

# Transoniq

# Hacker

The Independent News  
Magazine for Ensoniq Users

## De-Classified!

Robby Berman



Product: ASR sounds: *Synth Collection 1*  
— a 10-floppy set (over 160 samples).

Price: \$30 plus \$3 s/h.

From: George Bolton, 19 Third Street,  
Ayer, MA 01432-1844, phone:  
508-772-3296.

For: ASRs, TSs, MRs.

Do you ever breeze right by the *Hacker's* classified ads without reading them? You really shouldn't. Aside from interesting gear showing up from time to time, you might miss some sonic gold in them thar hills. One such nugget is *Synth Collection 1*, a 10-floppy set of sounds offered by George Bolton of Ayer, Mass for \$30 plus \$3 shipping and handling. One thing that might be hard to glean from the ad is that these 10 disks are packed with samples for your ASR. Another thing you wouldn't know is how good the sounds are.

The review copies of these sounds arrived Clark Kent-style on floppies with hand-written labels, looking for all the world like old EPS disks, the kind with a jillion itty-bitty sound names squeezed onto the label — except, of course, they're HD disks. I've never seen ASR disks looking like this; memory efficiency isn't quite as common as it used to be, and it's nice to encounter it again. But Bolton's disks provide a great bang-per-buck ratio: Each disk has at least 16 sounds, and some considerably more. That's over 160 ASR sounds for only \$30.

The sounds in this collection lean toward the synthetic, some quite original textures, and some of them familiar. The usual suspects are present (synth basses, keyboardish sounds, bells, sync sounds), and Bolton offers them in fresh, clear, in-your-face renditions. Many of them were created in the Korg DSS-1, taking advantage of its additive synthesis and manual wave-drawing capabilities. This means that a Bolton sound is not a recording of some other instrument, as samples tend to be; it's the thing itself. This must be the reason that these sounds are so crisp, the kind that would stand right at the front of any mix, even though they're not exaggeratedly bright at all.

How does he squeeze so many sounds

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into this set? Most of the sounds are but a single sample, that's how — hence their dinky memory usage. They also use the 29kHz sampling rate. Altogether, this data miserliness also serves Bolton's other goal with this collection: that the sounds not hog polyphony, allowing users to get the maximum number of notes out of their ASRs.

Bolton's looping is excellent; I haven't found a problem loop in the bunch. And ASR users take note: all the looping was done right in the ASR; no computer or graphic waveform editing was involved at all. Makes an ASR user proud, I tell ya.

The sounds make only a limited use of Patch Selects, which is a disappointment, but it's hard to complain when you're getting so very many worthwhile sounds. Other than that, they are very well-programmed. They play well, with a musical velocity responsiveness, both in terms of dynamics and timbre. Pressure is also, um, pressed into service, not just as a modulator of the sounds themselves, but also as means of real-time control over the effects.

And a word about Bolton's use of effects is certainly in order. As a sometime recording engineer, I'm perhaps (over) sensitive to the overuse of effects, and reverb in particular. Nothing betrays an amateur like too much 'verb. This is a pitfall that Bolton never falls prey to. It's a tad odd that Bolton should so

under utilize the Patch Selects, and yet exhibit such care and talent in the programming of the effects. The sounds in this set benefit greatly from Bolton's tasteful effect design. The reverbs are just right, for one thing: Bolton takes fine advantage of the ASR's room reverbs, never overdoing, and always enlivening the sound at hand. Good job! Other algorithms are utilized thoughtfully as well. Users of these sounds will, no doubt, go out of their way to make sure that sequences using these sounds also use their effects, since they make everything sound so alive.

What review in the *Hacker* would be complete without the mention of some favorites? This one. Honestly, there's too many sounds here to study each one in more than cursory detail and still get this review written in 1996. I'm much more interested in moving these babies over to my SCSI drive and into use. If you're looking to score a truly usable clump of synth sounds, this set is the perfect deal for you. The variety offered is great, the quality high. And you'll be surprised how much your collection of keepers is about to grow from this one 10-disk set. I know I was. ■

*Bio: Robby Berman is a musician shoveling snow outside of Woodstock, New York. (He's the guy with the cats in the windows.) His latest, now super-annuated, opus is "Rings and Rings."*

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### RND ( 🎵 )

#### Hacker News

Long-time *Hacker* writer Tom Shear tells us he now has his own web page — check it out at: <http://members.aol.com/tom-shear/private/tomshear1.html>. How about the rest of you? Please let us know.

Deja vu all over again... We find ourselves in a familiar spot — new instruments, new subscribers, and not a whole lot to print about them. New MR owners are asked to be patient — there *will* be coverage. Lots. Meanwhile, don't forget those sound reviews also apply to your new baby, and hey, ever consider writing? You're on the cutting edge.

#### Announcements From Ensoniq

Last issue we announced two new keyboards, the *MR-Work-Stations*. To simplify their naming we have decided to call them the *MR-61* (61-key synth action) and the *MR-76* (76-key weighted piano action). We won't give you demerits for using the old names in articles and the Interface yet, but please try to work the new and improved names into your vocabulary as soon as possible.

*SCD-4 Keith Emerson Signature Series* is now shipping! Stop by your dealer and give a listen to these incredible organ and

synth sounds from the legend himself. Suggested retail \$249.95.

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

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

*EXP-1 "The Real World"* — the first expander board for the *MR* instruments (rack and keyboards) features 24 MB of world and ethnic samples (over 400 new waveforms), all newly-sourced over the last two years. Over 500 Sounds, and new drum kits. Suggested retail \$500. Available end of April.

*UNISYN* — We are sorry for the prolonged delay in shipping the runtime version of Mark Of The Unicorn's editor/librarian, but we have resolved all the issues and MOTU is making the disks as we speak. Expect to see your requested copy in May.

# Transferring From Song Mode To a Computer

Martin Weinberg

So you just finished your latest masterpiece of sequencing and now you want to take it to a recording studio. The engineer is telling you that he wants to transfer your sequence to his computer. But you used Song mode with multiple sequence steps, and now you're wondering: How do you transfer and combine all those separate Song and sequence tracks?

Though it's not always a necessity, sometimes there's an advantage to transferring your sequence to the studio's computer (or your own computer, for that matter). You may want to do more extensive editing, or you may want

to add or layer tracks that use some of the studio's modules. Also, many studios have their recording deck set up to synchronize with the computer using SMPTE.

If you did the whole tune in one sequence location you could just assign tracks 1-12 to MIDI channels 1-12 and let 'er rip. When you use Song mode, though, often you don't have the same sounds on the same tracks throughout the whole tune, or you might be using the same sound on different tracks and you'd like to combine the data.

Here is a step-by-step procedure for doing a successful

transfer. You may decide to modify this to suit your situation, but the main concepts can still apply.

## Documentation

1. As always, before doing anything, make a safety backup of your work. Put the original away, and work with the copy. For that matter, anytime you're planning on doing any significant editing of your precious creative output, save it to disk and back it up to another file by saving it with a slightly different name.

2. Take a piece of paper, and list the numbers 1-16 down the left side. This represents MIDI channels 1-16.

3. If you recorded on the Song tracks, find the first Song track you recorded on, and write down the name of the sound on that track by #1 on your paper. It doesn't matter if the sound is actually on track 1 or not. (If there are no Song tracks, then start with the first sequence component.)

4. Then, go to the next Song track you recorded on, and write the name of that sound by #2 on your paper (again, regardless of the track number it came from). Now this is very important: if you come across a sound name that is already on the list, then just skip over it. Do not add it to the list. What you are doing, in essence, is creating a list of all the unique sounds that were used in the tune.

5. After completing the Song tracks, move on to the first sequence component and do the same procedure.

6. Continue until you've documented all the sequences.

## Preparing The Ensoniq Keyboard

7. Now go back to the first location you documented (either the Song location or the first sequence location) and change the Track MIDI channel numbers according to your list. (For example, if GRAND-PIANO was next to #4 on your paper, then every track that has GRAND-PIANO will be set to MIDI channel 4. If you do this properly, then every occurrence of a certain sound will have the same MIDI channel number, regardless of what location it's in, or what track it's on.)

8. Continue checking all the tracks you recorded on, and change the MIDI channel according to the list.

9. Make sure that each Song and Sequence track is set to transmit MIDI.

10. Make sure the keyboard is set to Multi in the global

MIDI control settings.

