Transoniq Hacker

The Independent News Magazine for Ensoniq Users

Attack of the TS MIDI Control (Number) Freaks

Jeff Rhoads

Okay, okay... One more time: In order for the TS-10/12 data slider to function as a timbre controller, you've gotta do two things; 1) Make sure that Timbre is applied and turned on (MODAMT >< 0) somewhere in your soundprogram and/or preset and 2) make sure you've selected SLIDER = TIMBRE on the first System page. Piece of cake, right?

Maybe not.

Bert Niekirk of Ensoniq customer service says the phone still rings with that "Where's the Timbre?" query. So re-check your patches and TS System page just one more time before adding to your phone bill. If you're like me, you can't afford the one you've got.

However, somewhere on this very same System page, between SLIDER = TIMBRE and infinity, lies some real magic; SLIDER =XCTRL. And, whoa boy, if you're a real dyed-in-the-wool control freak (like me?) this is going to perk up your ears. Let me explain. The SLIDER = XCTRL value means that you can assign any MIDI controller number (from 0 to 127) to be transmitted from the TS to another MIDI device that recognizes and uses MIDI control numbers, via the dataslider. Why is this so magical?

The Trend Of The Nanosecond seems to be in specialized, dedicated synths and modules. The full-featured keyboard is out. (Hmmm... with KTs and TSs selling like mad, I guess somebody forgot to tell Ensoniq buyers.) Anyway, if you buy one these modules, you're gonna want a full featured keyboard/controller to go with it. And, if you want to be able to access and change some of the module's parameters, you have to send it the MIDI controller number(s) it wants. Trying to use many of the keyboard synths and stations on the market now as MIDI controller 'boards may pose a problem. See, on most current synthboards certain MIDI continuous controllers and control change commands have control numbers that have been pre-assigned to them. The modwheel is set to MIDI control number 1, the Footpedal to number 4, MIDI Volume to 7, and so on. The vast majority of synthesizer keyboards and all-in-ones offer no way to change these control numbers: think of them as being hardwired.

So if Ralph's Ambient Universe Rack Mount Synth needs a MIDI control number of 16 to speed up the Valium effect, but your modwheel only transmits on number 1, you are, shall we say, not relaxed here. You do have the option of buying a "silent" MIDI board that allows you to change and assign MIDI control numbers. Although prices are coming

In This Issue ...

Articles:

TS MIDI Control Numbers
Jeff Rhoads ..... *cover*

Sample and Hold
Steve Vincent 3

Static Free Transwave Samples
John Loffink 6

The EPS and Background Vocals – Part I
Robby Berman 10

KS-32 Tips
Jeff Jetton 13

SQ/KS/KT Sounds – XIII: Hum-Drum
Mark Clifton 14

DP/4 Part II: Reverb Parameters
Ray Legnini 18

Reviews:

Cybersounds Sample Bank CD-ROM
Pat Finnigan 9

Basement Tapes: Shear & O'Boyle
Daniel Mandel 18

Regular Stuff:

Random Notes 2
Hypersoniq 3
Current O.S. 20
Classifieds 20

Hackerpatches – *Rhoads & Mugglin*
SQ/KS/KT: Soniqs, *Jack Carder* 21
VFX/SD: By-The-Sea, *Steve Mugglin* .. 22

The Interface 23
Hacker Booteeq 31

down, a weighted keyboard version still isn't cheap.

Behold the TS magic.

Among the most popular dedicated synth-units to date have been those that emulate the Hammond organ and Leslie rotating speaker system. Now, you can plug in one of these modules to virtually any MIDI keyboard and do your organ thing, Leslie and all. You can leave your TS-10/12 at home and take a beat-up DX7 and organ module on the road ('specially if you play the blues). But what if your module needs to "see" a MIDI control number of 86 to alter, say, the Leslie's upper rotor slow speed, but your DX can't transmit that number? Give up and use the Leslie effect as is? Nah. Change it at home using your TS, then use it on stage with that old DX (or whatever).

I've had a chance to use most of the organ units out there — perhaps the most realistic simulation comes from the Voce Micro B. The Micro B combined with its sister Spin Leslie module sound fantastic together. The Spin unit, in particular, offers some fine tuning options using MIDI control numbers, but, again, they are not all standard numbers. No problem; the TS-12 can handle tough cleaning jobs.

The Spin unit allows you to change the microphone placement on both the Leslie's lower drum and upper rotor, using MIDI control numbers 75 and 85 respectively. Make sure the Spin unit and the TS are set to the same MIDI channel. On the TS System Page make sure SLIDER = XCTRL. Next, go to the MIDI Control Page 1 and set XCTRL to 75. Hit the Sounds (or Presets) button to allow the dataslider to act as a continuous controller. Notice as you push the slider up, the rotating speaker effect becomes less pronounced as the mic is being "placed" away from the Leslie's lower rotor. Go to MIDI Control Page 1 on the TS-10/12 again. This time let XCTRL = 68. Press the Sounds button again. This time the Dataslider toggles between slow and fast rotating speaker effects. As long as we "match" the TS to the control numbers in the Spin unit, a variety of changes can be achieved.

As more and more singular modules become available, the ability to assign specific MIDI control numbers to affect control changes in those units becomes almost mandatory. And we're certainly not just concerned with controlling a Leslie simulator. The sound of breath on a reed, the muting of a trumpet, the pick hitting a bass string — all these nuances can be altered and contoured using MIDI control changes, provided the Master controller can generate the MIDI control numbers the receiving unit requests. The ability to generate floating transmittable external control numbers is usually only found in expensive dedicated controllers. The TS-10/12 is a rarity: It offers this feature as standard in a full-fledged, fully complemented synthesizer.

Special thanks to Bert Niekirk of Ensoniq Customer Service and Al Alonso, president of Voce, Inc. ▬

Front Panel

RND (♪♪♪)

Ensoniq News

Ensoniq Corp. has released the **ASR-88,** a weighted-action version of their ASR-10 sampling keyboard. Featuring the same 88-key weighted-action keyboard with channel (mono) pressure used in the KT-88 synthesizer, the ASR-88 offers complete sampling workstation capabilities to the musician who desires a true piano touch. The ASR-88 comes as a specially-priced bundle, with the following items included: 16 MB RAM, SCSI (SP-3) interface, SW-6 damper style footswitch, a small-footprint, black, double-speed CD-ROM drive, two CD-ROM sound disks (CDR-3 and CDR-4).

This value-added bundle provides the customer with a complete "plug-and-play" sampler, removing the hassles of installing extra memory and adding peripherals. The ASR-88 is compatible with the optional MS-1 music stand, and can be used with Ensoniq's new P-10 wood keyboard stand (optional) for attractive in-home, church, or school use.

The ASR-88 features all the same sampling, effects, sequencing, and digital audio recording features of the ASR-10 sampler. They include: stereo sampling, sampling through effects, 62 effects algorithms, 16-track sequencing, 2 tracks of audio recording, importing of Akai and Roland sounds via SCSI, optional S/PDIF digital sampling input and output, HD disk drive, Patch Select buttons, up to eight outputs, and an extensive library of sounds on floppy disk and CD-ROM.

The ASR-88 bundle has a suggested retail of $4495.00. It will start shipping in the middle of May, 1995. For more information contact Ensoniq Corp, 155 Great Valley Parkway, Malvern, PA 19355 (800) 553-5151 voice, (610) 647-8908 fax, (800) 257-1439 automatic fax retrieval, CompuServe — type "GO MIENSONIQ."

New ASR O.S. — Ensoniq has another free O.S. update for all ASR samplers! Version 3.53 will work with any ASR-10 that has ROM version 1.5, and works with the ASR-88 as well. In addition to allowing the ASR-88 to work with the 88-key channel pressure keyboard, this new O.S. fixes the following items:

1) Improved phase coherence in stereo samples, even when STEREO LAYER LINK = OFF. Note that this should be set to ON for the most accurate phase coherence.

2) Improved performance of the PHASER+REVERB algorithm, eliminating any random pops and clicks.

Ensoniq On-line — Yes, you read correctly, Ensoniq is now on-line at CompuServe, supporting both the music and multimedia divisions. In addition to offering customer support Ensoniq has all of their Fax On Demand documents, some select audio snippets, and are offering ASR and Soundscape Operating Systems for downloading. To reach Ensoniq's music support area type "GO MIENSONIQ," and for multimedia type "GO MMENSONIQ."

Hacker News

We have two new additions (both email only) to our Transoniq-Net list of volunteers: Pat Esslinger has agreed to answer any TS related questions and can be reached at: Internet: pate@ex-ecpc.com, Compuserve: 74240,1562, or AOL: ESSLIP. And, Stuart Hosking is helping cover the TS, VFX, and SD-1: stuh@ozemail.com.au.

FTP news: Steve Vincent of Portent Music in Tacoma, ever the completist, has added yet another format for his ESQ/SQ-80 Hackerpatch collection — HackPatch ESQ.MidiExMac.sit.hqx As its name implies, it needs Stuffit to be uncompressed (Stuffit can be found as shareware all over the Internet), and it contains twelve files unstuffed: 8 ESQ banks, 2 SQ-80 banks, MidiEx Mac shareware Sysex program, MidiEx Mac docs. The Hackerpatches are in MidiEx Mac format, and the MidiEx Mac program is included in the Stuffit archive.

Also, our ftp site can now be reached by entering "ftp ftp.transoniq.com." Other steps remain the same — Name: anonymous, Password: your email address, and then type "cd vendors/trnsoniq" (without the "a" in transoniq).

HYPERSONIQ New Product Announcements

Third-party sound company, **Latter Sound Productions,** has released *Volume 3* of public domain sounds for the VFX, VFX-sd, and SD-1. The banks cover Moog, Classic Keys, Brass, Sax Sections, Pads, Organs, Strings, and key percussion. All VFX and SQ-1 *Transoniq Hackerpatches* Issues #103 through #118 are included. 60 sounds, 20 presets. $12.50 (disks). For further information, contact: Latter Sound Productions, 1341 Westheaven Court, Tallahassee, FL 32310. Phone: 904-575-5561.

EVS, a producer of tutorial videos for music and computer related programs (such as Cakewalk, Cubase, Band in a Box, Encore, and many more) is now moving into Ensoniq keyboards. Instruction videos covering the *TS-10* and *TS-12* will be among the releases scheduled for 1995. EVS videos are well-regarded in the industry, are very "hands-on" and go from the basics of installation up through the intricacies, usually run for several hours, and have a suggested retail price of $49.95. For further information, contact: EVS, 4139 Gardendale, San Antonio, TX 78229. Phone: 1-800-650-2427.

3D Sounds is announcing several new CD-ROMs and audio sampling CDs. *The Wave Bank* is a new CD-ROM containing about 2000 (640 megs) of high-quality, 44.1kHz, 16-bit, multi-sampled, stereo and mono instrument Wave (.WAV) files for use with Windows compatible and Sample Store sound cards. Analog synths, digital synths, bases, rock drums, dance drums, rap drums, jazz drums, orchestral instruments, brass, strings, woodwinds, pianos, organs, pads, drum loops and much more — all organized into specific catagories. $39. Among the audio sampling CDs available: *Drum Sample CD #1* (over 1200 sounds), *Drum Sample CD #2* (an additional 1000 sounds), *The Loop Bank* (hundreds of stereo CD quality drum loops — no copyrights), and *The Monster Synth Bank* (hundreds more of the world's biggest synths). All Audio CDs are priced at $35. All prices are in U.S. dollars. For further information, contact: 3D Sounds, Box 22065, 50 Westmount Rd. North, Waterloo, ONT, Canada N2L-6J7. Phone: 519-747-0282.

Rubber Chicken Software Co. is now an authorized dealer for *SAMPLEBANK!* — the Ensoniq CD-ROM for the PC. Over 400 disks of sounds can be extracted from this CD for use in Ensoniq samplers and the TS series. Requirements: any PC-clone with a CD-ROM drive connected to it. *SAMPLEBANK!* also contains a TX-16W bank, a Mirage bank, a .WAV file bank, and a utilities bank for file format conversions and other special features. See the review in the June 1995 *Hacker!* Price: only $99.95, Visa, Mastercard, and COD accepted. Contact: Rubber Chicken Software Co., P.O. Box 100, WIllmar, MN 56201. Phone: 1-800-8-PRO-EPS, 612-235-9798 (voice or fax), INTERNET: chickenEPS@aol.com.

"Sample and Hold"

Doing Vintage Digitally

Steve Vincent

The word "vintage" used to refer to finely aged wines, but now — at least among electronic musicians — it evokes visions of Minimoogs, Arp Odysseys, Hammond B-3s, and 1961 Fender Stratocasters (oops, wrong magazine). It harkens back to the day when the sonic landscape was thick with lush filter sweeps, portamento glides, ring modulation, pink noise, and the unforgettable dance of textures and pitches pouring out of the Sample and Hold Generator.

If you weren't around during the Analog Age, then you might not know what a sample-and-hold generator is, although you've probably heard its effect. The best example I can

think of is on ELP's *"Karn Evil 9, First Impression"* (*Brain Salad Surgery*): Between Greg Lake's guitar solo and "Welcome back my friends to the show that never ends..." Emerson holds a sustained synth note during which the filter frequency is modulated in a rhythmic (sixteenth note), stepped, random pattern. This filter modulation was the result of a sample-and-hold generator, and was, of course, the signal that it's time to turn the album over to side B. This effect was also used extensively throughout the '70s and '80s on Public Television programs whenever they wanted you to imagine communication transmissions from extraterrestrials, or the busy inner workings of a computer.

Hold that sample...

What is a sample-and-hold (S/H) generator or mixer? On analog synthesizers, it is a modulation source which "samples" the voltage level of a waveform at periodic intervals determined by the clock circuit, and "holds" that voltage level until the next clock pulse opens the gate again (see Fig. 1). This produces a sequence of control voltages which can be used to modulate pitch and/or filter frequency. If the waveform being "sampled" is a sawtooth wave, as in Fig. 1, and the S/H output is modulating pitch, the result will a repetitive pattern of notes. If the waveform being "sampled" is "noise" (a random waveform), then a random but rhythmic pattern will result, such as the above example from *"Karn Evil 9."*

This process has many parallels on our beloved Ensoniq digital synths and samplers. If you nudge the mod wheel on most patches (and in its default setting on the samplers), you can hear the result of modulating the pitch with a waveform, most likely the triangle wave. (I am always delighted when I discover that an intrepid third-party hacker has programmed pitch modulation on an acoustic piano patch. As a guitarist, I can't understand why piano manufacturers haven't taken the hint and installed whammy bars on their pianos.) The big difference is that an analog S/H generator gives you *stepped* pitch or filter changes, whereas most LFO modulations are continuous, unless you use a square wave as a modulation source, in which case the changes will be stepped, but boringly bifurcating.

