on. The upshot is that if you were to load an instrument into your EPS, send the sample(s) involved to your PC, then send to samples back to your EPS, you'd likely be pretty disappointed with the resulting sound.

This isn't to say that you couldn't store EPS Instruments on your PC. You could store disk images of your EPS sounds on your PC's hard drive (for more information on this topic, check

out Garth Hjelte's article, "From Cyberspace to Your Ear," at the Hacker's ftp site which explains not only how to transfer sounds around the net, but how to move sounds into and out of your PC. Additionally, you'll find lots of helpful software at the "Oakland Repository" (http://www.acs.oakland.edu/oak/eps/eps.html) at Oakland University.

You'll probably find, though, that storing sounds on your PC isn't very convenient. Since the sounds are stored as disk images, you'll need to write them to floppies before transferring them into your EPS, which is certainly less convenient than simply grabbing the floppy you want with the sound already pre-loaded.]

[Garth Hjelte, chickenEPS@willmar.com – By now you will have noticed the the Giebler Ensoniq Disk Manager supports SCSI devices now. That would be a good bet.]

[Ensoniq – The SCSI interface for the original EPS (called the SP-1) is still available. It retails for $199.95 including installation from an authorized service center.]

Hacker –

After 10 years of being involved with Ensoniq and reading the *Hacker*, I am finally writing a letter. Before I ask my question, I want to thank all of you at the mag and those who volunteer their time for helping me to understand these marvelous machines and to be able to make money with them. Keep it up!

Anyway... #1. I use purchased sequences in my show, mainly from LB Music, and they are terrific. They map the drums to the internal Kitchen Sink patch, and everything works fine. I saw the new **TS-12** and sprung for the BIG bucks. Now I order the sequences for the TS and the sequences come with GM style drums that pretty much are lined up to Roland and Alesis. When I record a sequence from my TS to VFX via MIDI cable and multimode, everything lines up fine except drums. Does anyone know a way around this???

#2. I also have a wagonload of sequences for the TS that are mapped for the TS drums. I bought an ASR sample disk with sampled drums that are awesome, and I wonder if you know of anyone who sells, modifies, or can create for me that type of sampled drum in the mapping I need?

Thanks again for being there for all the rock-heads like me.

Glenn Normand,
Mobile AL

[CS – As I see it, there are two ways to go when it comes to getting GM-mapped drum sequences from your TS into your VFX. One would be to remap the drums in the TS by copying each drum sound to its own track, transposing it to the appropriate note number for the VFX, then sending the tracks over to the VFX. The easier way in the long run, though, would probably be to create a drum map in your VFX that'll match up with the drums in your TS. Since the number of drums you can have in a single map is limited, you may actually need to create a couple of separate maps. Perhaps one for drums, and one for percussion, for example. Although this might take a bit of doing, this approach has the advantage that once it's done, you can use the maps for transferring any GM-based drum sequences.

I don't know of anyone who has GM compatible ASR drum kits available, but re-mapping drums isn't that hard. Ensoniq has a detailed guide available which can take you through the process. I believe it's available online through Ensoniq's Compuserve forum (GO MIENSONIQ), and it may be available through AOL, too. You should also be able to obtain this info directly from Ensoniq (610-647-3930), or through their "fax on demand" service (800-257-1439).]

[Glenn Normand – Is there anyone out there who does this? I'd appreciate the help.]

[Ensoniq – The drum kits in our AS-6 Drum Doctor collection include GM mappings, available under the Patch Selects. It's a cool use of our Pitch Tables to create alternate drum mappings – check them out!

Also check out document #1601 on our Fax Retrieval System at 800-257-1439 fro more info on programming drum maps.]

TH:

I would be interested to know if there is a utility that lets me convert patches in MIDIEX format to EQV format for the **ESQ-1** synth. My Atari ST librarian only reads EQV format.

Thank you...
jamez@ilap.com

[CS – If I'm not mistaken, MidiEx saves SysEx as plain text files (at least the Mac version does), which means they are readable by a Mac program called "Bulk SysEx," and may be readable by other programs as well. Don't know if this info is any help, but I figured it couldn't hurt to pass it along...]