11. Set the "Loop=" parameter of the Song to off.

12. Make sure the Song location is underlined and selected.

13. Re-save your work to disk using a modified name (so you don't overwrite your original work).

14. Make sure there is a MIDI cable going from Ensoniq MIDI out to the computer MIDI in.

## Preparing The Computer

15. Setup the computer software to record on multiple channels/tracks simultaneously.

16. Name the tracks with the corresponding sound names from your list.

17. Have the computer sequencer respond to external MIDI clocks so it will wait for (and lock to) the Ensoniq sequencer.

## Transferring The Data

18. Press Record on your computer sequencer. It will go into a "waiting for MIDI clock" mode.

19. Press Play on the Ensoniq keyboard. The Ensoniq sequencer and the computer sequencer will start together.

20. When it's done, the computer will now have one continuous sequence, with each sound combined on a separate computer track.

21. If everything was successful, then save the computer sequence to the computer hard drive, and proceed to the next step.

## Creating The Template

22. Establish a new sequence location in the Ensoniq sequencer that will be the target template for the computer. It should contain one of each of the sounds on the list, preferably in the order that they appear on the list.

23. Set each track to receive MIDI, with the MIDI channel number corresponding to the track number.

24. Make sure there is a MIDI cable going from computer MIDI out to Ensoniq MIDI in.

25. Now, when you press Play on the computer, and you'll hear the computer playing the tune using the keyboard template.

## Common Questions

Q-What if I've used more sounds than I have tracks in my template?

A-You have two options. In the computer sequencer you can assign the extra sounds to other keyboards or modules that you or the studio may have. Or, if you can record some of the sequenced tracks to tape, you can do one pass with just the *extra* sounds, then re-assign the tracks with the rest of the sounds.

Q-What if I've used the same sound on 2 different tracks, but they had different track settings (such as mix level)?

A-In that case, you would need to treat each of those tracks as if they were different sounds, each with their own MIDI channel.

I hope this step-by-step outline gave you some new ideas about transferring your data. You might only use part of the instructions, or all of it, if the circumstances fit. As with most procedures, taking a few minutes to document in the beginning can save you hours down the line. ■

*Bio: In addition to working in Tech Support at Ensoniq, Martin Weinberg actually uses this stuff. He does arranging/composing/producing for both a variety of clientele as well as his own original projects. When he's performing on stage, Martin uses either an acoustic piano or his "All-Ensoniq" keyboard rig.*

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# Mo' Organ

Dan Rohde

Mo' Organ (Moog + Organ) is inspired by a one-of-a-kind keyboard lead in Steely Dan's "Do It Again," which I assume was done by the inimitable Donald Fagen somewhere around 1974. I'll try to explain why I've made various choices to help better understand how to do it yourselves with the SQ series keyboards. After all, if you give a guy a patch, he has a new sound for a day, but if you teach him how to fish... well, you know what I mean.

To mimic a certain sound from a recording, a few things have to happen. First of all, you need to listen carefully to the sound. In this case there seem to be a couple keyboards doing different things simultaneously. I hear a fairly shrill organ with no delay, no vibrato, and no rotary speaker (Leslie) effect. A second organ similar to the first kicks in after a short delay, probably the result of a delay effect device. Mo' Organ attempts to simulate this delay through Voice 2's Amp settings. A last element of the sound is a vintage synthy glide, probably a mini-Moog considering that this jewel of a song was recorded about 22 years ago.

So, we have some ideas for the patch's three voices. Next let's look over the samples and waveforms available in the KS-32 (or the SQ or KT). The most obvious candidates to my ears are listed under Waveform, the Organ Variations

1, 2, 3, and 4. There are other possibilities, of course, such as Perc Organ, or even the Breath Waves or Transwaves, which you could plug in later if you'd like.

Let's program one voice at a time. Start by finding a RAM program that you can live without, then push the Edit Sound button. Solo Voice one and Select Organ Variation 1 under Waveform. No, it's not identical to the Steely Dan organ, but we can call this small compromise a choice of style, right? We want an immediate attack, so set delay to zero. The Restrike Decay seems to sound best when it matches its Release value under Amp. I set the Octave value under Pitch to +1 so I wouldn't have to reach up so darn far on the keys to play the high notes. Env 1 and LFO remain at zeros since we'll get some modulation with the Chorus + Reverb effect. For now, it will simplify things to use only a Reverb effect so you can tell more easily how your settings change each voice. To add some interest, and to not waste the Wheel, under Pitch's Modsource, set LFO = +10, in case you want to add a little vibrato in real time. Envelope 1 is not used as a Modsource for any of the three voices, so it is left blank. Glide = Off, but Glide Time = 20, since only one Glide Time can be chosen per patch on the KS. (We'll get to Voice 3 in a minute.)

Under LFO for Voice 1, set Speed to 35. A little slower

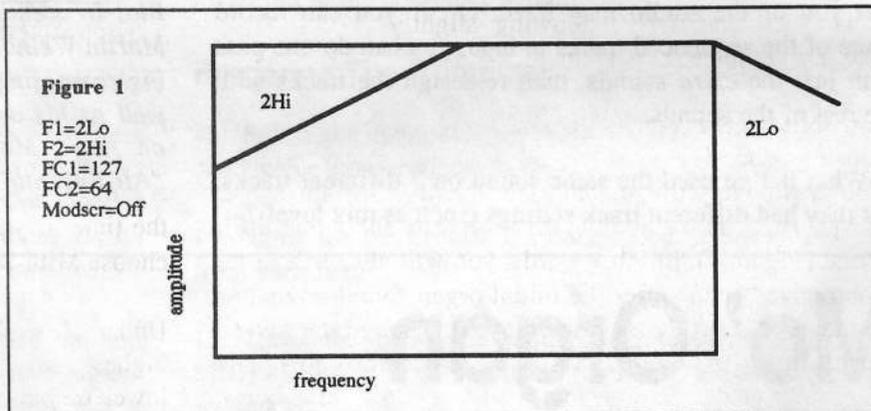
also sounds okay. The Level is 25, though by setting Wheel as the Modsource — which in turn enables Modsource = LFO (+10) under Pitch — the LFO level doesn't seem to make very much difference. The Sine wave has a smooth up and down motion that sounds fine here.

The Filter settings for Voice 1 block about a quarter of the lower frequencies (Figure 1). Both FC1 and FC2 Keyboard = +50, which makes the keyboard track the filters exactly. That is, you will get the same tone, neither more nor less trebley or bassy, no matter what key is played. I didn't select any Modsource for Filter. If you want to enable a Modsource here, you will need to adjust the Cutoff values accordingly. Organ sounds usually don't change that much over time, just a fast attack and an even tone thereafter, so Envelope 2 is not used as a Modsource for any of these Voices.

The quickest way to set the Amp values is to select Defaults, then Full On, which is just right for a basic organ envelope. Under Output, Volume = 80 is about right. If this

seems loud, you can lower it, but you should lower the other two Voices' Outputs to the same degree to keep a volume balance. Output Bus = FX1 enables the chorus part of the effect; FX2 would enable only Reverb. Panning Voice 1 to -14 gives it enough stereo to add interest against Voice 2. However, played through a typical mono PA system, this stereo effect will be lost.

On to Voice 2. Organ Variation 2 is similar to Variation 1 except it is less shrill. One way to make it sound a little later than Voice 1 is to adjust the Delay Time, but this



## KS-32 Prog: Mo' Organ

By: Dan Rohde

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	Waveform	Waveform	Waveform
Wave	OrgVar1	OrgVar2	OrgVar4
Delay Time	00	00	00
Wave Direction	-	-	-
Start Index	-	-	-
MODSCR	-	-	-
MODAMT	-	-	-
Restrk Decay	10	40	10

LFO	1	2	3
LFO Speed	35	00	25
Noise Rate	00	00	00
Level	25	00	05
Delay	00	00	00
MODSRC	Wheel	-	Wheel
Wave	Sine	-	Sine
Restart	On	-	On

AMP	1	2	3
Initial	99	00	90
Peak	99	00	99
Break	99	99	99
Sustain	99	99	99
Attack	20	15	20
Decay 1	20	00	20
Decay 2	20	25	20
Release	10	40	10
Vel-Level	0	0	0
Vel-Attack	0	0	0
Vel Curve	-	-	-
Mode	Normal	Normal	Normal
KBD Track	00	00	00

PITCH	1	2	3
Octave	+1	+1	+1
Semitone	00	00	00
Fine	00	-04	+03
ENV1	00	00	00
LFO	00	+00	-01
MODSCR	LFO	-	LFO
MODAMT	+10	-	+10
KBD Ptch Track	On	On	On
Glide	Off	Off	Legato
Glide Time	20	20	20

FILTER	1	2	3
Filter 1	2Lo	3Lo	3Lo
Filter 2	2Hi	1Hi	1Hi
FC1 Cutoff	127	127	105
ENV 2	00	00	00
FC1 KBD	50	50	50
MODSCR	-	-	Wheel
MODAMT	-	-	+25
FC2 Cutoff	64	64	50
ENV2	00	0	00
FC2 KBD	50	50	50
FC1MOD-FC2	Off	Off	On