A/D Conversion

On our digital synths and samplers we can take a waveform (from the LFOs) and use it to modulate pitch or filter frequency (and a host of other parameters, for that matter), but we can't "step" the output like an analog S/H generator. In other words, we can "sample," but we can't "hold." This is, however, only a problem for the "periodic" (or repetitive) waveforms like sine waves or triangle waves. It *is* possible to emulate the analog S/H phenomenon when using a random (or noise) waveform. This waveform is already "stepped" (sort of), in that the amplitude (which corresponds to the voltage in the analog oscillators) changes immediately and randomly from level to level. In other words, it jumps all over the place.

First, the Samplers

Okay, I'm not going to fascinate you all day (ahem) — time to roll up your sleeves, get involved, and build a sample-and-hold instrument. This first one is for the EPS, but the process should be nearly identical on all the other Ensoniq samplers.

Just so we're all doing this thing together (as Barney would like us to), create a sample from scratch. What's this? You didn't know that your EPS could create a waveform *ex nihilo*? Behold the awesome power of the EPS. Execute the following three commands: CREATE NEW INSTRUMENT, CREATE NEW LAYER, and CREATE NEW WAVESAMPLE. Your EPS, with your help, just created its own wavesample. Now press a note, and listen to the bleating, cheesy sample you just created. In no time, this thin little wave will be transformed into a cool vintage sound.

Now press EDIT, and underscore either Layer 1, or WS 1, I don't care which. Doesn't matter. This first version will use the "random" LFO waveform to modulate pitch, so press

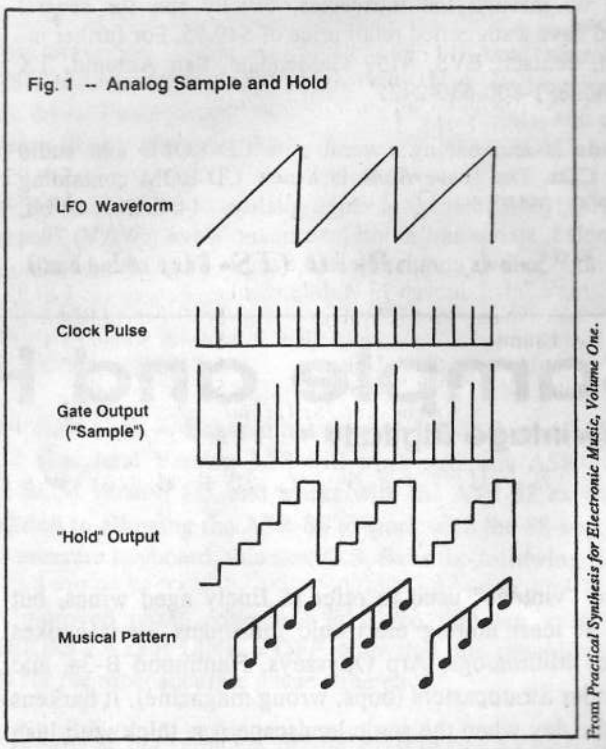

Fig. 1 -- Analog Sample and Hold

From *Practical Synthesis for Electronic Music, Volume One.*

PITCH, and enter PITCH MOD = RANDM -99, RANDOM FREQ = 92, AMT = 0. Feel free to experiment with the RANDOM FREQ, but values between 85 and 96 seem to give the best results. Also change ENV 1 AMOUNT = 0.0, and LFO AMOUNT = 0.0, just to keep these other mod sources from messing up our cool patch.

Now press a key again. You now have an EPS instrument emulating an analog sample-and-hold effect!

So what did we do here? We "sampled" the random waveform from the LFO (sort of), and used the RANDOM FREQ parameter to adjust the "hold" interval, and applied the output to the pitch of our newborn sample.

Now if you want to apply this S/H emulation to the filter frequency, then once again start from scratch, or better yet, load in a sample with more timbral complexity than a sine wave (like a square wave); this will yield more timbral distinctions between the "steps" in the filter changes (translation: it will sound better).

Next, set the following parameters by EDITing the Filter page: F1 MOD = RANDM *+99, F2 MOD = RANDM *+99, MODE: F1 = 2/LP, F2 = 2/HP (this yields the highest frequencies, therefore the widest range between "samples," therefore the coolest sound), CUTOFF: F1 = 64, F2 = 64. **(Important note:** there is no parameter on the Filter menu for tweaking the RANDOM FREQUENCY; you must go back to the Pitch menu to adjust it. I know it's weird, but just do it.)

You have probably noticed by now that this sample- and-hold effect doesn't do as much for the filter as it does for the pitch. This is probably due to the lack of resonant filters on the EPS. It might help a bit to change the VOLUME MOD on the AMP page to RANDM * 50 or thereabouts. This will sync volume changes with filter changes, and make you think it sounds cooler than it actually does.

Now for the synths...

Synth owners, it's your turn. Thank you for your patience. You can emulate the S/H effect on your Ensoniq synth, but with some limitations. This explanation is geared for the ESQ-1 and SQ-80, *but the principles apply to any Ensoniq synth.*

Fire up your ESQ or SQ-80, and enter the parameters for the SHOLD1 patch. If you're like most Hackers, you've already programmed the patch and played it before reading this, so you know that the S/H effect you're hearing moves at a pretty fast rate. We are using LFO1 with the NOISE waveform to modulate both the pitch and filter, and even with the LFO Frequency set to a mere 1, the effect sounds like *"Flight of the Bumblebee."* As noted above, Ensoniq samplers have a

- ENSONIQ SOUND HEADQUARTERS -

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ESQ-1 PROG: SHOLD1 By: Steve Vincent

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+0	0	0	SQUARE	LFO1	+63	*OFF*	+0
OSC 2	+0	0	0	SAW	*OFF*	+0	*OFF*	+0
OSC 3	+0	0	0	SAW	*OFF*	+0	*OFF*	+0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	*OFF*	+0	*OFF*	+0
DCA 2	0	OFF	*OFF*	+0	*OFF*	+0
DCA 3	0	OFF	*OFF*	+0	*OFF*	+0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	100	16	0	LFO1	+63	*OFF*	+0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	*OFF*	+0

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	1	OFF	OFF	NOISE	63	0	63	LFO2
LFO 2	5	OFF	OFF	SQR	5	0	0	*OFF*
LFO 3	0	OFF	OFF	SQR	0	0	0	*OFF*

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+0	+0	+0	0	0	0	0	0	0	0
ENV 2	+0	+0	+0	0	0	0	0	0	0	0
ENV 3	+0	+0	+0	0	0	0	0	0	0	0
ENV 4	+63	+63	+63	0	0	0	0	0	0	0

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

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	1	OFF	1	OFF	1	60

ESQ-1 PROG: SHOLD2 By: Steve Vincent

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+0	0	0	SQUARE	ENV1	+63	LFO1	+63
OSC 2	+0	0	0	SAW	*OFF*	+0	*OFF*	+0
OSC 3	+0	0	0	SAW	*OFF*	+0	*OFF*	+0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	*OFF*	+0	*OFF*	+0
DCA 2	0	OFF	*OFF*	+0	*OFF*	+0
DCA 3	0	OFF	*OFF*	+0	*OFF*	+0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	100	16	0	LFO1	+63	*OFF*	+0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	*OFF*	+0

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	1	OFF	OFF	NOISE	63	0	63	LFO2
LFO 2	5	OFF	OFF	SQR	5	0	0	*OFF*
LFO 3	0	OFF	OFF	SQR	0	0	0	*OFF*

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	+63	+63	0	0	0	0	0	0	0
ENV 2	+0	+0	+0	0	0	0	0	0	0	0
ENV 3	+0	+0	+0	0	0	0	0	0	0	0
ENV 4	+63	+63	+63	0	0	0	0	0	0	0

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

SPLIT/LAYER	S/L PRG	LAYER	L PRG	SPLIT	S PRG	SPLIT KEY
OFF	1	OFF	1	OFF	1	60

Random Frequency parameter which slows the effect down considerably more than the ESQ can. Without this ability on the synths, we're stuck with using the LFO's generic Frequency parameter. For a slight variation of this patch, go to the MODES page and set AM = ON for *"Flight of the Enraged and Crazed Psychopathic Bumblebee Caught Between Sheets of Wax Paper,"* a sound sure to inspire a Grammy award-winning song. This sound is similar to Sam Mims' TLMTRY patch (Syntaur Productions Soundset 3 for the ESQ-1), but instead of a square wave, Sam used the "phantom" waveform 183.

Now punch the SHOLD2 patch into your ESQ-1 or SQ-80. Using a slightly more complex method, but yielding more resonant results, this patch uses ENV1 to modulate pitch, then adds LFO1 with the NOISE waveform to modulate ENV1. Although we can't slow down the frequency of the LFO any more than a "1," we *can* increase the amplitude swings by tossing in an Envelope mod. This produces greater pitch level changes, and therefore more discrete "steps" in the sample-and-hold effect.

Now that you are armed with a fair digital emulation of the venerated analog sample-and-hold, go forth, score your computer training videos, sci-fi movies, and "get vintage."

Bio: Steve Vincent recently completed his first album project, entitled A Winter's Tale. *When he's not composing, tweaking samples, or producing demos, he's a psychotherapist.*

Static Free Transwave Samples

Part I

John Loffink

A long, long while back some questions were raised in the Interface concerning Transwaves on the EPS-16 Plus. Since I'm not in the sample marketing business anymore, I thought I'd share some of my "trade secrets" with you.

A Brief History of Transwaves

Transwaves debuted in the VFX synthesizer and have been incorporated into every Ensoniq synth since then. The syn-

thesizers contain ROM wavetables of Transwaves that can be modulated by the typical modulation sources, providing animated sounds rather than static single cycle loops. You might compare the sounds to pulse width modulation on analog synths or waveform interpolation as popularized by the PPG Wave or Waldorf Microwave synthesizers.

Ensoniq wisely decided to add the Transwave feature to the EPS-16 Plus sampler, which arrived about a year and a half after the VFX. The ASR-10 also carries over this feature. However, no Transwave samples were ever provided by Ensoniq, not even the ones available in their synthesizers. The sounds REVELATION and SOLITUDE supplied with ASR-10, though billed as Transwaves in the accompanying literature, actually use Loopstart-X modulation, another memory efficient but more limited scheme for animated sounds. MIST, the other factory sound described as a Transwave, uses detuned layers with LFO pitch modulation. I've never seen third party or public domain Transwaves either. This probably has something to do with the difficulty of creating click free wavesamples that can be Transwave modulated.

Transwaves Specifics and Applications

Transwaves are mentioned briefly under the "Edit Wave: Wave Mod Type; Source" section of the EPS-16 Plus manual. Modulating a Transwave will move the loop across the sample in increments of one loop cycle. If your loop starts at 0 and ends at 100, positive modulation will move the loop to between 100 and 200, then between 200 and 300, and so on, up to a maximum of 128 loop positions. Negative modulation of the same amount is possible. In this case, the loop would be set to start at 900 and end at 1000. Negative modulation would move the cycles back, to start at 800 and end at 900, and so forth.

The best way to conceptualize a Transwave is to think of it as a collection of single cycle loops. Each cycle represents a gradually changed timbre from the previous sample, so when strung together and modulated a subtle shift in timbre is created. If the Transwave is not being modulated, then a single cycle plays over and over. When the Transwave is slowly modulated, the instrument may play one cycle multiple times, then proceed to the next cycle, which also may play multiple times, and so on. In this way, an instrument may be created that is more memory efficient than the raw sample.

More importantly, the user can have real-time control over the timbre of the sound, a feature that is missing in most of today's samplers and wavetable based synthesizers. The EPS-16 Plus allows real-time control of the tonal quality of the sample by any of the fifteen modulation sources. For instance, if your Transwave is a sample of a pulse width modulated waveform, you could set the LFO sine wave as mod source for a '70s style chorusing effect. Using a swept resonant filter sample, you could set the keyboard pressure to control the Transwave modulation, achieving realistic high Q filter sweeps polyphonically.

Hard and Fast Rules for Smooth Transwaves

After many hours of experimentation, I have come up with the following hard and fast rules for smooth Transwave creation.

1. Use single oscillator samples only.
2. Make sure all frequencies have zero phase shift.
3. Sample at 22,321 Hz, 32,894 Hz or 44,642 on the note D.
4. Use multisamples for rapidly modulated Transwaves.
5. The Wave Mod Amount range of 99 will cycle through 128 "loops."
6. Best results can be achieved using computer synthesis.
7. Resynthesis may transform a poor Transwave into a good Transwave.
8. Brute force sample editing can work somewhat, but is tedious.
9. Phase shift effects from filtering can be avoided by editing tricks.

We'll go over the first two rules this month and save the rest for Part II.

Rule 1: Use single oscillator samples only.

Chorused sounds, inharmonic sounds (bell-like timbres) and synthesizer sounds which combine detuned oscillators make poor single cycle loops, so they also make poor Transwaves. Attempting to Transwave modulate these sounds will cause static crackling because of the discontinuities between the previous Transwave end and the following

Back Issues

Back issues are $2.00 each. (Overseas: $3 each.) Issues 1– 40, 61, 67 – 74, 77, 79 and 82 – 85 are no longer available. Subscriptions will be extended an equal number of issues for any issues paid for that are not available at the time we receive your order. **ESQ-1** coverage started with Issue #13. **SQ-80** coverage started with #29, (although most ESQ-1 coverage also applies to the SQ-80). **EPS** coverage got going with #35 (and also applies to the **ASR-10**). **VFX** coverage (which also applies to the **SDs**) got started in #48. The **SQs** got going in #63. (SQ articles also apply to the **KS-32 & KT-76/88.**) **DP/4** coverage started in #88 (much of which also applies to the **ASR-10**). **TS-10/12** coverage got going with #98 but owners should also check out sample reviews (EPS/ASR) and SD & VFX programming tips. Permission has been given to photocopy issues that we no longer have available — check the classifieds for people offering them. A free back issue index is available which contains the tables of content for all issues since Number 43.

Transwave beginning. It's like sweeping through a series of bad loops.

Since single oscillator samples make the easiest single cycle loops, they will also make the best Transwaves. It's okay to mix waveforms and even suboctave square waves as long as they're all generated by the same oscillator. It's also okay to sample hard synched oscillators, as that process locks the phase of one oscillator to another.

Rule 2: Make sure all frequencies have zero phase shift.

You're probably asking, how do you know if the sound you're sampling has frequencies that have zero phase shift? What does it mean?