TH:

I bought a **TS-10** when they first came out. Since then there has been at least one software and a hardware update. I understand that a SCSI port is also available. Can you get me complete information on this including the costs involved?

Thanks,
William Harper

[CS – In answer to your question, we're reprinting an excerpt from a feature by Anthony Ferrara which appeared in the Hacker, Issue #118, in April, 1995. Note, however, that the current TS OS version is 3.05, not 3.00 as stated in the article.

>From "The Fabulous Ensoniq TS-10/TS-12!" by Anthony Ferrara:

SCSI port option and device compatibility

The SP-4 SCSI port is available as an option on the TS, and retails at a suggested list price of $249.95 installed. Do keep in mind that the SP-4 has a read-only SCSI implementation, and will not save, format, or otherwise write to a hard drive. If you do buy a SCSI hard drive you will need another unit such as the EPS, EPS-16 PLUS, or ASR-10 to save sampled instrument sounds to the drive. In this scenario, the TS could read the instrument files already saved to the drive. Some players use both the ASR-10 and TS in their home and studio environment and take only the TS to live performances for sake of convenience.

Most people who use the TS alone and have the SCSI port installed opt for a CD-ROM drive for quick access to many sounds through the many Ensoniq and third party compatible CD-ROM disks available. FOD (Fax On Demand) Document number 0015 gives current information on "Approved SCSI Storage Devices" for all Ensoniq products, as well as for the TS.

The 3.00 operating system ships with all current units and includes the General MIDI option. However, if you own a pre-3.00 unit you will not be left out in the cold. All units with older operating system versions can be upgraded at an Authorized Repair Station. This upgrade to 3.00 does require some modifications to the TS mainboard, and is available for a suggested price of $99.95 installed. This feature allows the TS to function passively as a General MIDI tone module receiving MIDI data from an external (usually computer-based) sequencer. The upgrade does not allow the TS to load, read, or play Standard MIDI Files disks from its own disk drive.]

Subject: ASR-10, Amiga, Bernoulli 150

Just to start, I have enjoyed the past few years of owning an Ensoniq keyboard and subscribing to TH.

I have an **ASR-10**, and Amiga 3000, and I sometimes use a Bernoulli 150 drive.

The less obscure question: After running for a while, the B150's drive motor noise and fan noise is transmitted to the ASR-10 and heard through its outputs as a whine. I have tried lifting the ground, avoiding audio cables crossing the SCSI cable, etc. Even with the only things connected to the ASR-10 consisting of power, SCSI, and headphones, and the B150 only connected to the ASR-10, it still whines (somewhat like I am doing right now). Cut the B150 off, the whine goes away. This does not occur when I connect the ASR-10 to a fixed drive inside the Amiga's case and eliminate the B150.

A more obscure question: On the Amiga, I use Dr. T's X-OR as editor and librarian for my synths. I believe Dr. T is now defunct, and sold

X-OR to another software company. X-OR used external modules or "profiles" for each synth; these profiles were cross-platform (DOS, Atari, Mac, Amiga). A set of tools was available for writing your own profiles, which would then be freely distributable. Will someone out there please write a profile to support the Ensoniq samplers? Although X-OR would not be able to edit samples, it should be able to serve as a librarian and as an editor for the many synth-like features of these samplers. I know that Rubber Chicken Software has a Windows product for this, but I am not ready to dump my computer and buy a new one.

Another obscure question (anything about the Amiga is pretty obscure, I guess). Amiga devices such as floppies and hard drives are "mounted" using a text file which specifies such things as the type of file system for the device, the number of tracks, cylinders, etc. File systems have been written which allow the Amiga to recognize (read, write, even format and copy) MAC, Atari, and MSDOS floppy and hard drives. How about EPS SCSI devices, somewhat like epSCSI for the MAC? Any surviving Amiga programmers out there?

Yet another question (I keep thinking of more): I hate to beat the same dead horse that everyone else has, but I was very disappointed after purchasing my sampler, installing the SCSI interface, and buying the recommended Bernoulli drive to learn that I could not run Audio Tracks synced to MIDI clocks. There was no indication from the Ensoniq dealer or from any printed advertisements from Ensoniq that this new feature would require disabling an existing feature (more whining). Anyway, since many people use an external sequencer anyway, could the instrument gain enough bandwidth to allow syncing audio tracks to MIDI clocks if the internal MIDI sequencer were disabled?

thall@freenet.vcu.edu

[CS – Under normal circumstances, the ASR shouldn't present any noise problems, whether it's hooked up to a SCSI device (Bernoulli or otherwise) or not. I recommend checking in with Ensoniq Customer Service and letting them help you troubleshoot the problem.