OUTPUT	1	2	3
VOL	80	75	80
Boost	Off	On	On
MODSRC	-	-	-
MODAMT	-	-	-
KBD Scale	0	0	00
Key Range	-	-	-
Output Bus	FX1	FX1	FX1
Priority	Med	Med	Med
Pan	-14	+14	00
Vel window	>000	>000	>000

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

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

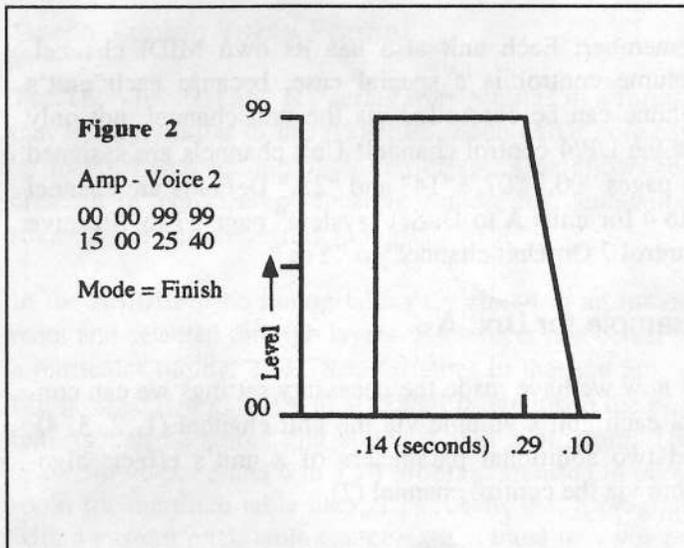
### EFFECTS — CHORUS AND REVERB

FX-1	(Stock)
FX-2	
Decay time	
HF Damping	
Chorus Rate	
Chorus Depth	
Chorus Center	
Feedback	
Chorus Level	
MOD (Dest)	
BY (MODSRC)	Wheel
MODAMT	+00

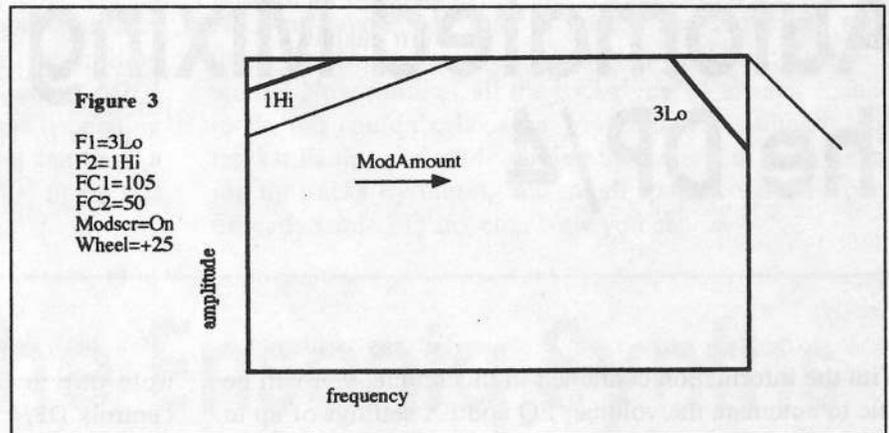
isn't nearly so effective as using the Amp envelope later, so let's leave it at zero. The Restrike Decay again matches the Release setting under Amp.

Octave = +1 under Pitch, though you could go for = 0 to give it an octave sound. Fine = -04 adds interest; a little detuning enhances Mo' Organ's funkiness. I left the LFO out completely for Voice 2 since plenty is happening already without adding vibrato. Filter is 3/LP and 1/HP, allowing slightly more low frequencies through than Voice 1.

Amp settings for Voice 2 create a .14 second delay. By choosing Mode = Finish, we tell the Voice always to play through all its settings, but ignoring the Sustain stage. Decay 2 = 25, so the audible duration lasts about one-third second (Figure 2). In other words, you will always hear an unobtrusive "echo" after the initial organ sound no matter how long or short the key down event. Though the KS-32 doesn't offer Delay through its DSP, other Ensoniq synths do. Finally, under Output, Pan = +14 to add a little stereo for the headphones or recording deck.



The Wave for Voice 3 is Organ Variation 4, chosen for its smoothness and ambient compatibility with the other Voices. (Is my jargon on a roll or what!) I fooled around with the Sine Waveform for Voice 3 because of its old synthy sound, but went with the Organ in the end. LFO (= +10) is chosen as the Modsource for Pitch so that the Wheel — designated as LFO's Modsource — could produce some vibrato in real time. The Glide setting under Pitch is Legato, which, as Robert Frost says, "makes all the difference" in this Voice's road less traveled. Legato enables you to achieve that rollercoaster-MiniMoog glide,



but only when you use legato technique. When you play notes staccato, the Moog effect is absent. The "Do It Again" lead seems to have Moog sometimes, but not all the time. If you want to hear the Moog glide all the time, choose Mini-Mode, but it's too much for my ear.

Under Filter, FC1 Cutoff = 105 knocks off some of highest frequencies, while FC2 Cutoff = 50 allows more lower frequencies through than do Voices 1 and 2. Maybe too subtle, but it seems to make a difference. The Wheel (+25) as the Filters' Modsource will raise both Filters' Cutoffs, which both decreases the amount of lower frequencies and increases the number of higher frequencies (Figure 3). So, the Wheel creates both vibrato and a more treble tone for Voice 3. Under Amp, Initial = 90, which takes the edge off the sample's attack. Finally, select Chorus + Reverb for effect, then save and Rename the patch. I like Mo' Organ because, well, I always like to hear Mo' Organ in a song.

And bu-duh, bu-duh, bu-dat's all folks for this program. I hope you like this humble "impression" of this Steely Dan lead sound. By the way, I'd rather listen to their "...but the hangman isn't hangin' and they put you on the street" lyrics than Robert Frost's poetry any day. There, I said it, and I'd Do It Again if I had the chance. ■

*Bio: Dan Rohde is a parttime musician and high school*



*teacher who lives in Muscatine, Iowa. He hopes someday to balance his classic-motorcycle-repairperson self with his romantic ride-the-wind self. He also hopes to win the Powerball and to see the end to all conflicts in the world.*

# Automated Mixing with the DP/4

*Robert Schulze Lutum*

With the information contained in this article, you will be able to automate the volume, EQ and FX settings of up to four tape tracks with an Ensoniq DP/4 parallel effects processor controlled by a MIDI sequencer.

This is especially useful if you are working with a four or 8 track tape deck. Using the DP/4 as an automation means that you can pack vocals and guitar and saxophone on to a single track, because the DP/4 can automatically change each track's volume, EQ, pan and FX setting at any time.

## Analog Audio Connections

In this model setup, the DP/4 will mix four tracks to stereo. Connect each tapedeck track you want to automate directly to a DP/4 input. Connect Outputs 1 and 2 to your mixer.

Press "Edit," "Config" and select "4 Source Config." Scroll right and select AB Output Select "1-2 Mixed Stereo." Scroll right again and select CD Output Select "3-4 Mixed Stereo." If you have not stuck any plugs into output sockets 3 and 4, all input will be mixed to outputs 1 and 2. Scroll right again and set each unit to (b)ypass instead of (k)ill.

## MIDI Control

The DP/4 provides eight internal controllers, called DP/4 controllers. These can control selectable parameters in each unit. A single unit can respond to two of these eight DP/4 controllers.

Each DP/4 controller can be controlled by a MIDI controller. Press "System" and scroll until the red LED displays (page)"37." The yellow display reads: "DP/4 Controller1=MIDI Control#004" This means that incoming MIDI "controller 4" messages will influence DP/4 controller 1, but only if the DP/4 is receiving them on its "Control Channel." Scroll left to page "36" and check that "Control Chan" is set to "07" and "MIDI is Enabled." Scroll right again and on pages 37 to 44 set "MIDI Con-

trol# 061 to 068 respectively. Now MIDI controller 61 controls DP/4 control 1, 62 controls DP/4 control 2 and so on.

Each unit's bypass/kill function can be assigned its own MIDI controller. The DP/4 defaults are MIDI Control# 75, 76, 77 and 78 for units A, B, C, D respectively. Check "system" pages "6," "13," "20," "27." We'll leave them like that. When the DP/4 receives "MIDI controller # 75" with the value "0" on its controller channel (channel 7, remember?) it will switch unit A to "bypass," while value "127" switches "bypass" off.

## Volume

Remember: Each unit also has its own MIDI channel. Volume control is a special case, because each unit's volume can be controlled via the unit channel, not only via the DP/4 control channel! Unit channels are assigned on pages "00," "07," "14" and "21." Defaults are channel 1 to 4 for units A to D. Set "system" page 57 to "Receive Control 7 On Unit channel" to "Yes."