Phase is the relative position of the frequencies which make up the sound. A square wave at 100 Hz contains the odd harmonics 100 Hz, 300 Hz, 500 Hz and so forth. These harmonics are all constant in phase, i.e., they all start at zero at the same point in time. This phase relationship of the harmonics is what causes the characteristic square wave shape. If you pass this square wave through any type of analog filter, not only is the frequency content altered, but so is the phase. On my computer, I took a square wave sampled on D3 at 44.632 KHz. I then passed it through a standard four pole low pass filter. The filter was set to high resonance (or "Q") and the frequency cutoff was swept from high to low. The results of this modification are seen in Figures 1 through 4.

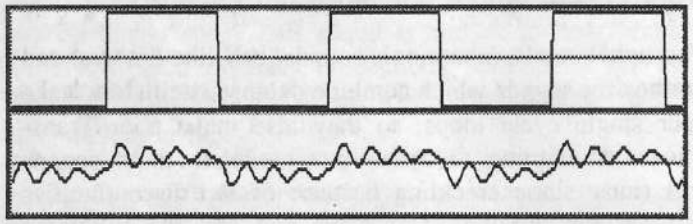


Figure 1. Initial phase. Display: 783 1696

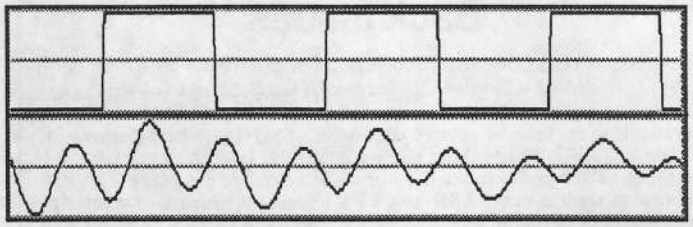
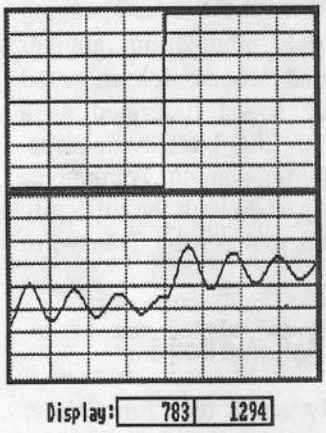


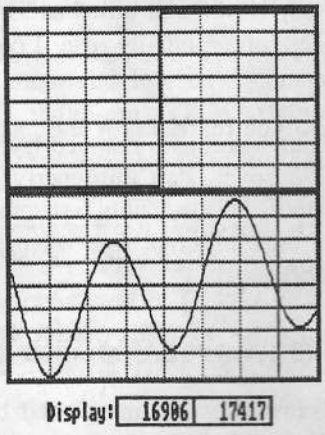
Figure 2. Phase after 55 cycles. Display: 16986 17819

Figure 1 shows the square wave and resonant sweep near the beginning of the sound. The rising edge of the square wave is nearly coincident with the zero crossing of the resonant wave. Look at what happens after about 55 cycles, when the cutoff frequency of the filter is lower. The rising edge of the square wave and the zero crossing of the resonant wave have moved away from each other. Since the square wave was constant in phase, the phase of the resonant wave has shifted since the beginning of the sound. A closer comparison of this shift is shown in Figures 3 and 4. The resonant wave doesn't make a good Transwave because the zero crossing point doesn't remain at a fixed interval. Since Transwaves do move in fixed intervals, the loops of the modulated waveform will contain static as the ideal loop point moves away from its original position.



Display: 783 1294

Figure 3. Initial phase detail.



Display: 16986 17417

Figure 4. Phase detail after 55 cycles.

Swept resonant filters are ruled out as good candidates for Transwaves. All synthesizer filters will shift the phase of the harmonics to a certain degree. Even synths with digital filters will have that effect, because they are modeled after their analog counterparts. However, pulse width modulated (single oscillator only!) or hard sync sounds should work well, though always sample with the filter open to maximum (use the EPS filters if the sample needs it). Additive (Kawai) or waveform interpolation (PPG, Waldorf) based synthesizers are also good candidates.

You can check your sample's conformity to the zero crossing condition by scrolling through the loop position parameter with auto-loop finding on. If the difference between each loop position value is constant then your sample should make a clean Transwave. ▬

Bio: John Loffink is not a rocket scientist, he's an electronics engineer for NASA's Special Projects Laboratory at the Kennedy Space Center. He had been hanging out at the Shear mailbox to intercept that free ASR-10 Ensoniq was supposed to be sending Tom, but Tom moved so many times that the FBI must have ended up getting it.

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Pat Finnigan

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Do you really know the pain in the butt of CD-ROM? It's not the price of hardware anymore 'cause triple speeds are down to $179. You gotta buy one copy for this format, one copy for that format, one for Mac, one for Windows, one for little boy who lives down the lane, blah, blah, blah! I've gotta buy the Microsoft Office 3 times: once for my Mac, twice for my PC, and thrice for my PowerMac. What an ingenious marketing scheme at work here!

Man, I'm tired of buying the same program twice. But so are the people at CyberSounds. This little CD is maxed out at 630 Mb of samples for everybody (given you've got a MPC clone). How about 300 Mb of Ensoniq wares? Would you like 50 Mb of Mirage samples? I don't think Ensoniq itself did more than 10 Mb of DSK factory samples, did they? Perhaps 150 Mb of TX16W samples? Or you don't have a sampler how about 125 Mb of *.wav files? All this for $99? Illegal! Bogus! Yeah, I may have already won 10 guzillion dollars, too...

Again, rather than give you the straitup on the sounds, they focus on synth and drums. And I mean Yamaha, Kawai, Moog, VFX, PV, Fairlight, Oberheim, E-Mu, Roland, Chroma, ESQ, I mean, like, it's all here! Not the polished 30-60 patch groupings or 4-5 specific samples, but 300 meg of meat and potatoes! Dig in here before it's all gone! Comes with executable Giebler EDE.EXE for copying directly onto formatted floppies! Comes w/mondo cool Ensoniq utilities for your MPC! Comes with demos! Comes with MASOS for our 8-bit forefathers! Comes with *.wav/*.aif<->EPS/16+ conversion utilities. Comprehensive, defined!

If you've got an MPC-compliant PC this disk turns it into Ensoniq-Helper (macaroni not included). A complete, bottoms-up, pre/post house Ensoniq engineering device resides in your PC: this CD brings it to surface. This cool a disk has to be illegal! Both a training aide and trusty Ensoniq friend, this thing will save your Ensoniq FDD from hours of formatting drudgery/wear and tear. This thing is a real showcase to Gary Giebler: he broke down barriers with his utilities years ago: he brings down walls with his latest barrage of converters here. Let's see now: I can take that 1st generation Janet Jackson TX16W snare from *"Rhythm Nation,"* make it a *.wav file, translate it into Ensoniq format, and siphon it down to a Mirage disk to replace the Jam/ Lewis snare she kicked *"Nasty Boys"* in the butt with? Wellllll, alllrighty then!

Lemme get this straight now: I can take some mondo cool loops from my Mac, wash them thru Brian's SND converter to an AIFF file, import them into the PC as an *.aif file, translate to 16+ format, throw that same Janet snare onto that loop (that I already converted from TX16W format), resample w/effects, export back to my PC, and export to a TS-10 as "raw" wave data? Or take those Foley *.wav files, export to the '16+, wash w/squeaky clean Ensoniq 24-bit DSP, resample, export back to PC and resave as the "same" *.wav file?

This disk even has Banks and demos on it. Since it's an MPC disk, there's no EPSOS on it, but there is MASOS! Ah, what we cut our teeth on in the sampling world returns! And yes, all the pieces are here, although I'd recommend Giebler's trusty full-fledged EDM for shortcuts. But everything you need to do these impossible gyrations is here, A hacker's dream come true...

Just add Ensoniq... ▬

Bio: When not answering broadcast NTSC/PAL questions for TrueVision, Pat is a tech support person for RasterOps. He still uses a B-3 for a keyboard stand and watches the alpha channel.

The EPS-16 PLUS and Background Vocals

Part 1 — Sampling Your Backups

Robby Berman

The recording center of my rig is a four-track cassette deck. In my SD-1 and SQ-8O, I 've got 32 sequencer tracks to record on before I print them in stereo across two tracks on the four-track. This leaves me two tape tracks for vocals and any organic instruments I plan to record (guitars do grow on trees, you know). I'm more than satisfied instrumentally, but two tracks is just not enough on which to record the kind of lush background vocal harmonies my songs call for, especially since I tend to want to sing 'em all. What to do?

I got a rackmount EPS-16 PLUS. (Note: While a lot of this short series of articles also applies to the ASR, in many cases there may be an easier way to accomplish the same results.) Now I can record, and even sequence, full, double-tracked, professional-sounding background vocals (BGs).

I heartily recommend sampling your BGs before you commit your sequences to tape. That way, after sequencing your harmonies, with a little guesswork (or a few test recordings), you can print them in stereo mixed right in on the same tracks with your instruments. As a result, you'll still have the optimal number of tape tracks left over for other purposes.

Understand that the EPS-16 PLUS is boneheadedly easy to sample with, especially for one-shot samples like vocal phrases, which usually require no looping. Limited sampler memory is your only real constraint. I use the best mic I've got, and plug it right into the back of the '16 PLUS.

As a professional recording engineer, I'm here to tell you that unless your mic sounds seriously bad or you feel you really need to compress your BGs, you may well not need to run through any outboard gear on your way into the '16 PLUS. Remember that every device you place between your performance and tape degrades the fidelity in some way.

As far as EQ goes, the clarity inherent in the EPS-16 PLUS is great, and if too much low end is your problem, you can always roll it off using the filtering facilities built into the unit once your sample's on board. By the way, I have *never* EQ'd my SQ-80, SD-1 or my EPS-16 PLUS (or my drum machine or tone module, for that matter), and my recordings are impressively clear, believe me. Leave these digital babies alone! Nothing craps up a recording more than superfluous processing .

Sampling BGs

Let's say you want a three-part harmony on the title line of your song, *"Doo Wah MIDI."* Here's how.

We'll start by sampling a scratch take of the lead vocal "Doo Wah MIDI," sung with any melody you want. If you record the way I do, you'll eventually be recording your lead vocal on one of your tape tracks, and it won't wind up as a sample. Still, it'll give you something to listen to your BGs against for now. We'll count this as harmony number one. On your 'sd, SD, or SQ/KS, or whatever, sequence a pilot track using a basic sound as a pitch and rhythm reference for you to sing against. If you're using this same instrument as a controller for your '16 PLUS, remember to set up another track for that purpose. If you don't have a sequencer other than the '16 PLUS, you can play some other keyboard live while you sing (again, make sure your '16 PLUS controlling is, well, under control). Since you want to be able to monitor your pitch and timing against your reference music as you sing into your '16 PLUS, plug your headphones into the mixer through which you run all your instruments (maybe that would be your four-track). Turn down the outputs of the instrument you're singing along with so you don't get too much headphone leakage into your sample. Or just keep your headphones low.

What you do now is simply follow the instructions for Easy Sampling on page 5-4 in the *EPS-16 PLUS Musician's Manual* to sample your first "Doo Wah MIDI." I find that for the best compromise between audio fidelity and memory hoggery, a sampling rate of 29.8, gets the nod. With a stock rackmount version of the '16 PLUS, this'll get you 34.46 seconds of sampling time; with the keyboard version, half that. Remember that each harmony uses up time, so even if they're all to be played back at once, this runs out pretty quickly.

A PRE TRIGGER setting of 15 usually works for me. If, when you do a take, the sample is chopped off at the front, raise this value and try again. Watch the level meter on the '16 PLUS; it may take a few attempts to find how loud you should sing or how far from the mic you should be to keep the sample from clipping. Start up your reference music and sample your singing. After selecting a root key, audition your sample against it. If a take's lousy, if the front is cut off, or if it clipped after all, follow the instructions on page

5-9 in the manual for resampling an existing sample.

Once you've got it, press Effect Select/Bypass and hit the down arrow once — editing samples is best done dry. Press Command, Amp and YES/ENTER to normalize the gain of the sample (this gives you the most volume bang for your buck). Then press Edit and Wave and, quickly, 1 on the numeric keypad. Raise the SAMPLE START coarse value (that's the number in parentheses) and then the fine until there's no dead space in front of the sample and yet none of the first note is chopped off. You may find that there is no extra space in front of your "Doo"; if so, leave both values set to 0. Next, scroll rightward one screen to SAMPLE END, and back the rightmost values down until there's no extra sound after your vocal stops. If there's a little click right at the tail of your vocal, try raising the left field values until it's gone. If there's still noise at the end, not to worry, we'll cover that later, just do the best you can and keep going. Once you've adjusted the SAMPLE START and END, truncate the sample so as not to waste precious memory. Press Command, wave, and 4. Press YES/ENTER. That's it. Not so hard, huh?

Let's deal now with the small clicks or noises you might have found at the end of your sampled performance when you trimmed the SAMPLE END. This auditory debris commonly emanates from lips, saliva bubbles (I know, ecchh), breath exhalations and so on. If you haven't been able to get rid of it by lowering the SAMPLE END values because of its proximity to your last note, the 16 PLUS affords you the option of fading out your sample at its ratty tail end. This will often remove the offending detritus altogether; sometimes it just lowers it. You'll have to determine for yourself whether or not any noises you can't get rid of will be objectionably audible in the track with all the other instruments playing.

To use the FADE OUT function, press Command, Amp and 6. Press YES/ENTER. Begin with a START ADDR of 7, scroll right and set END ADDR, of course, to 99 (the end of the sample). Scrolling rightward again, you can leave the SCALE DEPTH at its default value for a smooth fadeout, or crank it up for a more radical volume drop. Press YES/ENTER and listen. Is the noise gone? If it sounds satisfactory, press YES/ENTER. If not, press NO/CANCEL, YES/ENTER and try lowering the START ADDR value and/or raising the SCALE DEPTH until it sounds as good as you think it's gonna get. If none of these work, and the noise is still too apparent, you can always do another take. By the way, FADE IN (Command, Amp and 5) always seems to work when you've got a little click at the front of the sample, maybe from a soft first consonant like "L." Set the START ADDR to 0 and the END ADDR to 1, with pretty much any scale depth.

Harmonies

Now we want to get our first harmony down. While listening to your first sample against the reference backing, work out and rehearse a harmony part. Press Sample, pick the same sampling instrument you picked for your melody *"Doo Wah MIDI,"* and when you get the screen that reads, "UNNAMED/LYR=1/WS=NEW," press the left arrow button so that LYR=1 is underlined. Press the up arrow button so that it reads "LYR=N" ("N" stands for "New layer"). Sample your harmony, and when the 16 PLUS asks you to PLAY ROOT KEY, play the same key you played for your last sample. That way, when you press one key, you'll automatically hear your two harmonies at once. In order to trim this sample the same way as your first, you'll need to hear it alone. Press Edit and Instrument and, using the down arrow button, turn off layer 1 for the moment. After you've normalized, trimmed and truncated WS2, press Edit and Instrument and turn layer 1 back on. Check out what you've wrought by playing your root key on the keyboard.