As far as your Amiga-related questions, I'm afraid I can't be of much help, other than to encourage any of our readers with pertinent information to drop us a line (or e-line, or whatever).]

[BrosRyan@aol.com – With regard to your noise problem...

The best fix for this is distance if you can find the cables. Most manufacturers don't want you to go beyond six feet and if you have a chain it can be a real hassle. Six feet should be plenty.

Although I've heard of frazzled folks resorting to tin foil and such in attempts to shield offending units...

A/C line filters might help if you have one laying around but I would strongly recommend that you power the Bernie from a circuit not shared by the ASR.

I think you should stop using it in favor of enjoying the integrity of the rest of your studio if the infernal signal persists.]

[Ensoniq – We use Bernoulli drive extensively here at Ensoniq and haven't experienced the transfer of noise from the drive to the ASR. It sounds as if your system has some sort of grounding issue, but we can't trouble-shoot it in a letter. Please call Customer Service so we can go over this with you.

Another general bit of advice is to look out for the quality of SCSI cabling you are using – this is one area that you shouldn't scrimp on. And it's best if all the cables in your system are the same brand.]

TH:

I'm getting the idea, from wandering around the Web, that Macs and Ensoniqs don't go together...

Yes/no?

I'm looking for an operating system (?) called Sound Process (?), I think.

John Hricko
Cleveland, OH

[CS – Ensoniq samplers can be finicky when it comes to SCSI, so this is probably what you'll hear the most grumbling about. Still, I've used every Ensoniq sampler I've owned (starting with the Mirage) in conjunction with whatever Mac I had at the time (starting with a 512ke, on through a Quadra 800), and though I've had my share of headaches, I've gotten every configuration to work well enough to do professional sound design for companies ranging from electronic instrument manufacturers to sound-card OEMs.

Currently, I'm using an ASR-10 with my Quadra. Software I use includes Alchemy, Sound Designer, Infinity, scEPSi, and several lesser known products. The system doesn't always work flawlessly, but neither do any of the other Sampler->Mac systems I use or have used. Bottom line: If you want the sound and features of an Ensoniq sampler, fear of making it work with your Mac should not keep you from owning one.]

[TH – For SoundProcess (a Mirage alternative OS), you might try MUG at 212-465-3430.]

To: on-line@transoniq.com
Subject: Cakewalk

I am trying to dump sysex data to Cakewalk via TS-10. It will dump okay but will not load back into TS-10. Do I need a special program to do this or am I doing something wrong?

Please help!!!!
shanks@caverns.com

[CS – Apparently, a problem arises with timing when using Cakewalk. What happens is this:

Your TS sends SysEx messages in two parts. First, it sends header data (informing the receiving device of what type of data is being sent, how much is being sent, and so on). Next, the TS sends the bulk (program or sequence or whatever) data. So far so good.

The problem arises when Cakewalk attempts to send the data back. It first sends the header data, then – without pausing – sends the bulk data. The problem is, the TS is still processing the header data when the bulk data begins to arrive, therefore missing it.

Apparently, there is an update for Cakewalk which remedies the problem; Ensoniq may have something to say about it. Otherwise, try contacting Twelve Tone Systems directly (you might also want to check out the Cakewalk home page: http://www.isvr.soton.ac.uk/People/ccb/Cakewalk/).

And for anyone experiencing a similar problem, the remedy is to insert 100ms or so between the header and the rest of the data when sending SysEx to your TS (that is, if your sequencer will allow you to edit SysEx data).]

[Ensoniq – 1) An important reminder: In order for the TS to receive Sysex messages from any MIDI source, users need to set SYS-EX=ON, and set DEVICE-ID to a value which matches the Device ID of the originating Sysex data source. (This will usually be 01.) Both of these settings can be found on the third MIDI CONTROL page.