## Example for Unit A

So now we have made the necessary settings we can control each unit's volume via the unit channel (1, 2, 3, 4), and two additional parameters of a unit's effects algorithm via the control channel (7).

Let's select the preset 52, "Hall Reverb" for unit A. A's volume is already being controlled by MIDI controller # 7 received on channel 1. How about controlling the reverb "Mix" from a sequencer? Easy: Scroll to page "23." Set "Mod1 Src=" to "Cntrl-1." The second line now reads: "MIDI Control#061." Scroll to page "24." It reads: "Mod1 Destination Parameter=001." Scroll back to page "01." The "Mix" parameter is flashing. You see? The parameter numbers correspond to the page numbers. Scroll to page "25." It reads: "Mod1 Param Range Min=34% Max= 99%." For the widest possible control range set "Min=" to "00%."

Scroll to page 27. The settings for the second controller are made here. MIDI control #067 is controlling parameter 03, Decay time. That's neat. Sending MIDI controller #75 on channel 7 will toggle bypass depending on the value. Use this for radical effects. You can mute a tape track by turning the unit's volume to "0" or by setting "bypass" to "kill."

All you have to do now is make your sequencer send these controller messages, and you will see: It really works! Now think of all the tricks you've always wanted to do but couldn't, because you couldn't automate tape tracks: Fading out while turning up the reverb mix, cleaning up tracks by muting the rough spots, controlled panning, dynamic EQ'ing etc.. Now you can. ■

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# Tuning on the Ensoniq Synths

*Steve Curtin*

Last month we discussed the subject of tuning in general, and tuning Ensoniq's samplers — the ASR-10/88 and EPS-16 PLUS. This month we will look at tuning on Ensoniq's synthesizer families, including the venerable ESQ-1/SQ-80 and the affordable SQ and KS series.

## Same Tuning Table Format

The TS, VFX, SD and KT series store tunings in a format that is very similar to the ASR/EPS. Each MIDI note can be mapped to a unique pitch and offset. This allows the creation of non-octave repeating scales, Just Intonation scales and other interesting tunings.

In the ASR/EPS the tuning tables are stored in an instrument and selected through layers. Each layer can be set to a particular tuning. The TS is different in that the tuning can be specified globally to affect all programs in the system, or can be stored and edited within a program. The space for voices 5 and 6 in a TS program are used to make room for the pitch table data. This means that a program with a custom pitch table can contain at most four voices. Since each program can contain one pitch table, tunings can be selected by a simple patch change message.

Just as in the ASR where each layer has its own pitch table selection, each synth voice can select a pitch table in the Pitch Mods page. The difference is that this parameter is not a direct specification of the pitch table name. There are three settings for this — in almost all cases you want all the voices in the patch to be the same setting. If the setting is SYSTEM, then the voice's tuning comes from the global system pitch table. This table can have its contents

pasted in from a custom pitch table. A setting of ALL-C4 will disable pitch tracking — all notes will sound as if you played C4. CUSTOM specifies that the voice gets its tuning from the custom pitch table internal to the program. While the contents of these tables can be uploaded and downloaded over SysEx, none of the currently available tuning editors support this SysEx format, which is different from the ASR's. Since the tunings are stored in programs any patch librarian that supports the TS will be able to store this data, but not allow editing of its contents.

## Tuning Table Editor

The tuning table editor on the TS allows you to enter a custom pitch table for a particular program. This is done by pressing Program Control and selecting the OPTION= parameter, followed by the up arrow to display the REPLACE VOICES options. You then select the PITCH-TABLE option to replace voices 5 and 6 (Note that the TS display always refers to what we call a pitch table as a PITCH-TABLE). You have now created a custom pitch table which can be changed using the pitch table editor. You can verify this by seeing EDIT PITCH TABLE on the Select Voice page where the enable/disable for voices 5 and 6 would normally be.

The pitch table editor is accessed through the Select Voice page. Until you edit the pitch table, the tuning will sound the same as the regular system table. Press the soft button beneath EDIT PITCH-TABLE. You will now see a display of the current key, its playback pitch in semitones and its playback pitch in cents.

Playing a key will select that key for editing and play a

note with the displayed pitch and offset.

Remember that the pitch table parameter in the Pitch Mod page must be set to CUSTOM to hear your edited tuning.

A utility called the pitch table calculator contains two very useful utilities for the creation of equal-tempered tunings or tunings that octave-repeat. If you are already editing a pitch table, press the soft key marked \*CALCULATOR\*. You can then select the key start and end ranges.

There are two operations you can perform — Interpolate and Extrapolate. Interpolate will fill in tuning values between two defined pitch relationships. Extrapolate will repeat pitch relationships outside of an edited key range. Using the interpolate and extrapolate commands, you can create any equal-tempered scale, many of them non-octave repeating. Tunings constructed from a certain number of equal-tempered tones per octave are called ET for short. A favorite microtuning scale which we will keep referring to is 19 tones per octave, or 19ET.

To create a pitch table on the TS that contains the Pierce scale, do the following. The Pierce scale is a “stretch” tuning that takes the interval of a perfect fifth plus an octave and divides it into 13 parts. Stretch means that the interval of a semitone is larger than that in the standard 12ET. In the Tuning Editor page, you would set C5+ to play the pitch G5 + 2 cents. Press the soft button above \*CALCULATE\* and set its range to C4 and C5+, then press INTERPOLATE to calculate the scale. Play a few keys to hear the different scale. As you play each key within the key range, you can see from the scale display that interpolate has filled in new values for the pitch and offsets in that range. If you play outside the range of C4 to C5+, though, the scale will still be in 12ET. This requires the “Extrapolate” function. Press the soft button above \*CALCULATE\* again. Its range should still be C4 and C5+.

This time press the soft button above EXTRAPOLATE. You will now be able to hear this scale repeated across all octaves. To make a scale of (for instance) 14ET, you would set the D5 key to play C5 and 0 cents, set the calculator parameters to C4 and D5, then do the same interpolate/extrapolate step. This allows the quick creation of any equal-tempered scale.

## Tables in ROM

One difference between Ensoniq’s samplers and synthesizers is that a synth comes with samples in ROM. The same goes for tunings — the TS and KT synths come with

33 tunings already in ROM. These can be selected and heard by pressing the System button four times. At this point the page will show a single parameter labeled PITCH-TABLE. This parameter can be set to ROM to hear the ROM pitch tables. You will then see a display of the name of the current tuning table, probably SYSTEM. Pressing the up and down arrow keys will select the different pitch tables. They include classical Greek, Arabic, Javanese and Indian scales, as well as experimental scales such as Wendy Carlos’ non-octave-repeating Alpha and Gamma scales, and Harry Partch’s 34 note Just scale.

## Preset Bank 0 Mode

The other settings in the System Pitch Table page allow you to access your own pitch table from the system, so that all programs whose voice pitch table parameters are set to SYSTEM will use this pitch table. Setting this value to CUSTOM will select the custom pitch table.

This table can be copied from the tuning editor using its COPY command with the option of “copy to system.”

There is a special mode of the TS that allows the instant selection of up to 60 different tunings with a simple patch change. Setting the system pitch-table parameter to U1-PROGRAMS will enable this feature.

You can load an existing bank of programs which contain all the ROM tunings with multiple transpositions of these tunings. First find the TSD-100 floppy that was included with your TS and insert it into the disk drive. Press the storage button twice to access the storage page, then press the up or down arrow until the display reads TYPE=60-PROGRAMS. Select the LOAD FILE= field and select either the ETH/MOD PTS or HIST PTS files. The former file contains the Ethnic pitch tables, such as Arabic, and the modern pitch tables, such as the 19 and 31 ET. The latter contains the historical pitch tables such as Pythagorean. Since this loads a copy of the ROM tunings into these programs, this is also the only way of looking at the contents of the ROM tunings. Once the file is loaded into bank set U1, when a patch change comes in, the tuning in that patch is loaded into the system-wide CUSTOM tuning but the other patch information is left unaffected.

## KT Synths

The KT-76 and -88 contain ROM tunings identical to the TS series. Select the System page and scroll over to the pitch table parameter, then use the left-right arrow buttons to scroll through and then select a tuning.

Although you don't have the ability to edit different note and offset mappings as with the ASR and TS, you can edit the keyboard pitch modulation in a patch to create any arbitrary equal-tempered scale.

Here's how to do this: Select a sound and press Edit Sound to change its parameters. Press the button below the display marked Wave (in red) and verify that you are editing parameters for all the waves — the display will say ALL if this is true. Next press the button marked Pitch (in red) and scroll over to a page marked Keyboard Scaling. Set this parameter to OFF. At this point, playing different keys will all sound as if you played middle C. Scroll back to the pitch modulation page, which has parameters for envelope and LFO amounts and an assignable modulator on the bottom line of the display. Scroll through the modulators until you see KEYBD. Adjust the amount of modulation and play some keys.