Exciting as your two-part harmony may sound, go ahead and repeat this last paragraph for your third harmony (to trim this one, you'll have to turn off and on layers 1 and 2, of course). Now things should really be starting to get electric.

You can change the volume balance within your harmonies. Press Edit and select whichever sample you want louder or softer. Remember that each harmony is in its own layer — make sure that LYR= is correctly set, underline WS= on the display and then play the key on the keyboard you've been using as your root key to select the correct wavesample. Now press Amp and adjust the volume.

If you want to double-track your harmonies, press Edit and Instrument, open up layers 5 and 6 and knock yourself out. I should mention that once you're comfortable with your harmonies, and have finished grooving on how good it all sounds, you should delete the melody sample to free up memory. Press Edit and set the screen to read "UNNAMED/LYR=1/WS=1." Press Command, Wave and 2. Press YES/ENTER twice to delete the wavesample.

Memory being at a premium on a sampler, you'll quickly find your supply depleted. If your BG phrases are short and you don't double the harmonies, you'll probably have room on board for a few harmonized phrases (using our example, you'll have two samples, one for each harmony). If you're doubling (four samples), you may not.

In our example, we've been discussing lyric-based BG phrases; they don't take up so much memory. "Oohs" and "aahs" are another story — they're memory-hoggin' beasts.

They often go on for so many measures that sampling them whole is likely to eat up most of your memory. Fortunately, Ensoniq comes to the rescue. Page 7-29 in the '16 PLUS *Musician's Manual* has an edifying tutorial on legato layers using flute samples as an example. Looped "oohs," one with an attack and one with the attack chopped off and faded in sound pretty convincing with this legato layer function. Of course, any "oohs" that hold one note throughout a section can easily be a memory-efficient looped short sample.

In the next article, I'll show you how to combine your samples to radically reduce your memory usage without sacrificing either fidelity or stereo (we'll get to stereo next time). That way, with a modicum of planning, you'll be able to get a song's worth of quality-sounding BGs on board at once. For now, I'd suggest that, every time you get one musically related bunch of harmonies together, like your *"Doo Wah MIDI,"* you save it to disk(s).

That's all for now. ▬

Bio: Robby Berman is a musician living in New York's Mid-Hudson Valley. A somewhat disoriented denizen of cyber-space, his latest album is "Rings and Rings."

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What's the Big Idea?

KS-32 Tips

Jeff Jetton

The job of a writer is to get big ideas, which can be a bit of a problem when the only ones bouncing around are small ones. Merely taking a small idea and padding it with fluff doesn't quite cut it in this here competitive world of writing. The exception, of course, is *The Bridges of Madison County*. Instead, what I do in times like this is fall back on an old writer's trick — taking several small ideas and sort of mushing them together into a literary gumbo of an article. Here then are various KS-32 tips that don't quite merit a page of their own.

Delays for Days

Notably absent from the types of built-in effects is some sort of delay. One way to get around this has been mentioned in these pages a few times before. Use the 8-voice chorus effect with the chorus depth set to zero. The feedback parameter controls the number of repeats, and the chorus center parameter sets the delay time. Even with the chorus center wide open at 99, you get a pretty short delay. If you're sequencing, though, you can get an even longer, more flexible "delay" effect.

Take the track you want echoed and copy it to an empty track. The "copy track" function (bank 5, screen 1) works well for this. Now you can shift the track later in time (bank 5, screen 5) as much as you want. For more delays, make more copies. You can adjust the various track volumes so that the echoes gradually get quieter (or whatever), and you can set each echo's pan position separately. This technique has the added bonus of always being in time with your sequence. If you change the tempo, the delays change right along with it.

If you want to merge all the delayed tracks into one track, you'll have to use "scale track" (bank 5, screen 6) to scale down the velocity of each track, rather than setting their volumes (assuming the sound selected gets quieter with less velocity). This is because once you merge all the tracks to one, they will all share one common volume setting.

Under the Hood

Here's the part that will really turn you into a KS-32 guru. If for some reason your KS crashes, puts garbage on the screen, or is generally freaking out, you can reinitialize the system software. (I know, this is described in the manual. We'll get to the undocumented stuff in a bit.) Press the "Edit Seq/Preset" button to put you in Sequence/Preset Edit mode. Press and hold the "Store Seq" button (bank 9), then press screen 9. It will ask if you want to reinitialize the sound and sequence memory, and if you answer yes, it will do just that. All of the factory sounds will reappear, and all of the sequences will be empty.

Ah, but what if you followed all the steps above, but instead of pressing screen 9 at the end, you pressed some other screen number? As it turns out, all kinds of neat stuff. Pressing screen 8 at the last step will erase the sequencer memory, but leave your sounds intact. Pressing screen 7 apparently performs a "soft reset," which is pretty much the same thing as turning it off and on again, but without as much wear and tear.

Pressing screen 6 will give you the GPR number in hexadecimal and allows you to adjust it. I have no idea what the GPR number is. I mentioned it to someone at Ensoniq who said that he could tell me, but then he'd have to kill me. Screens 3-5 seem to do nothing. Screen 2 yields the sequencer RAM in blocks, and screen 1 will reveal the version number of the operating system. At this writing, the most up-to-date version is 3.01.

If you press screen 0 as the last step, you will enter an analog testing mode. From here you can press any screen from 0-4 to find the response of various controllers. You can diagnose problems with your modulation wheel, aftertouch, the data entry slider, etc. Don't be afraid to experiment. Nothing you press will cause the thing to catch fire or explode. Ensoniq has stated that they won't incorporate those features until at least OS version 3.5. ▬

Bio: Jeff Jetton keeps his stuff in Nashville, but is mostly on the road playing for country artist John Berry. You can e-mail him at jeffjetton@aol.com with questions, comments or if you're Robert James Waller's attorney.

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How Sounds Work

Part XIII — Hum-Drum

Mark Clifton

Harmony is great. Consonant, ear-pleasing tones mathematically ratioed out for your listening convenience, frequencies of different colors and ranges peacefully coexisting as one. It's enough to do any freedom-loving citizen proud. And melody; make those tones dance, twirl about each other in a joyous frenzy, forgetting all the daily sorrows an average musical note may have to face. Make them speak, make them shout and whisper, keeping it all polite (of course). Notes have to follow rules too.

Yep, this has got to be an ideal existence — in a BraveNew-World Soma-pumped sort of way. Face it. There are times when you just want to forget about all this harmony/melody sing-song, pick up a couple of sticks and beat the living heck out of something. That's the way we were doing it before those civilized little notes came along, and that's they way we'll always be doing it in some capacity or another. You see, whether they know it or not, notes are masochists — they like a pounding beat to march to, a drill sergeant. It's always been up to us to provide that beat, even if it was just a clicking metronome or a MIDI clock or the wave of a conductor's baton. It's a compulsive habit with us. We're animals; we have drums beating in us 24 hours a day for our entire lives, beginning to end. Heart, lungs, joints, hormones, thoughts, we're full of pounding, and we love it! Without us and our metrical whips those tiny helpless notes would fall into chaos and disarray. And even chaos likes to follow a pattern!

So gee, maybe I'll devote this month's column to drums.

There are all kinds of drums in the world. Bang on something and it's basically a drum. But seeing that this is the western part of the world and we love our Rock 'N Roll, I'll try to stick to that particular mode of banging. Beside, the drum waveset on the SQ/KS/KT, being a commercial instrument, is made up mostly of these kinds sounds anyway (this is, of course, no swipe against the programmers, but at the general public at large). The factory ROM patches are loaded with great usages of these sounds, but most of them share the same sort of processed, studio-recorded quality that unites most all of the factory patches on modern synths out there. This is great if you want good-sounding ready-made tracks to put behind your demos and self-produced meanderings, but there may be times when you want more of a raw, live feel. That was the intention behind "Live Kit 1" (available in my Latter Sounds *Hardwire* collection, still for sale by the way): to capture the punch, dynamics and ambience of a real drum set in a natural room environment.

To do this, I didn't have to stray very far from the SQ's original drum waves (there is one exception, which I'll get to later), rather, the subtlety of this sound lies in the careful programming of dynamics and envelopes, as well as effects. Just because the SQ's drum programming mode has a more pared-down set of parameters than normal sound mode does not mean that these parameters are any less powerful or important. Too often people make the mistake of neglecting their drum sounds through hasty or careless programming. Actually, the reduced number of parameters available should inspire more care in their programming, since each one now takes on a greater role in shaping the final sound. The arrangement of the sounds in this patch, for the most part, follows the standard preset SQ/KS/KT drum kit template that is nicely laid out for you whenever you change soundmodes from normal to drum programming. Auxiliary percussion layout in the upper range of the keyboard, though, is a bit more ambiguous, though I tried to keep that fairly standard as well. For brevity's sake, I'll mention specific features of each sound only where particularly unique or interesting. If a concept is universally applied, then I'll state it as such and move on. After all, we have a good 17 or so little miniature patches to deal with here.

Being fairly logical creatures, we'll start at the bottom of the keyboard with the kick drums and work our way up. "Live Kit 1," like most drum kits, makes use of two kick drum sounds — THUMP KICK and DYNAMIC KICK, respectively — which are mapped in the lowest half-octave of the 5-octave keyboard. These two waveforms were chosen mainly for their realism and the fact that they are featured in the original SQ-1 waveforms, making it easier for all you unexpanded types to plug it in. Neither sound features anything particularly special in the Pitch section, though I should make mention of the fact that the Keyboard Pitch Tracking is turned OFF, seeing as there is not much of a reason for a kick drum to get very melodic. Most of the sounds in this kit use no pitch tracking. I'll point out exceptions as they come along. Turning Pitch Tracking on, though, can yield some interesting variations in timbre and may also help a sound fit more snugly into whatever application you have planned out for it.

The real stand-out feature in this section is the unusually

	1	2	3	4	5	6	7	8	9	10
<<WAVE>>										
Key	C2:E2	F2:G2#	A2:B2	C3:D3#	E3:F3	F3#:G3	G3#:A3	A3#:D4	D4#:G4#	A4:D5#
Wave Class	Drum	Drum	Drum	Drum	Drum	Drum	Drum	Drum	Drum	Drum
Wave	Thump Kick	Dynamic Kick	Thump Snare	Room Snare	Closed HH 1	Open HH 1	Pedal HH	Ride Cym	Crash Cym	Dry Tom Low
Direction	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd
<<PITCH>>										
Oct	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Semi	+00	+00	+00	+02	+00	+00	+00	+00	-02	+00
Fine	+00	+00	+00	+00	+00	+00	+00	+00	+00	+00
KPT	Off	Off	Off	Off	Off	Off	On	On	On	On
<<FILTER>>										
FC Cutoff	093	093	085	085	093	093	093	085	093	093
LevV	19	19	26	26	19	19	19	26	26	19
<<AMP>>										
Gate Time	12	07	08	00	20	59	20	32	20	00
Release	05	06	25	33	20	08	20	66	69	35
LevV	40	40	33	40	40	40	40	40	33	40
Mode	Fin	Fin	Fin	Fin	Fin	Norm	Fin	Fin	Fin	Fin
<<OUTPUT>>										
Vol	99	99	99	99	90	98	90	92	96	94
Boost	On	On	On	On	On	Off	On	On	On	On
Pan	+00	+00	+14	+14	+28	-28	-28	-42	+28	+28
Output	FX1	FX1	FX2	FX2	FX2	FX2	FX2	FX2	FX2	FX2
VelCurve	Lin	Lin	Lin	Lin	Lin	Lin	Lin	Conv	Conv	Lin

	11	12	13	14	15	16
<<WAVE>>						
Key	E5:B5	C6:D6	D6#:F6#	G6:G6#	A6:A6#	B6:C7
Wave Class	Drum	Perc	Perc	Perc	Drum	Expan
Wave	Dry Tom Hi	Cowbell	Bongos	Tambourine	SideStck Sn	Shaker
Direction	Fwd	Fwd	Fwd	Fwd	Fwd	Fwd
<<PITCH>>						
Oct	+0	+0	+0	+0	+0	+0
Semi	+00	+01	+00	+00	+00	+00
Fine	+00	+00	+00	+00	+00	+00
KPT	On	On	On	Off	Off	Off
<<FILTER>>						
FC Cutoff	093	093	093	110	093	110
LevV	19	19	19	13	19	13
<<AMP>>						
Gate Time	04	03	02	04	02	00
Release	34	40	17	39	12	20
LevV	40	33	46	33	40	33
Mode	Fin	Fin	Fin	Fin	Fin	Fin
<<OUTPUT>>						
Vol	92	90	86	99	99	96
Boost	Off	On	On	On	On	On
Pan	-14	-70	-56	+28	+14	+42
Output	FX2	FX2	FX2	FX2	FX2	FX2
VelCurve	Lin	Lin	Conv	Lin	Lin	Lin

<<EFFECTS>>

Concert Reverb

FX1	24
FX2	35
Decay Time	36
Diffusion	56
Detune Rate	32
Detune Depth	12
HF Damping	46
HF Bandwidth	93
LF Decay	+04
Mod (Dest)	FX2-Mix
By (Modsrc)	Modwheel
Modamt	+24

SQ-1 Drum Hackerpatch

by Mark Clifton

Name: Live Kit 1

Notes: For HSW XIII — Drums

high amount of velocity sensitivity, both in the filter and amplitude sections. This is not to say that you'll have to whack the keys with a sledge hammer to get a good maximum volume, but there is enough control there to give your bottom end some more realistic dynamics. Even kick drums are velocity sensitive, after all, and most good drummers will take that into account in their playing. It should be noted that whenever you increase the Level Velocity parameter in the Filter section, you should lower the cutoff value by a similar amount. The filters respond to LevV amount in a steady upward curve starting from the Fc Cutoff amount that is currently listed. Lowering this value allows the filters to be opened up through increased velocity, gradually brightening the sound. If the Fc Cutoff is already at its highest value (127), the filter will stay wide open no matter how hard you play. Panning on this kit is done according to the drummer's point of view. If you want to pan everything from the perspective of those in front of the kit (i.e. the audience), simply flip all the pan amounts to their exact opposite values. Either way, though, the kick drums remain at dead center.