2) With regard to Cakewalk and timing issues, Sysex dumps of Sequences to the TS need "special" treatment for the reasons Clark mentioned. (See below for the exact Cakewalk fix which will work.) However, Sysex dumps of Programs and Presets to and from the TS are only a single long message, and therefore require no special handling by Cakewalk in order for the TS to receive them properly.

3) Here's a reprint of a fix which ran in TH last year:

Subject: Cakewalk Sysex problem fix for Ensoniq gear!

A number of Ensoniq synthesizer users have complained that they can't get their Ensoniq gear to receive System Exclusive dumps correctly from their IBM PC's running Cakewalk. This problem was caused by Cakewalk's lack of required delays when transmitting certain types of Sysex dumps to Ensoniq equipment. (The Sysex messages affected were Sequencer dumps on all Ensoniq gear, and Preset dumps on KS/SQ family products.)

The problem has been fixed in the latest release of Cakewalk Professional for Windows version 2.01. (Please note that there is no fix for Cakewalk for DOS users, or for Cakewalk Pro for Windows v1.00 users.)

To fix the Sysex timing problem, users must edit the configuration file named TTSSEQ.INI that is located in their C:\WINCAKE directory. The following 3 configuration lines must go in the [OPTIONS] section of TTSSEQ.INI:

SysxDelayAfterF7=1
SysxSendDelayMsecs=200
SysxSendPacketSize=65535

These settings cause Cakewalk to delay 200 milliseconds if it encounters an F7 in a System Exclusive bank. This gives the Ensoniq gear a required amount of "breathing" time which is necessary to process the Sysex transmission. Please note that timing requirements such as this are not unique to Ensoniq products — other keyboard manufacturers also rely on specific byte timings when receiving Sysex messages.

For further information regarding Cakewalk

configuration files, users should consult their appropriate documentation.]

TH:

I have an **ESQ-1**. The display is now missing some parts of characters. Is this a driver chip problem or is it the fluorescent display itself? Also, can I buy and/or swap the display board for a reasonable cost myself, without being charged a mint from a repair center for simply swapping the board? I like it but it's not worth spending a lot of money on.

Kevin Muse
kpke@galstar.com

[CS – If you've tried re-initializing your ESQ and found no improvement, my guess is that the problem lies with your display. If so, I'd recommend contacting Ensoniq Customer Service to check on the availability of a replacement.

If you can find a replacement, I suppose you could try to replace it yourself, but you'll probably need to track down a service manual for the ESQ, which may not be that easy. Alternatively, you might be able to get a sympathetic service tech to advise you for little or no charge. Be forewarned, though, that if you toast you ESQ, you'll be on your own.]

[Ensoniq – You should definitely take your unit to an Authorized Service Center. We can help to get you back up and running.]

Hey!

I own a **TS-12** and cannot seem to get it to work right with Cakewalk HS, PowerTracks Pro or Band in a Box.

I just cannot get this patch writing stuff down! Anyone know where I can get/buy the necessary patches?

TPatter755@gnn.com

[CS – What do you mean by "necessary patches"? If you mean that General MIDI-compatible sequences are playing back using the wrong sounds, you simply need to switch your TS-12 into GM-mode (this is explained in detail in your manual).

On the other hand, several of our readers have reported confusion when trying to send bank and program changes messages from Cakewalk. One reader, (Benny Richardson a Cakewalk user from Edmond, Okla.), was kind enough to write with the following advice:

"On the main screen of Cakewalk there is a provision for setting patch numbers. Leave this blank. It seems to override patch select data entered as a MIDI event. Enter bank selects first (controller 32), then patch numbers 0-59, or 60-119 – regardless of what the manual says about patch numbering. I have also found this to be true with my SQ-1. Also, as we should all know by now, MIDI loops are a no-no. The Cakewalk manual states the preferred mode to use is local-off. At least when recording a sequence make sure that each track is set only to receive if the TS-10 MIDI Out and In are both connected to your computer MIDI interface. When using Multi-track record, any defined track will record data, whether it is being 'sent' anything or not."

If none of this provides the information you need, send more info and we'll try looking further.]

TRANSONIQ HACKER

1402 SW UPLAND DR., PORTLAND, OR 97221

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