Greater amounts of keyboard modulation will result in larger intervals for the semitone. A value of around 90 will get you 19ET, and a value of around 74 will get you 31ET. You can "tune" this by playing a set of keys and zeroing in on an octave. For 19ET, play a middle C and a G on the octave above that and tune this in so they sound like an octave.

## ESQ-1 and SQ

While these synths don't contain pitch tables, you can also use the above technique of modulating pitch with the keyboard as a modulator to create any arbitrary equal-tempered scale. Here are the details for each instrument:

On the ESQ-1, using two frequency modulation sources is the trick to getting microtonal scales — just scaling the keyboard modulation with one modulation source won't get the semitone interval size down to anywhere near 19ET. The ESQ-1's voice architecture assumes that the keyboard pitch is changing the oscillator frequency in a 12ET scaling — you can't turn this pitch mapping off like you can with the KT.

What you can do is counteract this built-in modulation with negative modulation coming in from the mod sources where you bring in LFO and other frequency modulation.

Here's a step by step procedure to do this: Bring up a single oscillator page, after muting the two other to keep things simple. Play a few keys to hear your current tuning. Press the soft key for frequency modulation source one and scroll to KEYBD using the Up and Down arrow keys or the Data Entry slider. This is one source in addition to

LFO1, VEL, etc. Set its amount to -99.

When you play some keys you should now be able to hear smaller intervals between semitones, but not quite a quarter-tone tuning. Now do the same thing for frequency modulation source 2. This should decrease the intervals even more. You can adjust your semitone interval with the modulation amount — just remember that both amounts have to be negative to counteract the existing 12ET pitch modulation. One disadvantage of this technique is that now you can't modulate pitch, not even with a pitch bend wheel. Of course if you want 8ET or some other tuning with intervals greater than 12ET the modulation would be positive because the intervals defining a semitone are greater than 12ET. Thanks for Brian McLaren for first mentioning using two modulation sources to get microtones on the ESQ-1.

This technique will also allow using the SQ-1, SQ-2, SQ-R and KS-32 in a 19ET or other microtunings. You can do this from the pitch modulation editing page. Leave keyboard tracking set to ON, and then make one of the frequency modulators KEYBD with an amount of around -97. This will counteract the regular 12ET tuning and give you smaller semitone intervals equaling 19 tones per octave. If you set keyboard tracking OFF, you can get smaller semitone intervals with the keyboard modulation set to a positive value, such as tunings of 53 tones per octave.

So there you have it — this has been an introduction to tuning on the Ensoniq synths, and will hopefully get you going exploring the musical vistas that alternative tuning has to offer.

Thanks to Tom Tracy and John Senior at Ensoniq for their comments and corrections. The next installment will cover the MR Rack and MR-61/76 and their support for the MIDI Tuning Standard. ■



*Bio: Steve Curtin is a software engineer and tuning evangelist at Ensoniq. As a Macintosh programmer he developed the ESQ-1 patch editor for Opcode Systems, and enhanced the Alchemy sample editor for Passport Designs. He's now living happily at the other end of the MIDI cable.*

# OTTO LIVES...in my PC

## The SoundScape Elite Review

Pat Finnigan

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Product: Soundscape Elite.

For: IBM PC or compatible.

Price: \$159.95.

From: Ensoniq, 155 Great Valley Pkwy., Malvern, PA 19355, phone: 610-647-3930.

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Hey gang, sorry for being away for so long. We just spun the Targa 2000 for the new PCI Macs, and 96+ hour weeks aren't real conducive to writing habits. So I apologize; buy our new board for your new Mac (shameless plug), or go see "Toy Story": that's our board at work. Take two: they're only \$5795. We can't build them fast enough, so when you think a new Ensoniq keyboard costs way too much, remember you can buy two fully blown, ported, stroked and relieved (sounds like my old high school girlfriend, Dirty Donna) ASR-10s for about what our video digitizer retails for. So let Ensoniq up, Okay? Yes, costs are an issue these days. Gig SCSI drives broke the \$300 mark this month, the Nasdaq is rising, we're not at war: ya know, life is pretty good. It's so good I decided to pitch that stinky old SoundBlaster I've been moving from 286 to 386 to 486, and decided my token PC representative 486 deserved a little attention. So hey, sold the Blaster and bagged a SoundScape. I confess to seriously considering the feature connector wavetable add-in board to the blaster, but, hey, Ensoniq made its name in sampling: let's see how Malvern silicon behaves on a diet of \*.wav files. I was going to install Windows 95 anyway (so my daughter would leave my 7100 alone), so hey, I coughed up the extra dough and went for the full-meal deal...

### Installation

My token IBM clone is a Laser 486sx/3 (w/486DX75 overdrive CPU), 20 MB RAM, 1.2 gig WD Caviar IDE HD (yeah, I read about Windows 95, too), Iomega tape backup (pseudo B:-floppy-type), Mitsumi 2X CD ROM, Midi-Quest entry level MPU401 card, 17" multiscan and Truevision Color Impact 2MB Video card. Machine is our old friendly ISA bus. Hey, I can not only sell my Soundblaster, but I can sell my MPU401 interface card, too, as well as retire that china syndrome CD-ROM interface card with the el cheapo DIP switches on it. That's

right, folks, da 'Scape is also a CD-ROM interface for Sony, Mitsumi and Panasonic ATAPI IDE 1X or 2X CD-ROM readers! Very cool, following the Ensoniq philosophy of integrated workstations. Installation was relatively easy: removing all the other flotsam cards from the buss was more time consuming. I made sure to read the installation manual to ensure IRQ's and DMA's (I've learned to hate DOS machines) didn't conflict with anything else in the system. Connected my Mitsumi CDROM to the appropriate connector and that's all there was to it. Reassembled and reconnected, booted and fed the a:> drive the Install #1 disk and followed the screen prompts. Installed! I thought about adding that high-speed Iomega tape controller at this point, but hey, we all read our owner's manuals cover to cover before we turn these things on, don't we? Sure, and I'm patient and will wait. Back into the desk drawer with the tape controller, back on with the lid, plop the monitor back on it and power it up. Now; let's critique...

### Operation

Upon installation, the SoundScape installer alters your autoexec.bat, config.sys and path files to make its presence felt. The very cool thing is its emulative modes. Type FM, and presto, it's a SoundBlaster again with cheezy 2-operator FM synthesis. Wonderful for those horrible 11-voice Axel-F demos that came with my original SoundBlaster. Type MT32, and presto: *Leisure Suit Larry's* theme: the clarinet never sounded better than when the doctor screws a new head onto Larry under the sidewalk in front of Lefty's. But type GM and well, let's begin again... [TH — *New software automatically adjusts to the correct mode.*]

### Integration: Day 1: Using with Windows 3.1

Okay, so I launched Cakewalk prematurely without configuring the drivers in the Windows Control Panel Applet ("Gee, I've never done that"), so I was greeted by ominous silence. Quit Cakewalk, configure my drivers, launch Cakewalk again and do the old MIDI in-out. Opened a \*.wrk file, and presto, yeah, same instruments, same tracks, same drum map, yeah, this is the stuff. And controllers all worked including reverb and chorus knobs (our old DSP

friend OTTO2 at work), so I disconnected the cheap A-verb box, and presto! My favorite upright bass was there, the great horn samples, the superlative sax, even the generic GM pad sounds 1-8 were good. And Ensoniq just upped the ante for soundcards: the Elite organ samples are those Joey deFrancesco gen-u-wine B3 samples. 'Scuse me, Turtle Beach, 'scuse me Roland, but this is the real stuff here in the wavetable: if you put it there to begin with, you DON'T need those extra SIMM slots to load those REAL sounds.

Okay, let's attach that stupid Joystick-to-MIDI dongle and see how sluggish the MPU401 emulation is. Hmm, no noticeable delay when I flood the In with 8 busy channels of note data and a furious channel 10 onslaught of Spinal Tap drum solo (known to be fatal, as we all know), and da 'Scape didn't hiccup, burp, or exhibit any other electronic flatulence. Hmm, Okay, let's see how much slower the CDROM is using a sound card as a device driver. Still plays Video for Windows QuickTime clips without dropping frames. Okay, let's see how posterized the Myst QuickTime movie looks: no difference from the dedicated CDROM card. Okay, let's play an Audio CD thru the included AudioStation software: hey, this is very cool: a virtual software rack stereo system! Looks like MCS to me, but free w/da -Scape! Mondo! And although the included Voyetra's Orchestrator is a bit primitive by Cakewalk yardsticks, having blinking 7-segment tricolor LED's winking at you on EACH track following velocity is a true visual treat: you don't even get those on REAL mixers nowadays. Voyetra calls them "MIDI density" meters: if it looks like a VU meter and acts like a VU meter, well...I was having so much fun I forgot to install Windows 95: haven't yet, either, although the WIN95 driver is up on the SNDSCAPE Ensoniq BBS: I just didn't want to ruin a very good and productive evening.