The snares, represented by both THUMP and ROOM varieties, are also very velocity sensitive, though naturally a bit more than the kicks. The ROOM SNARE wave has been transposed up a whole step, increasing the general liveliness of the sound. The ROOM SNARE also has very low Gate and Release times in the AMP section, cutting off its unnaturally long synthetic reverb tail and transforming it merely into a slight, snappy ambience. The AMP envelopes on all the sounds in this patch have been carefully programmed to truncate any unnecessary noise that may be lurking at the end of the samples. This decreases the general muddiness of the sound while increasing its punchiness. Any real drum after-ring contained in the samples, though, has been retained. Both the snare and kick sounds, as well as all the other sounds in this kit, have their envelope release mode set to FINISH, which allows the sound to decay away fully no matter when the key is released. If you want to do choked cymbals and the like, set this parameter to NORMAL and mess around with the Gate and Release values until you get it right. Basically, Gate Time equals envelope sustain and Release equals, well, release time. Both snares are panned to +14.

I chose CLOSED HI-HAT 1 for the hi-hat sound mainly because it has the slightly more chunky, active tone of a live, unprocessed hi-hat. The higher-pitched tap of CLOSED HI-HAT 2 is just as legitimate a choice, though, and may be useful if you need to emulate a smaller-sized cymbal. OPEN and PEDAL HI-HAT were my only real choices for those prospective jobs, so their inclusion is a logical one. OPEN HI-HAT, it should be observed, has its AMP envelope velocity Mode set to NORMAL, so the sound cuts off when you release the key. This makes sense when you need to cut off the open hi-hat sound with a closed one. All hi-hats are panned to the same location, naturally, as they are all supposed to represent a single instrument.

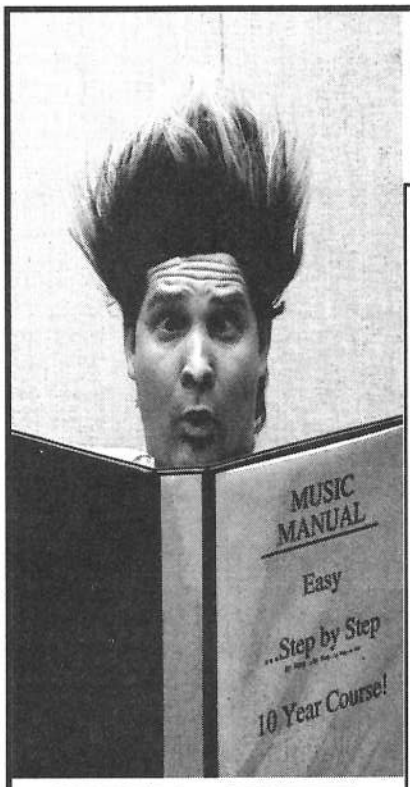
The ride and crash cymbals both have their Pitch Tracking turned ON to simulate the pitches of varying cymbal widths and striking locations. Their decays were programmed as realistically as I could get them, but they would probably sound better if buried behind some other instrumentation. This is also true because some of the loops become audible as the sound decays. Basically, the SQ's cymbal waves are good for strikes and rhythmic accompaniment, but are probably not cut out for more exposed soloing. If you need to do some subtle jazz tapping or brush work, my advice would be to get a real drum or drummer.

I used both HI and LOW flavors of DRY TOMs, again because of their realism. Pitch Tracking was turned ON to simulate different drum widths and tunings. Toms are often tuned to specific notes of the scale, so selecting the right pitches to play is very important if you want them to "fit" with your other tracks.

The auxiliary percussion — cowbell, bongos, tambourine, side stick and shaker — are all mapped in the top octave of the keyboard. The only things worth mentioning about them is that the bongos, being pitched instruments, have their Pitch Tracking set to ON and that the side stick is panned to the same position as the snares which it's derived from. Also, watch out for all the noise at the end of the TAMBOURINE wave when you program its AMP envelope. Now for the one exception to the original-only waveforms rule: the shaker, which uses the expansion wave of the same name. Those of you with unexpanded instruments can get around this by using a SPRAY CAN wave with a short AMP Gate time.

The reverb is programmed to the closest approximation of what I think a live club or small auditorium ambience should sound like. The modwheel increases the FX1 amount, wetting the sound somewhat and moving the drums farther away in the room. All drum sounds are routed through FX1 except the kicks, which are routed through the slightly drier FX2. Kick drums and low-frequency sounds in general can get muddy with too much reverb. Since this kit was programmed to have the most raw and un-effected sound possible, it is ripe for experimentation with your own effects, so dig in.

In next month's issue: 21 ways (or something like that) toward better sax! ▬



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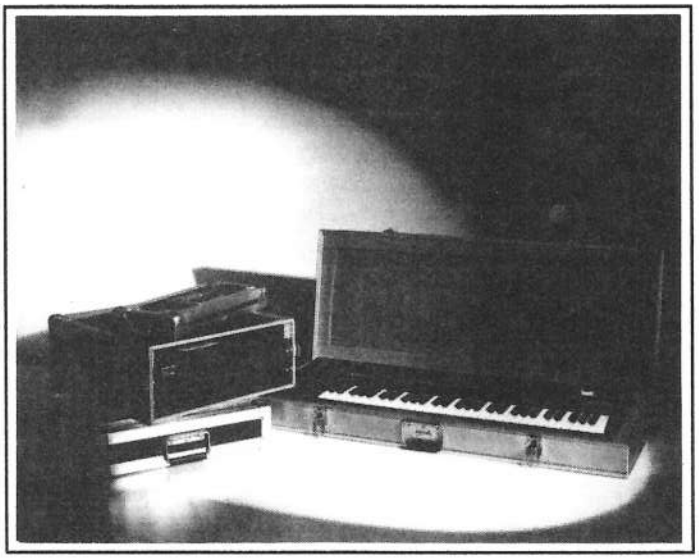

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The DP/4 Little Golden Book

Part II — Understanding Reverb Parameters

Ray Legnini

Hellooooooooo.... (Insert long Grand-Canyon-sized reverb sound effect here). Today, class, we're going to delve into the much misunderstood world of the reverb parameter. I'll try to cover some basic concepts involved when editing digital reverb processors. Along the way I'll try to give you examples, tips and experiments that you can try in the privacy of your home studio. If you've been following this series of DP/4 articles, you'll know that my main focus is on getting readers to explore the inner workings of the gear you own as it relates to your personal music creating activities rather than just to pass along theories and commentary.

Set It Up

For the examples, you'll need your DP/4 set up to receive a percussive signal at Input #1 from an aux send on your mixer. You could also use any instrument capable of creating some drum sounds plugged directly into Input #1. Set up the outputs #1 and #2 to send in stereo to your mixer. Now for the DP/4:

Select Config #52, 1 Unit presets. To do this, hit the *Select* button, then the *Config* button, then scroll with the data knob to #52. Now hit the Unit A button and select ROM preset #54 Large Plate Reverb with the data knob. Leave the other units bypassed, we won't need them for this discussion. I suggest using a percussion instrument such as a clave or cowbell as the sound source for this experiment because it allows you to focus on what the reverb is doing rather that what the sound is doing as would happen if you were using a complicated groove or a TS-10 Hyperwave pad, etc. Once you understand the parameters you're editing here, you should move on to other sound sources.

The Pre-delay Parameter

Hit the *Edit* button to enter edit mode. Start sending your percussive sound through the DP/4. Scroll to parameter 03, the decay time. This is the one parameter that probably needs no explanation. Leave it set between 2 and 4 seconds for this experiment. Move on to parameter 04, the pre-delay time. The pre-delay time is a delay line, just like any other digital delay; it delays whatever gets sent to it by an amount determined by the time setting. In this case what it's set up to delay is the source sound getting into the reverb tank. Very short pre-delay times are typical (anywhere from 1-15 msec) for percussive stuff . 40-60 msec is useful for something like strings. Try it. The longer the pre-delay time is before the onset of the reverb, the more obvious the gap between the two sounds becomes.

The tempo of the music will play a part in this, too. Longer pre-delay times sound good on sounds with a slower, less percussive attack (like vocal aahs or string pads) because it thickens the sound rather that create additional distracting percussive hits. In fact, you can use a longer pre-delay to your advantage if you time the pre-delay amount to the tempo of the music you're working on. Take the number 60,000 and divide it by the tempo of your music. This will give you the time in milliseconds for one beat of music at your tempo. Simply multiply or divide that number get other musical intervals. Why 60,000? That's the number of milliseconds in one minute (1000 msec = 1 second). Try this example to get you started: Go back to the reverb time parameter and set it to .81 seconds; set the pre-delay to 200 msec. Now play some percussion. You get a slapback echo made of reverb!

The HF Damping Parameter

Recall the original settings for reverb time and pre-delay time; then scroll to parameter 05 HF Damping. This parameter controls the way that high frequencies will be filtered out over time. As you increase the value of the High Frequency Damping the sound will get darker faster and faster. The highest settings are the most extreme, high frequency information decays very quickly. Think of it this way: reverb is actually a series of very quick echoes. A sound goes into the processor, it gets delayed, sent to additional delay units to be smeared and delayed again, then the signal is sent back to the beginning of the path to be processed again, and so on and so on. As you can imagine from this very simplified picture, it's just a big circle, like a toy train. The output of the delay eventually winds up at the beginning of the chain to be processed over and over. This would repeat forever if there were no controls like the HF Damping parameter. Imagine this: Each time your little delay train goes around the circle, a little bit of the high frequency information gets off until eventually it's all gone. That's HF Damping, the higher the setting, the more high frequency information is removed at every repeat. An average setting would be between 20-60. Again, the context and the source have a lot to do with the settings you might choose.

Experiment with these parameters until you feel comfortable with them. Remember, if you have a librarian program running on your computer you can save unlimited variations while you're learning. Stay tuned for more DP/4 fun... ▬

Bio: Ray Legnini is a racecar driver, an ex-CIA operative, movie stuntman and brain surgeon who likes to play with digital reverbs in his spare time.

Cathodes and Anodes and Synths, Oh My

Tape: *Assemblage 23 Wires.*
Artist: Tom Shear.
Contact info: Tom Shear, 255 Small Road, Syracuse, NY, 13210.
Equipment: 95% EPS and 90% original samples (for sale).

Tom's Background: *"I'm a 21-year-old Television/Film production major at Syracuse University. I have been playing keyboards for about nine years now and am self-taught. Over the years I've managed to put together a modest set-up that really takes care of everything I need to do quite well. This tape was created on a borrowed Tascam Porta-05 with an Ensoniq SQ-80 and EPS-16+, with effects from the Alesis Quadraverb and vocals going through a cheap Fostex mic."*

Tom's short history of Industrial music: *"Industrial evolved out of the underground and punk movements in England in the mid-'70s. Pioneering groups such as Throbbing Gristle and Einstruzende Neubauten (a German outfit) had created a new style that was one part Kraftwerkian synth-pop, one part punky aggression, one part gothic darkness, and another part of pure cacophony. The term came from the fact that these early groups used machine-like rhythms and frequently would create elaborate percussion sets of anvils, sheet-metal, amplified springs and other noisemakers. The end result was a sort of avant-garde electronic punk. As the style evolved it incorporated new elements such as dance beats and more coherent song structures, but it never lost its roots in aggressive emotion."*

In keeping with this theme, Tom's computer-generated cover art is a horrified face screaming. Tom's vocals consistently scream through the distortion and wet effects. The effect feels like a voice trapped in my stereo trying to scream its way out. Or maybe it's beckoning to me to free it from its pain. And that's what this is about. Darkness, black, night, pain. These are the themes that carry through each song — not for the weak of heart. Tom's vocals are also imbedded between and inside the noise of the music, but I get the sense that this is meant to make the user listen, to make the user try to understand what the voice is saying. This appears to be in keeping with where the voice is coming from. It is coming from a lonely, dark, black place. The most interesting lyric that grabbed me was from ANGER. "I want to hurt you/but I don't know how."

There are some compelling uses of sampled voice. There are many interesting sounds thrown around in interesting ways. There are also many, many repetitive sequences that become quite annoying. They are annoying for the sheer repetitiveness without change.

Overall, this is a terribly interesting tape to listen to. Maybe because, as Tom assumed, I have not been exposed to much Industrial music. But beyond that I think it is because Industrial music takes chances and gets beyond the typical sounds the typical themes and the typical. That is until we all get used to it, and then we'll have to stretch some more.

Tape: Demo Tape.
Artist: Joe O'Boyle.
Contact info: Joseph O'Boyle, 1207 Oriole Drive, Bensalem, PA 19020.
Equipment: Ensoniq SD-1, Fostex 160 (4-track).

This is a textbook demo tape. Four short songs in a single style that are set to quickly grab attention and show off Joe's work. This is *ROCK & ROLL.* This is great. Big drums. Fat synthesizers. Heavy sounds. Good melodies. Misspelled lyrics (typed at that). Nice hooks. Cheap tape. Rock and roll.

Not The Girl. Opens the tape up with a rock ballad. Not overproduced, but close. Big drums everywhere. Good mix of vocals against music.

Little Julie. Julie is the girl. She inspired this romp that doesn't get much beyond a chorus. Nice guitar leads winding in and out, but not really emphasized or featured.

Is It Me? Much nicer guitar work set off in its own environment as a bridge intro. Also just a hint for Joe: A chorus is not necessarily a hook, a hook is anything that you walk away singing when the song is over.

Scream. This is the best of the bunch, so put it first, not last! Once again good guitar work buried a little too deep in the mix. However Joe's voice is treated better and stands out. SCREAM is a hook all by itself. Doesn't end, it gets cut off. Too bad.

I hear a lot of popular influences running through Joe's

music. The main problem seems to be too much of everything thrown together has the opposite result from what I think Joe's going for. My suggestion would be to do what you've done for your voice. Just do it for all your instruments. You don't need to bury anything. ▬

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

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

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MUSIC

Let me seq/compose for you! Radio, Business, whatever. $$$Price=What YOU feel it's worth. I own talent and an ASR-10. Any style of music. Send requests/offers to: Monty Singleton, 2788 N. 1600 E., Layton, UT 84040 or vrad35d@prodigy.com – thanks!

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 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	1.1
SQ-R	1.02
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	1.14
KS-32	3.01
ASR-10	3.53/1.5
KMX-8	2.00
KMX-16	1.50
TS-10/12	3.04
KT-76/88	1.60
Soundscape	1.3.01

Prog: SONIQS

By: Jack Carder, Springfield, Vermont

WAVE	1	2	3
Select Voice	On	On	Off
Wave Class	Transwave	Breath	
Wave	Res 4X	VocalEns	
Delay Time	0	0	
Wave Direction	-	Forward	
Start Index	0	0	
MODSCR	LFO	LFO	
MODAMT	+03	0	
Restrk Decay	42	42	

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

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

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

FILTER	1	2	3
Filter 1	2Lo	3Lo	
Filter 2	2Hi	1Hi	
FC1 Cutoff	127	061	
ENV 2	+50	+19	
FC1 KBD	+25	0	
MODSCR	Env 2	Wheel	
MODAMT	+29	+30	
FC2 Cutoff	029	0	
ENV2	0	0	
FC2 KBD	0	0	
FC1MOD-FC2	On	On	

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

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

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

EFFECTS — CHORUS AND REVERB

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

The Hack: Jack's latest has some similarities with one he did a few patches back. Still, it's essentially a new creation that wanders off into ambient waters. Not a whole lot needs to be changed here... but let's play with the LFO a little; for Voice 2, in the LFO Section let Level = 35, Dlay = 26 and the MODSRC = LFO. In Voice 2's Output Section change the MODAMT to +40.

If you're weary of the "same ol' Chorus + Reverb," try letting loose. It's okay to get effects crazy with this one. In the Effects Section try Flanger + Reverb 1. Set the Flange Rate to 16 and the Flange Depth to 50. The Flange Center should be way "off," set to a value of 23. Get ridiculous with the Feedback; let it = +80. The Flange Level can be way up, to 93. Lastly, Modulate FDBACK by MODWHEEL at +20. This cloud cover may be a little less predictable than some others.

Jeffrey Rhoads

Bio: Jeffrey Rhoads has been a keyboardist/composer on the Philadelphia Jazz and R & B scene for a period of time resembling forever. Jeff still believes in magic and longs for city lights.

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

Pending Hacker-Requests: **SQ-1/2** – A nice fat sounding trumpet
SD/VFX – A sitar patch.

SD & VFX Prog: BY-THE-SEA

By:Stephen Mugglin, Latter Sound Productions

NOTES: I worked on this program because I like the sound of the surf. I didn't have to start from scratch because the folks at Ensoniq had already provided a jump start with a factory sound titled STL DRM + SURF. The seagull cry is very good. I adjusted it so the pitch could be varied, but you'll still want to play it fairly close to C4. The factory surf sound is the starting point for three different waves, each with its own character. They generally sound best when played slowly, a note here and a note there, usually from about E3 to G4, mixing the variuos waves, and once in a while, the cry of the gulls.

– Stephen Mugglin

SELECT VOICE

00	1			
0*			3	
*0				4
**		2		

WAVES	1	2	3	4	5	6
Wave	Noise-LP	Noise-LP	Noise-LP	Ocarina		
Delay	0	0	0	0		
Direction	-	-	-	Forward		
Start	-	-	-	0		

MOD MIXER	1	2	3	4	5	6
SRC-1	Timbr	Keybd	Timbr	LFO		
SRC-2	Press	LFO	Press	LFO		
SRC-2 Scale	1.0	1.0	1.0	0.1		
SRC-2 Shape	Linear	Linear	Linear	QuikRise		

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

PITCH MODS	1	2	3	4	5	6
MODSRC	LFO	LFO	LFO	Veloc		
MODAMT	0	57	0	6		
Glide	None	None	None	None		
ENV1	79	79	-67	53		
LFO1	2	2	2	0		

FILTER 1	1	2	3	4	5	6
Mode	2LP	2LP	2LP	2LP		
Cutoff	78	86	93	127		
KBD	-19	0	-19	0		
MODSRC	WI+Pr	Wheel	WI+Pr	LFO		
MODAMT	20	39	20	0		
ENV2	0	0	0	0		

FILTER 2	1	2	3	4	5	6
Mode	2HP	2HP	2HP	2HP		
Cutoff	0	0	0	0		
KBD	0	0	0	0		
MODSRC	Timbr	Timbr	Timbr	Off		
MODAMT	58	58	58	0		
ENV2	0	0	0	0		

OUTPUT	1	2	3	4	5	6
VOL	68	70	58	45		
MODSRC	Off	Off	Off	Off		
MODAMT	-	-	-	-		
KBD Scale	0	0	0	0		
LO/HI Key	A0/A0	A0/A0	A0/A0	A0/A0		
Dest Bus	FX1	FX1	FX1	FX2		
Pan	29	29	29	50		
MODSRC	Env1	Env1	Env1	LFO		
MODAMT	61	66	61	99		
Pre-Gain	On	On	On	Off		
Voice Prior	Med	Med	Med	Low		
Vel Thresh	0	0	0	0		

LFO	1	2	3	4	5	6
Rate	43	12	43	5		
MODSRC	Off	Off	Off	Off		
MODAMT	-	-	-	-		
Level	4	37	4	99		
MODSRC	Off	Off	Off	Wheel		
Delay	-	-	-	0		
Waveshape	Tri	Tri	Tri	Tri		
Restart	On	On	On	Off		
Noise SRC RT	0	0	0	0		

ENV1	1	2	3	4	5	6
Initial	0	0	0	0		
Peak	50	50	0	76		
Break 1	27	27	61	0		
Break 2	80	80	80	34		
Sustain	92	92	92	0		
Attack	39	39	16	0		
Decay 1	61	61	15	16		
Decay 2	69	69	33	0		
Decay 3	57	57	57	27		
Release	65*	65*	65*	0		
KBD Track	0	0	0	0		
Vel Curve	Conv2	Conv2	Conv2	Conv2		
Mode	Normal	Normal	Normal	Finish		
Vel-Level	0	0	0	0		
Vel-Attack	0	0	0	0		

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	29	29	0	99		
Peak	99	99	22	99		
Break 1	65	65	65	99		
Break 2	85	85	85	0		
Sustain	46	46	46	0		
Attack	41	41	13	0		
Decay 1	60	60	11	28		
Decay 2	50	50	50	23		
Decay 3	75	75	75	0		
Release	82	82	82	0*		
KBD Track	0	0	0	0		
Vel Curve	Conv2	Conv2	Conv2	Conv2		
Mode	Normal	Finish	Finish	Finish		
Vel-Level	20	20	20	19		
Vel-Attack	36	50	36	0		

PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	x4
Restrike	48
Glide Time	0

EFFECTS (1)

Effect	ConcertRev
Decay Time	55
FX1	50
FX2	25

EFFECTS (2)

Diffusion	58
Pre-Delay	50
Early/Refl	10
Time	30

EFFECTS (3)

FX2-Mode	NormStereo
LF Decay	0
HF Damping	40

PERFORMANCE

Timbre	0
Release	0
Pressure	Key

The Interface

Letters for The Interface may be sent to any of the following addresses:
U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221
Electronic mail - GEnie Network: TRANSONIQ, Internet: interface@transoniq.com.
This is probably one of the most open forums in the music industry. Letter writers are asked to please keep the vitriol to a minimum. Readers are reminded to take everything with a grain of salt. Resident answer-man is Clark Salisbury (CS). Letter publication is subject to space considerations.

Greetings...

As the proud owner of an **ASR** and the former owner of an EPS, I can sympathize with those who continually request this and that change or new feature for their favorite musical toy. And, as an electrical engineer, I also understand and sympathize with the engineering staff at Ensoniq when they have to explain in layman's terms the technical reasons why said idea won't work or is impractical. I also had my occasional glitches with my sampler, but as a PC compatible owner, I understand that bugs happen and the ASR is no more immune then any other manufacturers' devices (and that includes those expensive imports!). That said, I do have one wish for a final upgrade to the ASR OS. Please feel free to explain any technical reasons why this is impossible.

The Feature: I would really like to be able to load 16 instruments into memory instead of only 8. I know all about cutting and pasting instruments together and such, but that takes too much time away from the creative process. Also, with all the memory in my ASR, I've got plenty of room. Now, I'm not asking for 8 extra tracks on the sequencer. I just want something like a shift button or key sequence that lets me load 8 extra sounds into the ASR. There are 16 MIDI channels, why not 16 sounds? I can think of no hardware limitations to this and I've got the RAM for it. With the wonders of Hard Disk recording, S/PDIF data backup and sound format translation, this would be a piece of cake. And, for that matter, it's a feature *everyone* could use. My friend's TS can load 20 ASR sounds (memory permitting)! If you don't have the time, send me the source code and a non-disclosure agreement and I'll do it for you, free of charge. Anyway, those are my two cents.

PS. I'll take a rack mount TS as a substitute, albeit an expensive one.

John Lokanis
Via Internet

[Ensoniq – We actually had a lot of discussion about this during the design of the ASR, but with no clear way to show Bank selection, not having a direct tie to more sequencer tracks, and not having more than 8-part multi-timbrality it didn't make sense to us. Not that we don't agree that more bins would have been better, it just didn't fit within the "inherited from the EPS" interface and design of the ASR.

P.S. We'll FTP the rack soon (grin).]

TH,

I'm trying to deal with pc files (wave files specifically). Can I take .wav files and turn them into something workable on the **EPS-16+** with certain programs? I've got your Issue #112, but I'm a bit confused as to what they really do. Can I take EPS samples and work with them on a pc??

Patrick Halsell
Via Internet

[CS – In looking through the software listed in Issue 112, it looks to me like you could use "SoundVert 1.02" to convert .wav files into something usable by your EPS, and then use "Ensoniq Disk Manager" to put those files on Ensoniq-readable diskettes. Also, it may be possible to use "SampleVision" to read the .wav files and send them directly to your EPS via MIDI or SCSI (if and when SCSI becomes available for that program).]

[Ensoniq – You can also use Sound Forge, which will be supporting the ASR/EPS any day now.]

Dear Hacker,

I have downloaded patch files destined for the ESQ-1, and would like to load them into my **SQ-80**. They are Mac files (that is to say, they came from a Mac Bulletin board to my Mac) but it's dawned on me that I have no idea how to get them from my Mac to the SQ-80.

Do these files have to be converted? If so, can you suggest a converter? Should I be using an Editor/Librarian?

If it helps, I'm using a Mac SE30 running Performer 4.2, using a MOTU Time Piece.

I'm hoping that someone can give me idiot-proof directions, or at least steer me in the right direction.

Many thanks,
Michael Nichols
Via Internet

[CS – You will probably need to load the files into a copy of the same program that was used to create them. In other words, if the files were created using Opcode's Galaxy program, you'll need to use Galaxy to load them and send them to your SQ-80. On the other hand, if the programs were saved in the Standard MIDI File format, you can probably use any of several sequencing programs to load and send the files. Also, there are a couple of programs, "Bulk Sysex Utility" and "MidiEx Mac," which are shareware (I believe), and as such are rather freely distributed. It's altogether possible that the sounds you've retrieved have been saved in a format compatible with one of these programs.

The key is to determine what format the files are saved in. You could use a program such as McSink, or ResEdit to check file type and creator info for the files, and that may tell you something. But your best bet, probably, is to get back online and check for documentation associated with the files you've downloaded; it should probably tell you what format the files are.]

[TH – An article on just this sort of thing is coming up soon.]

To: interface@transoniq.com
Subject: ASR-10 sample player

Do you guys know of a sample player which can load and play ASR-format sounds? I believe the ASR to be an excellent sampler in many ways but I would like to have a larger multitimbral capacity than just eight voices. Is there a product on the market, preferably a rack mounted version, that is cheaper than buying a second unit, that can load ASR-sounds and their effects and be triggered by my computer via MIDI?

Is there a way to send sounds as attachments via e-mail (or other programs) to other users? If so, how do I load the sounds, received on my Macintosh down to the ASR? Or for that matter to my Macintosh from the ASR?

What is the cost in the US for a SCSI-

interface to the ASR?

Thanks!
Joakim Moller,
Via Internet
Stockholm, Sweden

[CS – The only sample-player I know of that's compatible with ASR-10 sounds is the TS-10 and TS-12 synthesizers. You can load up to 20 ASR sounds at once, and all the effects and other program parameters are interpreted correctly.

Sounds can be sent via modem, but you need to realize that sound files can be extremely large compared with other types of data; even if you're using one of the new ultra-fast modems, it can take an hour or more to send a single large sound file.

Sounds can be transferred to and from your Mac using commercially available sample-editing software, such as Sound Designer (from Digidesign) or Alchemy (from Passport Systems). Of these two, Alchemy is probably the better choice for a sample editing program; the Digidesign stuff is optimized more for the hard-disk recording environment.

A third option is a program called Infinity, from Jupiter Systems. This program is designed primarily as a looping tool, so you won't find a lot of the other sample-editing features that you will in Alchemy. It's less expensive than Alchemy, though, and while it doesn't provide support for sample transfers from within the program, it does include a cool little utility called ASR_SCSI which can be used to move samples between the Mac and ASR-10.]

[TH – As far as e-mailing the samples (or patches, for that matter), from what we've found, a lot of e-mail systems can NOT handle non-text files. In order to attach something that's non-text it has to first be converted to a "text equivalent" file. At the other end it'll be converted back. The most common method used by Unix-based systems on the Internet is uuencode and uudecode. You should try doing a "man uuencode" at the Unix prompt for more info. Sometimes a better way to handle this kind of thing is to temporarily move the files into an ftp site that both parties have access to.]

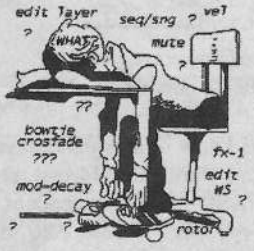
Hello Hacker,

I'd like to know how you can use MIDI Controller Numbers 100, 101, 6 and 38 to change parameters. So far I've found out two things:

1. When you send the **ASR-10** controller number 100 with value 0 and then controller number 101 with value 0, you can use controller number 6 to change the Global Bend Range from 0 to 127! Since the ASR-10 has only two digits for global bend range the display only shows 27 when you send controller #6 with a value of 127. This is cool because when you now push the pitch bend full up the sampler goes over the sample rate and doesn't make any sound anymore. So you get a really strange effect.

2. When you send the ASR-10 controller number 100 with value 1 and then controller number 101 with value 0, you can use controller number 6 to change the Master Tune Value from -99 to +98 without any delays. This could be handy if you want to tune the ASR-10 immediately through MIDI to your favorite Analog Synth.

So for which other parameters can you use these Data Entry Controllers?



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

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Value — even the **KS-32** set is over six hours of instruction! If you follow the instructions it should take at least ten hours to complete each course. Most of our customers are saying that it takes 25 – 30 hours to complete the ASR-10 set — that's less than $12/hour for detailed instructions on ***YOUR*** keyboard. (Remember you can rewind and watch it again — try that with lessons!) **ASR-10** – 8 hours, **TS-12** – 7 hours, **TS-10** – 7 hours, **SD-1** – 6 1/2 hours. Get the most out of your keyboard by really getting to know it like a friend. Each tape set will take you from novice to expert. You'll be answering questions you couldn't even ask before! All of the videos use multiple camera shoots. You see a concept and the goal. With the goal defined, you'll be walked through to the solution **step by step, *button by button!*** With the use of analogies, charts and CLOSE UP shots... **you *will* master your keyboard.** (We even cover common mistakes and the workarounds!)