Okay, shell to DOS and launch Descent: oops! Reconfigure Descent for GM and launch descent; WOW! There's like, uh, guys who write GM themes for these games, dudes! And the Descent theme upon exiting the mines is unbelievable on the Elite! Oops! Remove the MIDI dongle from the joystick port and connect my Gravis Ultrapad; this must be Double Jeopardy because the scores are *really* changing now...And the SoundBlaster emulation still gives me the same whirring and clanking as I change weapons from the quad laser to the vulcan cannon. YYYYYESSSS! Ooohh, oohhh, I need a bigger room reverb for this!

## Integration: Day 2: Using w/Windows 95

I'm sorry to report here that the hardest part of installing the Elite with Windows 95 was logging onto the Ensoniq

BBS and downloading the files. Took me two hours, but it's not Ensoniq's fault: it's not my fault either: my phone service provider here in urban Indiana uses phone lines not very fault tolerant over 9600 baud, and since I don't have an ISDN line direct to Malvern, I CRC'd the files to make sure they came through intact. I printed the "Read.me" file, followed the instructions, and, well, so much for ordering the DOOM 1 and 2 upgrades, 'cause it ran fine. The only problem you're likely to notice is, since W95 is a true multitasking OS, if your game loads while the music files are playing, tempo slows down until W95 is through hammering your disk, then it's sound as usual. There's a great deal of ballyhoo about W95's handling of shared interrupts, but the Elite doesn't seem to care, so neither did I. Only wish I'd siphoned off the Developer Effects Toolkit, but I was too anxious to get 'Scaping to wait any longer. If I mail in my warranty card Malvern'll send them for free, so...

## The Roses

Ensoniq's got a *real* winner on their hands here. Elite kills three birds with one board: it replaces your CDROM interface card, MPU401 interface card, and any outboard GM module tied up to your computer. Being one card, it draws less on your power supply, generates less heat, and takes up less room. Your machine *will* run cooler. I noticed perhaps an 15-20 degree difference in the heat output of the cooling fan on the back of my computer. Ensoniq environmentalism? Works for me. Sounds are crisp and clear, and although I wouldn't jump up and sell my KT-88 over it, I don't have to run MIDI cables over to the computer anymore. Ensoniq antiumbilicalism? The bundled software apps are absolutely super for the entry level novice, and a helluva lot of fun for the professional as well. Orchestrator is a "quick and dirty" bundled sequencer with a helluva GUI, and sure to please even if it doesn't record fader movements (it ain't \$299.95, either). DOS tools (mixer, etc) are provided, although a PC clone without windows is like a Mac without a mouse. A 386 or higher platform is recommended, so just say Windows and be done with it.

What's very entertaining is the included "EasyKeys" software. Imagine a Yamaha or Casio from the Home Shopping Network; that's EasyKeys in a nutshell. Tape transport-type controls for playing tunes (the controls are on a boombox, replete w/broken antenna; these guys don't miss a lick) are present, with style buttons, LED indicators, intro/fill/end buttons, etc. My daughter loves it, so that's the ultimate complement from me (now she leaves my SD-1 alone!) The AudioStation software GUI is not quite as slick as MCS Stereo software bundled with the Windows Sound System, but is every bit as functional and then some. It incorporates the mixer control panel on top of the

virtual "rack" system for ease of level control. I do miss the rounded 3-D warm fuzzies of MCS (looks kinda like Harmon-Kardon audio equipment), but watching the virtual "cassette" reels turn when playing \*.wav files makes up for it. Objectively, the waveDAC is much quieter and less "hissier" when playing less-than-optimal 16-bit wavefiles, and sterling when fed 48K DAT samples. No volume fluctuations or "pumping" during fade-in or fadeout of both wavefiles or wavetable outputs: in fact, the wavetable output seems less noisy than most Ensoniq synths. Then again, it's not driving 30-foot high-impedance guitar cords, either. Docs are very good, and considering just how many ways you can define "multimedia," they're downright excellent.

## The Thorns

None. I don't know if the MIDI I/O is buffered as per the MPU-401 spec, but it works so well I doubt anyone'll care if it is or isn't. I'm sure to get shot at over this one, but I didn't find the choice of IRQ's 2, 5, 7 and 10 limiting at all. To someone with a scanner card, Adaptec controller, or trick video card (hmm, who could that be, now?) it might pose a problem, but I tried the Elite "Installation From Hell" scenario with an Adaptec AHA-2340 SCSI controller, a TARGA 16/32 video capture board (guess who makes that?), Logitech ScanMan 32, and Wacom CAD/CAM tablet. Took about two hours, and they said it couldn't be done, but I've got two minute video clips of DOOM playing with John Madden-style X's and O's drawn in while shooting aliens, all this while being captured by our TARGA board while spooling this thru that Adaptec controller @ 2.8 Mb/sec., output to NTSC 640 x 480 30 frame/60 field (actually 29.97 fps, but whose counting?) video, with the Elite doing both the music from its GM wave set and the Blaster sound FX emulation, all simultaneously. Bulletproof, so go ahead and shoot.

## The Goods

The SoundScape, in spite of its unusual IRQ and DMA choices, is one helluva sound card. It's closest competitor is the Turtle Beach Maui, and you've got to add \$150 of SIMM memory to get the good samples into it for playback. AND it doesn't sport any DSP, so you get no reverb, chorus, etc. The Roland RAP-10 is close to its equal in the GM department (since GM is a Roland spec, they should set the standard), but its handling of \*.wav files and Soundblaster emulation pales by Elite comparison. \*.wav files are crisp and clear on the Elite, where, on the RAP-10 they get a -12db/octave EQ treatment above 14k. The *Keyboard Magazine* article claimed the SoundScape sounded "thin and nasal"; the Elite sounds

anything but. Big fat analog sounds, boomin' basses, and clear FM-type bell tones abound. I did notice a bit of "zipper" noise on the "Level Control" fader the installer drops into your Windows startup folder, but only when I was madly torquing the fader from full off to full on 7-8 times a second. Since the Elite uses a 16-bit DAC, as well as a 16-bit A/D-D/A CODEC (COmpresser-DECompressor) driven by its own Motorola 68000 CPU, it's not lying their sucking up host CPU cycles or inserting wait states till it's done: 'Scape's got a mind of its own, thank you very much, so you won't drop audio frames while your CD-ROM polls the buss to pass video. No TSR's to load or unload; in a word, glitchless.

The GM wavetable is good, clear, and representative of the GM set; drums are punchy, the cymbals a little swirly, but crisp and defined. I'm not going to go into sonoral subtleties of the card, guys: it's a General MIDI card. Don't sell your TS-10 just yet. It's utilitarian: it's not supposed to be a killer synth for \$159. If you're expecting that, sorry to disappoint you, cause da 'Scape ain't. 'Scape is the Ensoniq injection of fun, value, performance mix of bang-for-buck that an overly saturated and stagnant multimedia market so desperately needs. I'm SOOO tired of walking into a computer store's "multimedia" area just to be sunburned by blue and orange boxes and irritated by tinny little 3" speakers that promise a "multimedia" experience that I welcome any differing thought to shake that stereotype. And Ensoniq is just the company I like to see pushing that definition to the next level, 'cause Sega and the Hedgehog just don't give me a chubby, in spite of all the media blitz. "(E)nos lives" spelled backwards is evil Son(E), and that's indicative of the Playstation. No, I welcome Ensoniq to the fray: their confidence is so high they offer a 30-day money-back guarantee if you're not happy with your Elite for *any* reason. Find that in the fine print of a Creative Labs or a Turtle Beach product. Once again, Ensoniq is playing for keeps with that kind of guarantee, and determined to change the way we define "multimedia." And you know, I can guarantee you one thing...

They sure make it sound better... ■



*Bio: When not answering broadcast video-capture questions for TrueVision, Pat is a tech support person for RasterOps, a company that makes video boards and monitors. He still uses a B-3 for a keyboard stand.*

## Jorgen Teller, Bip Bop! (Robert Zantay, et al)

Robert L. Wertz, Nathaniel Reichman, Robert Yashinsky, Avereed (James Avery and Bertrand Reed), Fred Bass and George Stock

As we scramble to get current on the mountain of tapes and CD's to be reviewed, we urge any artists whose work appears during this catch-up period to write in with an update on how to contact you, or news of any new works you have in the hopper. Now, for this month's selections...

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CD: *My Inner Ear* (c) 1993.

Artists: Jorgen Teller with Jakob Brandt-Pedersen and Jakob Draminsky Hojmark.

Contact Info: Hesselgrade 4,3 tv., DK-2100 Copenhagen 0, Denmark, phone: 45-31203316.

Equipment: Ensoniq, Roland and Akai samplers, bass clarinet, Pitchrider, 6 sonars with MAX (sic), vocal recitation, and a spiral tower.

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If you would enjoy filling your soundscape with something *really* different, heady, meaningful and challenging, then this CD is a must-listen. Teller describes "*My Inner Ear*" as "a concert for three samplers in the spiral corridor of the Roundtower in Copenhagen, based on non-heard sound material." My fantasy is that these guys, armed with portable DATs, reduced themselves to microbe size a la the old sci-fi flick, *Fantastic Voyage*, and traveled through the human body recording all the noises we normally don't get to (or want to) hear, taking side trips through computer components and other electronic stuff for a few non-human sounds, returned to normal size, dumped their sounds into their samplers, played them in the acoustically amazing Roundtower (an architectural spiral, like the cochlea in the inner ear), recorded the performance, and released it on CD.

How did they organize the material for the performance? "The placing of around 100 sounds and the text in 3 movements of 6 parts was done by tossing I Ching coins 18 times" (remember that when trying to come up with a song list for your next gig). What does it sound like? The technology is transparent, the sounds are extremely organic and natural, except when electronic sounds are clearly intended, and even then they serve the higher purpose of exploring sonic space, ambiance, dimension, and texture. The sounds emanating from even my lowly boombox create seriously palpable textures, reminding me of extremely high fidelity recordings of the pops and squeaks inside your sinuses, echoing through the corridor of the Roundtower. The track "*Eustachian Tubes*" could induce panic in a reed player,

sounding like death by suffocation from choking on a sax mouthpiece. We are treated to frog farts echoing up the spiral; a bass clarinet solo played inside your lung; raindrops on upturned wooden bowls. All this is interspersed with periodic vocal recitations of text which sound like narrations done by that nerdy looking guy in the Waveboy ads. The overall feel is like a Laurie Anderson performance, but without the tension she tends to build. It's more like Teller and friends are saying, "Sit back, relax, and listen to these sounds; we know they are sort of everyday sounds, but just listen to how they echo up this wonderful spiral, and think about how sounds travel through your own inner ear, giving you a sense of physical space and balance — your body's own gyroscope." The artists' fascination with the material is contagious.

What can we learn from this project? (1) There are no limits to what you can do with sound. It is healthy to expand your boundaries of what constitutes "music" or a listening experience. (2) When technology serves art, the results can be emotionally powerful. (3) If you can't afford a Lexicon PCM-80, just fly to Copenhagen and mix down in the Roundtower.

These guys are serious about sound, and have an amazing passion for exploring the outer- and inner-limits of the aural landscape. This is a stunning CD!

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Tape: *Bip Bop!*

Artist: Bip Bop! (Robert Zantay, et al).

Contact info: Bip Bop! Productions, 236 E 75th St #4A, New York, NY 10021, phone: (212) 288-7370.

Equipment (Zantay): Ensoniq VFX and EPS-16+, Yamaha WX-7, Oberheim Xpander, Casio VZ10m and 8M, Emu Proteus, Kawai KS, Akai S-1000, Roland D50 and D110, Korg DW8000.

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"The beat of Hip Hop + the heat of Be Bop = 3D Bip Bop!" So begins the liner notes for Robert Zantay's *Bip Bop!*, a foray into jazz idioms as revelatory as Charlie Parker's (then) daring new harmonic style, claims Zantay. This is serious jazz by serious musicians with tour and session resumes that could spill over into the next issue of the Hacker. In addition to Zantay, who controls the above shoot-load of gear from behind a WX-7 wind controller, Bip Bop! includes Allen Gerber on keys, Kasper Galli on

guitar, Clive Bullard on bass, and Jim Mussen on drums. The studio tracks were recorded "live" into Voyetra's Sequencer Plus, and the live tracks were recorded using a portable cassette sitting on a table at Le Bar Bat (NYC) on 4-28-93. Highlights:

*Are We On The Outro Yet?* — "Rap meets Bip Bop!" says it all. If you can't imagine a cookin', expressive solo using an orchestra hit sample driven by a wind controller, then you need to hear this to believe it.

*Walkin' It* — A walking bass line over a hip hop beat along with a catchy melodic hook add up to make this tune a standout.

*7 Cum 11* — A hip hop remix of the original Benny Goodman tune, complete with synth scratches. Another canvas for Zantay's excellent soloing.

*Chameleon* — Another hip hop redux of the Herbie Hancock classic jam. I would classify this as "techno hip hop."

*Blues For A New Age* — An extremely effective merging of Miles Davis lead stylings, with a new age feel provided by synth pad beds. Production-wise, the best track on the tape.

*Do Bum Blues* — One of the four live tracks, this is a wonderful jazzy blues featuring Zantay "scatting" with his WX-7 driving vocal "Do" samples on his EPS-16+.

Robert Zantay's musicianship far outshines his use of MIDI technology, which is by no means slothful in itself. But wonderfully phrased, zesty jazz solos sometimes suffer from the use of cliched or overused samples. This kind of expert musicianship deserves equal attention to sound design. Most synth parts were played on the WX-7, making this tape an excellent showcase for alternate controllers. The music of Bip Bop! is a fresh approach that should appeal to all jazzoids.

### Short Takes

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Tape: *Alice* (p) (c) 1993.

Artist: Robert L. Wertz.

Contact Info: Ivory Creations, 916 W Stephenson, Freeport, IL 61032, phone: (815) 233-4416.

Equipment: Ensoniq EPS-16+.

---

"Alice" is a music score composed by Robert Wertz for the New Expressions Dance Theater's production of "Alice In Wonderland." Sequenced entirely on the EPS-16+, this working copy of the score shows creative use of different keyboard sounds to represent the various characters in the

play. One hopes the final recording will lose the overly-quantized feel evident in the work-in-progress.

---

Tape: *Samothrace* (p) 1993.

Artist: Nathaniel Reichman.

Contact Info: n/a.

Equipment: Ensoniq SD-1/32, ASR-10, Yamaha RX120 percussion module; mastered to analog tape (Teac X-2000M), then "remastered" in real time on the ASR-10 for EQ and compression; copied to cassette.

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Nathaniel Reichman is passionate, and it shows in every track of this techno-rock/experimental/industrial collection of instrumentals. He tastefully wrings every ounce of juice from his gear to weave mostly upbeat yet emotional techno-tracks. If you like Front 242, Tangerine Dream, Yello (to mention a few of Nathaniel's heroes), you'll love this; it's classy music. Nat — if you're reading this, please send your current contact info!

---

Tape: *Offshore Dreams* (p) 1993.

Artist: Robert Yashinsky.

Contact Info: 307 Wadsworth, Bloomfield Hills, Mich 48301, phone: (313) 642-6129.

Equipment: Ensoniq KS-32, Roland TR-505.

---

Writing in the jazz/pop genre, Robert Yashinsky offers some excellent lite jazz modulations and great keyboard chops. While his simplistic melody lines don't do justice to his complex-yet-accessible progressions, and the percussion tracks at times feel choppy, fighting with the keyboard parts, this tape still works. If you wish Yanni had an injection of jazz, check out *Offshore Dreams*.

---

Tape: *Sea of Love* (c) 1994.

Artist: Avereed (James Avery and Bertrand Reed).

Contact Info: 318 Lake Ave, Ithaca, NY 14850, phone: (607) 273-7312.

Equipment: Ensoniq TS-10, EPS-16+, SD-1/32, Alesis SR-16, Digitech Vocoder.

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Avereed, "the DJ's with hundreds and hundreds of parties and thousands of dancers satisfied," continue the nautical theme in *Sea of Love*. This duo knows how to craft crowd-pleasing tunes, from soulful ballads anticipating the birth of a child ("*Gonna Have A Baby*") to political rap ("*Taxman*," apropos at this time of year), to funk-dance and even gospel ("*Baptized*"). While more attention should be paid to vocal pitch and phrasing, their sales success ("100 tapes in just 3 weeks"; sounds like a DiscMakers ad!) proves Avereed is on the right track. You gotta love a couple of guys who pose with their beloved Ensoniq 'boards!

Tape: *Stock-Bass Demo* (c) 1994.

Artists: Fred Bass and George Stock.

Contact Info: Fred Bass, 17 Schussler Rd, Worcester, MA 01609, phone: (508) 755-4859.

Equipment: Ensoniq SD-1/32, Gibson SG Standard, Tascam 464 4-track, Alesis, Digitech and Lexicon effects.