Call our toll-free number, 1-800-687-1607, and ask for Marilyn

Covert Videos, 519 East I-30, Suite 144, Rockwall, TX 75087

Also, could Ensoniq send me the latest *External Command Specification* for I am writing an Sample Parameter Editor in Max. Here is my address:

Mike de Laat
Regentesselaan 379
2562 ED DEN HAAG
The Netherlands
Or they can also send it by e-mail: mike@koncon.nl (Other ASR-10 Users can also mail me if they want to.)

Ciao for now.

[CS – MIDI control change messages can be used to access what are known as Registered Parameter Numbers, or "RPNs." These are a standardized set of MIDI parameters that can be changed in real time using control change messages. So far, only three RPNs have been approved by the MIDI standards committees: Pitch Bend Sensitivity, Fine Tuning, and Coarse Tuning. As you've discovered, you can access these parameters by sending control change #101 (carrying the RPN MSB) and #100 (carrying the RPN LSB).

Normally, you'd send cc #100 and #101 to select the parameter you wish to control, then send the data value you wish using either the Data Entry (cc #6 [MSB] and cc #38 [LSB]) or Data Increment/Decrement (cc #96 and cc #97, respectively) messages. If Data Entry is used to change the RPN and a range of 128 values is sufficient, the LSB (cc #38) needn't be sent. The three RPNs can be selected using the following values:

00h 00h Pitchbend Sensitivity
00h 01h Fine Tuning
00h 02h Coarse Tuning

Once you've finished sending your message(s) via RPNs, a "Null" message must be sent to lock in the changes, and "zero out" the RPNs so that you don't inadvertently reset your pitch bend range or tuning by bumping your data entry slider.]

[Ensoniq – We'll get the document out to you right away!]

Greetings:

I have an **SQ-2** that I like very much and would like to keep. However, at this time it is unusable for anything other than a controller keyboard. I am experiencing an audible "humming-buzz." This problem is evident regardless of the amplification system used and in different buildings (ac power source). It is present regardless of the volume slider setting. On some amplifiers I can minimize the noise by running the volume full open and using the cv pedal to control the output loudness. Even so, the noise is still so evident that the instrument is useless in any serious live or recording application.

I took the SQ-2 to an authorized Ensoniq repair station and they kept it over a month trying to fix the problem. After consulting with the factory folks they acquired and installed a new main board. When I inquired as to what might be included on that board I was told "almost everything." The result – no improvement! I've still got the same humming, buzzing unusable SQ-2.

I am writing in hopes that *TH* or some reader has an insight, information, or suggestion that might lead to a solution to this predicament. Please publish the following mailing address in case someone wants to communicate directly to me.

Sincerely,
Deaton Jones
PO Box 1808
Cedar Bluff, VA 24609

[CS – The noise you describe is most certainly not normal; I'd suggest you contact Ensoniq Customer Service (610-647-3930) directly. They should be able to help you get back on the road to sonic bliss.]

[Ensoniq – We have contacted Mr. Jones by telephone, and our customer service department is working to resolve his problem. The Volume slider and the CV pedal do exactly the same thing, so it seems odd to us that your "solution" works. This could be a ground loop problem.]

TH:

I think I have an explanation for the "light crackling" reported by Paul Bissell when using an **EPS-16+** for low bass sounds (April TH, page 23). He seems to be hearing the notorious '16+ amplitude mod zipper noise, which most of the '16+ owners I've known regard as a serious sonic problem inherent in the design of that machine. This zipper noise is audible whenever you apply envelope 3 (or another amplitude modulator) to a low-pitched sample that doesn't have a lot of harmonic content (e.g. an acoustic bass sample). It's not a problem with bright or higher-pitched samples (perhaps because they have enough harmonic content to mask it?). I'm surprised that the knee-jerk Ensoniq bashers at *Keyboard* never noticed this – it's a far more egregious sonic imperfection than any of the alleged shortcomings pointed out in Jim Aikin's 9/93 trashing of the TS-10.

I first ran into this problem when trying to play some computer software-synthesis generated ultra-low bass tones. (I was trying to update the old '70's funk technique of taping down a key on a Minimoog and gating it with the kick drum.) My intent was to create a TR-808 style deep bass tone in the 20 – 50 Hz range and play it in unison with accented bass notes (or kicks). Anyway, after porting the waveform to the '16+ and applying a decaying envelope to it, I was horrified to hear a nasty "bffzzzzzzfftt" superimposed on my gloriously perfect sine wave. I know zipper noise when I hear it, and considering the fact that this was only a couple of days after purchasing my '16+, I wasn't happy! Eventually, I got over it and resigned myself to using the instrument for the many things it could do well, but playing bass sounds is generally NOT one of them.

There is a workaround – simply don't use a decaying amplitude envelope! For example, set HARDVEL=99 99 99 99 99 and SOFTVEL=35 35 35 35 35. You'll still hear a little "fzt" on the release of every note, but this eliminates noise *during* notes. The filters can be used to make a note decay to inaudibility, providing that the corresponding timbral change isn't inappropriate for the sample in question. An alternative is to use a computer-based sample editor to envelope the actual sample data.

The good news is that Ensoniq eradicated this problem in the ASR-10, apparently by switching from a software-generated to a hardware-generated envelope design. (I hope Ensoniq will forgive me for exhuming and flogging this dead horse, but it's been a pet peeve of mine for four years.) In case anyone doubts my rantings, I have a demo sound that proves my point. It consists of a (software-synthesized) full-code looped sine wave, to which I applied a simple fade in/fade out amplitude envelope on one patch select and LFO amp mod (tremolo) on another patch select. This file, which sounds quite pristine on an ASR-10, sounds *horrible* on a '16+.

End of flame,
Michael Dolan
Chicago, Ill.

[TH – Ah, years from now they'll be trying to reproduce that famous, unique "'16+ zipper sound."]

[Ensoniq – Everything that you say is correct (surprised, huh?). We didn't necessarily read into Paul Bissell's letter "zipper noise," – but it's possible. We don't view your response as a flame – we're glad you had some constructive advice to help everyone out.]

Dear Hacker:

I have a **TS-12** with the 3.0 O.S. (General MIDI) installed. My question concerns the internal sequencer. Is there a way to record two or more tracks simultaneously? I have my keyboard set up with a bass/piano split, bass on track 2 and piano on track 3. I've found a workaround by copying and deleting MIDI note ranges between the two tracks. I'm just curious if there is a simultaneous mode that I'm overlooking. Perhaps you could refer to a certain page in the owners manual that covers this concept.

Thank you,

James Rosand
Port Angeles, WA. 98362
Via Internet

[CS – As far as I know, there's no easy way to accomplish what you want. While it may be possible to set the TS up in Multi-record mode, and use some external controller to send data to the TS on two or more MIDI channels at once, I think doing things this way would prove more trouble than it's worth; you're just as well off doing what you're doing now – copying tracks, deleting note ranges, etc.]

Yo Hacko,

Last Tuesday I got O.S. 3.08 for the **ASR-10**. Some bugs still there:

1. In *Hacker* #112 in the Interface Joseph VanOrden talks about blirbs and bleeps when sampling digital. I had the same experience. I sample digital from a Philips CD 373 (an old one!). When I use fast forward or fast backward or leave the CD-player on pause for a while the sound changes to digital blirbs and bleeps. The only thing you can do then is to reset the digital input by deselecting it on the REC SRC= Page. Sometimes it seems that the ASR-10 starts looping a few milliseconds of the CD when the CD is in Pause Mode. Then when you go to a different section on the CD by using fast forward or backward the ASR still plays back, about 5 times a second, the beginning of the CD. It seems to me that the Digital Input has a kind of buffer which is not updated when the CD-player is in Pause and loops all the time when sometimes going into loud blirbs and bleeps.

It might also be that my CD-player is not compatible (or too old) with the ASR, because some time ago I had the Philips CD-608 and that one worked fine. Maybe the CD 373 is not adjusted the right way.

2. Sometimes when I sample Digital the sample has a different pitch and when I then look at the wavesample information the sample is recorded at 48 kHz. So maybe my CD-Player is playing too fast?

3. I've got the keyboard ASR with 10 MB RAM and when I take a sample bigger than 655399 (Sample End Parameter) the value is displayed wrong. When I move the Sample End Point between 655399 and 655410 the ASR goes from 65540 to 65549. This happens every 100 samples higher Sample End Value, e.g. 655500 to 655509 becomes 65550 to 65559 on the display. Also the Loop Points, etc, show the wrong value when in that range.

4. Why is the LFO Amount and the Env1 Amount moving from +0.7 to 1.0? I would think it goes to +0.8 and +0.9 to 1. And so on every 1 higher/lower value.

5. The last one is the least important one. In MAX (from Opcode): when I send the SysEx Inquiry Message (a Common SysEx Message) the ASR does not respond. And when I try this more than once the ASR-10 crashes: ERROR – REBOOT. The message:

$F0 $7E <channel> $06 $01 $F7 (in Hex)

The ASR should send a message like this:

$F0 $7E <channel> $06 $02 $0F (=Ensoniq ID)
$03 $00 (=Sampler Family ID: LSB/MSB)
$03 $00 (ASR-sampler: LSB/MSB)
$xx (Software Revision Info) $00 (not used?!)
$02 $34 (O.S.version Number, integer: MSB/LSB)
$03 $08 (O.S. version Number 3.08, decimals)
$F7 (EOX)

That's it for now, cheers,

Transoniq-Net
HELP WITH QUESTIONS

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

All Ensoniq Gear – Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 610-647-3930. Ensoniq's Fax On Demand line, (1-800-257-1439) can also be used to retrieve specs, OS info, hard-drive info, and the like.

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

TS Questions – Pat Esslinger, Internet: pate@execpc.com, Compuserve: 74240,1562, or AOL: ESSLIP.

TS, VFX, and SD-1 Questions – Stuart Hosking, stuh@ozemail.com.au.

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

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

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

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

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

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

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

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

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

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

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

Mike de Laat
Via Internet

[Ensoniq – 1 and 2) We have seen some CD and DAT players that do not transmit information for the ASR to lock onto when in pause or stop modes. Most of these types of products have been re-designed to correct this problem, since many digital receivers had trouble working with them. The fact that the CD-608 works fine suggests that this may be the case with the older CD-373.

3) We'll have to look into this, this is not a currently reported "bug" (until now), and is not fixed in the latest O.S., 3.53.

4) The values for those parameters have resolution to 1/8th of a semitone, not 1/10th as you assumed.]

Dear Hacker,

I am using MOTU's Performer 5.0.2 with my **ASR-10**. I would like to compile all of the sounds which are resident on my ASR hard drive into a patch library and then use the patch librarian on my computer to cause the ASR-10 to load sounds. According to the ASR-10 manual, MIDI program change messages can be used to navigate through the directory of a drive attached to an ASR-10. Luckily, Performer allows one to manually enter MIDI data which is transmitted each time a patch bank is selected. However, it will require a minimum of two program change messages to get the ASR to load a sound; the first program change to invoke a macro which locates the proper directory on the ASR drive, and the second program change to actually select the sound.

Here's the problem. The first program change is received by the ASR, but the second program change is ignored or garbled because the ASR is busy working on the macro from the first program change.

1) What is the recommended procedure for using the ASR-10 with an external drive in conjunction with a patch librarian?

2) Is there any technical data available for the ASR-10 which lists all valid MIDI messages?

3) Is there any way to access the metronome click through MIDI?

Thanks in advance.
Keith Hafer
Via CompuServe

[CS – 1) As I see it, there are two solutions to the problem you describe; either space the program change messages far enough apart to give the ASR time to load, or use banks (which can be loaded via program changes, too) to load the sounds you need for a particular sequence.

2) Any technical data available for any Ensoniq product can be obtained by writing to Ensoniq's MIDI Specification Desk, Ensoniq, Inc., 155 Great Valley Parkway, Malvern, PA. 19355.]

[Ensoniq – 3) There is no solution short of setting the ASR to external MIDI clock and sending it clocks. We don't think that's what you want.]

Dear Hacker,

Sometimes my **TS-10** behaves in a peculiar way... In unpredictable situations, mostly when I use the sequencer, I get system errors and I have to press "any button" to continue. It gets really serious when I try to load a demo sequencer-file (TS-DEMO-V2 by Ensoniq) I got from a friend (who has a newer TS-10). The display shows: "System error 192, reinitialize, Press any button to continue." Pressing buttons doesn't help and after switching the TS off and on it seems dead, no display, no sound. Trying this repeatedly changes nothing. After waiting for about twenty minutes, I can switch it on again and every parameter is reset.

Are there any bugs you know of that are related to this error? (I have ROM V1.20 KPC V2.41.) Is upgrading to 2.0 still possible, as I don't need general MIDI?

Friendly regards (from the Netherlands),
Frank Hoedemakers
Via CompuServe

[CS – The problems you describe aren't normal, and certainly aren't bugs. I'd recommend getting your TS in for service as soon as possible.]

[Ensoniq – Error 192 is indeed related to the sequencer. TS units with ROM versions older than 2.02 would generate an Error 192 if invalid sequencer data is detected after loading from disk or SysEx.

The TS-DEMO-V2 was designed to be used by units with version 2.xx or higher. Trying to run it on an earlier version ROM will not work properly and will cause errors (hence the V2 in the name!).

1.20 is a very early version of the software. The 2.xx upgrade is no longer available. We do highly recommend that you upgrade to the current version, which is 3.05. In addition to numerous general improvements and some minor fixes, you will be enjoying the benefits of several new features (in addition to General MIDI), such as: Sound Selector function, Wake-Up Mode setting, new sampled sound options and parameters, read-only SCSI capability, a tempo track for the sequencer, Save Changes parameter function, the ability to identify the source locations for sequencer sounds, plus others.]

Dear Ensoniq....

Over the 'Net, we've been having some problems finding a place to u/l and d/l our samples. It used to be oak.oakland.edu but that got zapped and we're kinda floating now. Very often, in the Ensoniq mailing list, I see people requesting directions for the site to get these samples but nobody really knows where they are.

My point is – would Ensoniq consider setting up a site (yikes!) for these samples? Since most of the copyrighted samples for Ensoniq machines come from them anyway, they could even monitor (double yikes!?) what comes in.

Business-wise, they could even do their compilation CDROMs very quickly (yikes??).

We need a good home for the samples. :-(

Khew,
-The Qfactor
Via Internet

[Ensoniq – Well, we intend to open a Web site in the near future. We are still discussing what type of sound support we will offer there, in addition to the product information, customer service, and other activities we currently offer via phone, fax, and on CompuServe. Yikes – you never know, we just might do it!]

Dear TH,

In response to the *Transoniq Hacker* Issue #114, Joe Travo wrote about setting up the VFX with internal RAM and EEPROM for 120 MIDI GM standard sounds. Is there anyone out there who has completed this programming? I would also like to know where to get the EEPROM cart(s). Joe, maybe if you are out there, could you please

contact me about this?

Please contact me at:
0742dms@InforMNs.k12.mn.us
Tel (612) 240-0425
Fax (612) 240-0425

[TH – We've passed this along to Joe.]

Dear Sir:

I have an **ASR-10**. The *Musician's Manual* said that the diskettes can be formatted in two ways: Ensoniq and computer. It also said that when I choose the computer option they can be read by Macintosh or IBM if these machines have the appropriate software.

I have the following questions: What software? Where can I buy it?

Sincerely,
Teodoro Pedro Cromberg
Buenos Aires, Argentina

[Ensoniq – There is currently no software available that we know of to use this feature. It was designed in to allow computers to share our disks, since an ASR-format disk crashes a Mac when inserted (sorry Apple!).]

Transoniq Hacker,

Thank you for your newsletter! I bought an Ensoniq **TS-12** in January of this year. I am new to synthesizers, sequencing and MIDI... and slowly working my way through the 300+ pages of the *Musician's Manual*.

My specific interest at this time is with drum sequences. I would like to build or buy a library of rhythm sequences, i.e. Latin, ballad, waltz, etc. I suspect that ordering certain of you past issues will help me generate these sequences. However, would you please respond to me through the newsletter about any additional sources of information or stores where I could buy rhythm sequences?

You might summarize a bibliography of past articles relating to this subject. I have found the Ensoniq manual to be a typical technical manual – long on minutia and short on practical examples.

David Clinch,
Sunnyvale, Calif.

[CS – Ensoniq has a product which consists of rhythm grooves sequenced and stored on disk. I forget what it's called, but I'm sure you could track it down by giving them a call at 610-647-3930).]

[Ensoniq – The disk Clark refers to is TSD-1002, The Rhythm Construction Kit. It is available for $19.95, and contains over 500 drum patterns and fills, in Ensoniq and GM mapping.]

Hi!

I have one question: Can Sony MD Data (MDH-10) work with the **ASR-10** via SCSI? If yes, can it record and play DiskTracks?

Please & thanks!
Darek Krzywanski
Szczecin, Poland

[Ensoniq – We have never heard of a SCSI Mini Disk, and we only work with SCSI devices. The Mini Disk is a new audio-only recordable type of disk that Sony is pushing to the consumer market. It is not really pro level, as it is a "lossy" type of recording.]

Interface,

Let me begin by saying that I have been a subscriber and loyal Ensoniq customer since 1986. At that time I purchased an ESQ-1 after hearing and falling in love with it at my local music store. I subsequently purchased a Mirage, an SQ-1 rack (swapped it for an SQ-1+), and finally a TS-10. The only trouble I ever experienced with any of the instruments (that wasn't due to some error in operation of my own) was that the Mirage tended to drift out of tune. This was cheerfully repaired at the local authorized repair center.

Anyway, in response to Mr. Esslinger's problem with MIDI bank and program selects with Cakewalk and the **TS-10** – I may have stumbled across a solution. I use an XT clone with Cakewalk, DOS Version 4.0e. A primitive set-up, I know, but I'll bet there are similarities. 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.

And now, a request – an article on effects and routing for sequences. I labor over this constantly. I can never seem to get an effects scheme to sound right within a sequence. One or the other of the sounds always suffer.

And a request to Sam Mims – a generic bass patch for the TS-10 that doesn't sound "pianoish," doesn't have an attack that cuts like a chainsaw, has enough bottom end to cut through a dense mix, and doesn't depend on its associated effect to sound "good."

Benny Richardson
Edmond, Okla.

[CS – Thanks for the Cakewalk input; and we'll see what we can't do to accommodate you with the articles and patches you're

looking for.]

TH –

This letter is in response to your article "Drummin' on Workstations" by T. W. Everson.

The article showed how one can use their gear as a drum machine – covering general concepts and situations. I hope to see more elaborations on these concepts in future issues. The following are some of the problems, situations and ideas I am presently working through. Some of these involve using a computer-based sequencer along with the **ASR-10** sequencer.

1) Using either sequencer to record/create volume changes and panning changes of each individual wavesample of a drum kit without reloading/copying the instrument to another track. Example: fading in a closed hi hat in a rotational fashion without having to route the wavesample through a rotor effect.

2) Using the mod wheel as a realtime controller to record/create the changing values for a certain aspect of a wavesample. Example: record the changing values of the mod wheel to create changes of volume, then add changes of panning, Fc cutoff, LFO, etc...

3) Sending a message from a sequencer to change the output path of a wavesample to a different "bus" giving it varying degrees of wet mixes or to send it out dry.

4) Sending a message from a sequencer to change a currently selected variation of a ROM effect to a different variation of that same effect.

5) Sending a message from the computer-based sequencer to the slaved workstation sequencer to play different individual sequences at different time periods without taking up memory space by using song mode.

6) Can recording in song mode be used for controller data? In other words, can I use song tracks for controller data? This would keep note info and controller info separate. Is this wise?

My hat's off in respect to TH and Ensoniq for excellent writing and gear!

Peace,
John Dougherty
Newport, KY

[CS – I don't think these are questions so much as wish-list items, but I do have a couple of comments anyway.

Re #5: A Song takes up very little memory in the great scheme of things – probably just a few blocks for the typical song. So I wouldn't sweat the memory thing when it comes to songs.

6) Song tracks can be used for controller data, and some will find it preferable to keep controller data separate from other information by recording it into Song tracks. I personally prefer to keep controller data with the tracks it's meant to control; just helps to keep me from getting any more confused than I already am...]

Dear TH,

I'm a new subscriber and in need of your advice. I seem to be unable to get it from anyone else. After owning a VFX-sd for two years I promised myself I wound never invest in an Ensoniq product again. But when the **TS-10** came out, there I was and here it is in my little home studio. First I must tell you that when I had the VFX-sd I had to take it back to the authorized dealer 11 times to get it to work right. In fact, the last time I took it back the warranty had run out and I actually had to pay for an instrument that never worked right from the beginning! I did send lengthy faxes to Ensoniq USA only to receive a diplomatic answer that left me exactly where I was!

Anyhow, I thought that after all that, Ensoniq would have done enough research to produce a TS-10 which would deserve the 1.000.000 drs, which is the RRP. But to my horror after a couple of weeks that dreaded message, "Calibration Error – Recalibrate – Ignore" began to appear every time I turned the TS-10 on. (It still does.) After about five minutes of "warming up" I can actually get into the TS-10 and begin working. Okay, I can live with that. But there are other shortcomings, enough to turn the meekest of persons into a wild, neurotic creature.

1) On a sequence track I record something and then decide to erase it. The data is erased but the name of the instrument assigned to that track is totally unwilling to depart, no matter what I do. That can be rather confusing when you can't tell at a glance which tracks contain data since all of them have names and none are "Undefined."

2) I record my sequences, put them together, create a song and play a guitar solo on a song track. I then decide that the song is one chorus too long and delete that sequence, which means I have to move the solo on the song track. The TS-10 does that, but controllers such as mod wheel, pitch bend, etc. go haywire. It sounds as if key events are moved to the right place but not the controllers. I try to filter them out but to no avail. I try the event editor, which is extremely time consuming when you have about 100 controller events to remove, and even then it does not always remove them. And here I am; having spent 3 – 4 hours to get that guitar solo right, trying to copy it to an earlier location – unsuccessfully – and, trying to remain calm, I just erase the whole thing and start from scratch. The exact original is not always easy to achieve. It seems to me that there is something wrong with the software when it comes to controllers. The rep here tried to tell me this is "normal," but after having spent three years exploring the Ensoniq technology, I feel this is just more trouble.

I'm just about to go professional with a label contract imminent. My manager is getting rather aggressive at the time I spend on each song because of the TS-10 problems, and I'm just worn out. Is Ensoniq

Change of Address

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going to produce a new, improved chip or should I have fish and chips and be an English teacher? Can you offer any advice? I love you for being there!

Best regards,
Yiasoumis Anastasiou
Athens, Greece

[Ensoniq – You don't mention what O.S. you are using, but if it is not current this is the first thing to do. We are contacting our distributor in Greece about your situation. We will let them know that you will be contacting them. To get in touch with them directly – Greek Distributor: Philip Nakas S.A. Music House, 13 Navarinou Street, 10680 Athens, Greece. Nikos Pitarakis, Service Manager, Tel. (01)364-7111, Fax (01)364-2521.]

Dear Mr. Hacker,

For one and a half years now, I'm the proud owner of an Ensoniq **ASR-10R**. Features like resampling through its outstanding fx, comprehensive sequencing and versatile sound editing (to name a few) give the ASR a step ahead of other samplers. Thanks, Ensoniq, for creating this mighty machine – you're the best! But, I've encountered some problems and I hope they may be solved in future versions. Here is a short summary:

1) Have you tried out a stereo time compression yet? I sampled a 2-bar bass loop from a sampling CD and shortened it with the quality parameter set to 0. The result matched my desired duration time, so I did it again with the quality set to 99... After breakfast I listened to the tweaked wavesample but, man, what happened here? Only the right wavesample was compressed; the left one was still raving at its original tempo. "No problem," I thought, "I'll shut off the stereo layer link and compress only the left one." Boy, oh boy! Now they both get compressed! To be clear: the right wavesample two times and the left one once. Lumbricalating! Very virescent with headphones. Trying several times again, I found out that the most acceptable quality value is 49, compressing both samples simultaneously. A higher value splits up the left and right samples. Any idea what's going on here?

2) When I load the first Jeff Lorber Bank (macro 8) from CDR-2 with O.S. 3.0 installed, some bass notes disappear at measures 44 – 49. That's where Jeff used the patch select buttons. All events are registered in the sequencer, but they just don't play. Strange, hum...? And it only happens with O.S. 3.0. Girandolating!

3) Is it just possible that my ASR can't read all the sounds stored on an Akai CD-ROM? Two examples: I tried to load Choir #4 from the Zero G Datafile CD-ROM, located in Partition B, Volume 10, ZG1 Trax 82-83 as the eighth instrument out of nine. But in this "ZG1 trax 82-83" directory, my ASR only displays ZG1, Synt 1, 2, and 3. Synt 4 and Choir 1-5 are not displayed, so they can't be loaded. And when I load Synt 3, it actually loads Choir 2. Petrifying indeed! Another example: Alpha Dance, Partition A, Volume 2 contains four organs. My ASR only sees the first. This occurs with nearly all volumes containing plural instruments, and not only with the CD-ROMs mentioned above. My dog claims this is gristly! My local dealer too! Are these problems familiar to other readers or does my equipment need surgery? Or is it me?

Okay, enough preached, please be seated. Time for a bit of input. Ready Clark? How about an O.S. with a "Transmit Sample Dump" command? Are you considering this? Is it possible to save the audio track parameters as part of the global parameters, or maybe even the bank? Also, when are they set off?

Am I in the Interface now?... Hi folks!

Thanks already, Mr. Hacksaw.. er.. Hacker! I look forward to your reply.

See ya!
Willy Claes
NATO Secretary
Belgium

[Ensoniq – 1) Sounds like a bug to us. We'll have to look into it. We recommend that after trying the setting at 0, don't just go to 99. Beyond about 45-50 you won't hear any difference, so don't waste the time. We probably should just re-scale the value ranges to fit within a smaller window so you aren't tempted.

2) We'll look into it.

3) This is a bug that was fixed in O.S. 3.08. Get 3.53 and you'll no longer be Petrifyed. Now we'll start working on de-Girandolating you, followed by a quick de-Lumbrication.

P.S. Hey Clark, call us when you've got those new features coded!]

Subject: upgrade of TS-10.

Thanks for your answers to my last questions regarding an upgrade of the **TS-10**. I have another question though. Now that I'm considering getting an upgrade I'm starting to get worried about the songs I've made. Will an upgrade to V.3 (I have v.1) in any ways screw up my old sequences which I have on disk. Will the sounds or anything change?

Kasper Lauest
University of Copenhagen,
Copenhagen, Denmark
Via Internet

[CS – Your sequences should play back fine using version 3 software. Several of the ROM sounds have been changed, though. As far as I know, the changes are designed to enhance the character of the existing ROM set, rather than alter its basic character in any way. The bottom line is, things should work out fine with a minimum of hassle.]

Hello.

I've been trying to figure this out but to no avail.

Has anyone worked out an equation for using the **ASR-10's** Time Compress/Expand function that makes it easy to calculate what percentage of compression is needed to go from BPM "A" to BPM "B"?

Thank you,
James Trammell
Via Internet

[TH – Clark and Ensoniq both declined to respond – so we would guess the answer is "No."]

To: interface@transoniq.com
Subject: Mac stuff for SQ-1R & ESQ-M

I'm an avid fan of both my **ESQ-Ms** and **SQ-1R+** modules and have a few questions for anyone who may be able to address them:

1. Is there an electronic copy of the ESQ-M Manual I can retrieve via network? (Particularly, I'm looking for instructions on data transfers and re-initializing the ESQ-M.)

2. I have a Mac SE with v6.02 and would be interested in an editor for the ESQ-M. I already have a librarian (Q-Lib) and really

only need an editor.

3. Is there an ed/lib available for the SQ-1R+? What about alternate patch libraries – are there any available electronically?

Of course like most others, I'd hope to find available shareware/freeware for my dinosaur Mac.

Thanks in advance and any help is appreciated. Gotta Love that Ensoniq stuff!!!

Craig
Via Internet

[CS – I'm not sure, but I believe that Opcode's Galaxy provides librarian and editor functions for the ESQ-1, and may for the SQ series as well. You might also want to look into Mark of the Unicorn's program, Unisyn; which may support either or both of those products, and is a pretty versatile package. I'm afraid I don't know of any electronic versions of the ESQ manual.]

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Keyboard Raves About Ramtek

November 1994

One of the benefits of Ramtek's products... is that they're rack-mounted, which is preferable to table-top units for rack-owning and/or traveling musicians. (Ramtek also makes tabletop models.) The cabinets are of rugged steel construction, a necessity for use on the road. In addition, whereas [Ramtek's] competitors shy from offering their storage systems in a single-space format because of the size constraints and possible thermal problems, Ramtek doesn't. In the 6 months we used [Ramtek's] D1200, we never encountered any trouble due to overheating. Those with limited rack room should appreciate the small space these products require. Also impressive is the fact that the internal cooling fan, which is quieter than the hard drives themselves, adds minimal acoustic noise to your music environment... If you're running short (of storage space) Ramtek should be one of the places you call.

BOTTOM LINE
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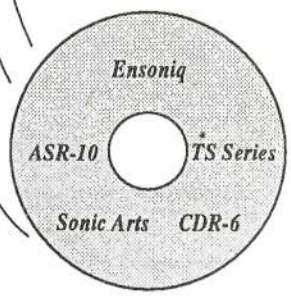

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