No, this isn't from the Dept. of Fisheries. Songwriting duo Fred Bass and George Stock present a three-song demo of conservative Christian pop. Simplistic melodies and arrangements are consistent with sermonette lyrics, reminiscent of Don Francisco, evangelistic folk-pop balladeer of the '70s and '80s. The vocals are outstanding in pitch and timbre, including wonderfully thick and lush background tracks, and the overall production quality is high. Keep working on those lyric-writing chops; when you start combining lyrics of depth with more memorable melody lines, then your message will go down more easily. ■

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

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

### Tapes Recently Received

*Collected Compositions 1996* — J. D. Ryan

*Love Today* — Glenn Govot

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



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



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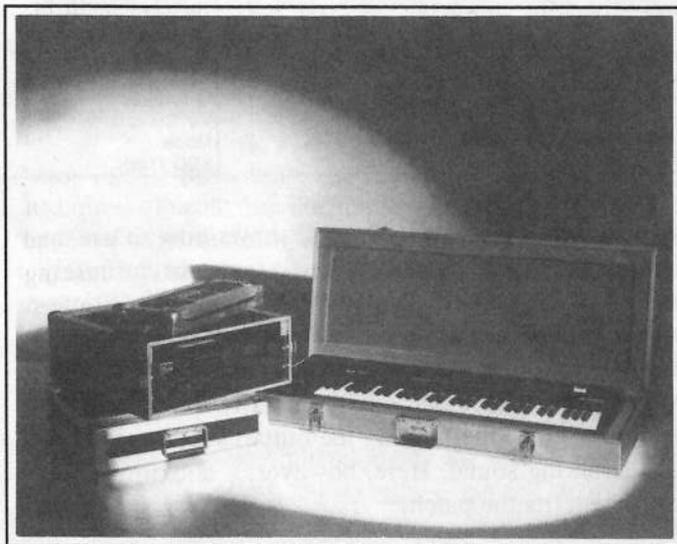
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Prog: Popcorn In Space

By: Jeff Jetton

Notes: Another fun, one-voice patch that you have no excuse not to load. Staccato notes yield an echo effect,

while held notes create an arpeggiator effect. The mod wheel provides a resonant filter sweep.

WAVE	1	2	3
Select Voice	On	Off	Off
Wave Class	Transwave		
Wave	Resonant 3-X		
Delay Time	000		
Wave Direction	-		
Start Index	00		
MODSCR	Wheel		
MODAMT	+99		
Restrk Decay	45		

LFO	1	2	3
LFO Speed	27		
Noise Rate	00		
Level	00		
Delay	00		
MODSRC	Max On		
Wave	Sawtooth		
Restart	On		

AMP	1	2	3
Initial	99		
Peak	99		
Break	99		
Sustain	99		
Attack	00		
Decay 1	00		
Decay 2	00		
Release	55		
Vel-Level	33		
Vel-Attack	59		
Vel Curve	Linear		
Mode	Normal		
KBD Track	+28		

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

FILTER	1	2	3
Filter 1	3LoPass		
Filter 2	1HiPass		
FC1 Cutoff	080		
ENV 2	00		
FC1 KBD	07		
MODSCR	Wheel		
MODAMT	+20		
FC2 Cutoff	010		
ENV2	00		
FC2 KBD	00		
FC1MOD-FC2	Off		

OUTPUT	1	2	3
VOL	80		
Boost	On		
MODSRC	LFO		
MODAMT	-93		
KBD Scale	00		
Key Range	-		
Output Bus	FX1		
Priority	Med		
Pan	00		
Vel window	000		

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

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

EFFECTS — CHORUS AND REVERB			
FX-1	25	FX-2	40
Decay time	35	HF Damping	40
Chorus Rate	16		
Chorus Depth	40		
Chorus Center	50		
Feedback	-50		
Chorus Level	72		
MOD (Dest)	-		
BY (MODSRC)	-		

**The Hack:** : "Popcorn In Space" shows how to use an LFO, set to a sawtooth wave, to create an infinitely repeating envelope. The patch is a close cousin to "Lemongate," which appeared back in Hacker #121 and used a square wave to emulate a keyed gate effect. You might remember that Lemongate's LFO actually modulated the filter cutoff, since modulating the output section tends to cause a clicking sound. Here, however, a clicking sound actually benefits the patch!

Once again, the first things you'll want to adjust are the LFO speed, which controls how fast the echoes occur, and the AMP envelope's release time, which controls how long the echoes last. This patch uses a Transwave (a

waveform whose frequency spectrum is designed to change over time) for its single voice, and the modulation wheel is set up to sweep through it. All of the other Transwaves sound good, too, so feel free to try them out. Heck, even the pipe organ waves produce an interesting, "Who-like" effect.

*Bio: Jeff Jetton is a Nashville-based keyboard player who is perhaps best known for coining the word "Who-like." Many of his previous Hacker articles and Hackerpatches, all of which deal with the KS-32 and its relatives, are available via the World Wide Web at <http://www.telalink.net/~jjetton/>.*

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

## Envelopes and Oscillators,

### Oh My!

#### Part 8

*Clark Salisbury*

Welcome back, SQ-1 fans. As you'll recall, last month we spent some quality time with envelopes and filters, and a couple of issues back we looked at envelopes and the amplifiers. This time out, let's check out one of the more overlooked applications of envelope generators, the control of oscillator pitch.

Now why would anyone want to control oscillator pitch from an envelope generator? A couple of reasons, actually. One is that many acoustic instruments exhibit a slight pitch shift at the attack of a note, particularly plucked instruments like the guitar and banjo (as well as many drum and percussion sounds.) You can recreate this effect by using an envelope to modulate the pitch of a voice. Using an envelope allows you to control how much pitch bending takes place, whether the pitch bends up or down, and how long it takes for the pitch to return to its normal, unmodulated state. For an example of this technique as it applies to a more synthetic texture, select the program called "Super Pad" (ROM sound #40) and examine the Pitch menu for each of the two voices used. You should find that voice 1's pitch is being modulated by envelope 1, with an amount of -60. This gives the sound a rather ethereal, otherworldly attack, as the two voices start out rather heavily de-tuned, but gradually come closer together, pitchwise. You might want to examine the parameters associated with envelope 1 to see the values the programmer used to achieve this effect.

As a matter of fact, noting what the various programming pages are doing in a sound can be an excellent tool for learning about how other programmers approach the task of creating sounds — definitely one of the best ways to learn a lot of cool tricks for sound programming. Whenever you hear something on the SQ that you like, make a point of browsing through the parameters to get an idea of how the sound is created. Solo each voice to hear what its contribution to the overall sound is, check out filter and envelope settings, pay attention to what waves are being used, and so on. You might be surprised at the nifty ideas you can pick up just by doing this.

At any rate, let's work with an example of envelope-controlled pitch shifting. We'll start by creating an "analog" (synthesizer) brass sound in the old-fashioned way — using the sawtooth

wave, rather than any of the brass waves.

First, select ROM sound 07, the "L.A. Brass" sound — we might as well start with something that's not too unlike what we want to end up with. Hit "Edit," then "Wave," then button "0" — you'll note that the sound uses two voices, voices 1 and 2. Voice 1 is assigned the "Brass Ensemble" wave, and voice 2 is assigned the "Trump Variation" wave (as you'll recall, you can inspect and edit wave assignments by selecting one of the voices and hitting the number "1" button). First, change the wave for each of the voices to the "Sawtooth" wave, located within the "Waveform" waveclass. You now have a rather raw-sounding analog brass patch. Let's class it up a bit.

First, make sure "ALL" voices are selected for editing, hit the "Filter" button, and then button "1." Bring FC1 (filter 1 cutoff) down from "012" to "000" — this will mellow the sound out a touch. And as long as we're fooling around, let's de-tune the two voices slightly. Now head back at page "0" of the "Wave" menu, select voice 1 (make sure that the "SelectVOICE:" parameter is set to "ONE" now instead of "ALL"), hit "Pitch" and button "0," and set "Fine" tuning to "-04." Likewise select voice 2, but set its fine tune parameter to +04. Now that we've made a couple of basic changes to this patch, let's get on to the matter at hand, which is a look at the use of pitch envelopes.

Select voice 1 for editing, and move to the pitch modulation page (press "Pitch," then the number "1" button). Set the value for "Env1=XX" to "+99." Envelope 1 is always hardwired to control the pitch of a voice, but in most cases the modulation amount is set to "00," so no pitch modulation occurs. What we've just done is set envelope 1 pitch modulation to its maximum positive amount — "+99." (Pitch modulation can also be negative.)

You'll notice, however, that changing the modulation amount has no discernible effect on the sound — not yet, anyway. Let's head over to the "Env1" page — press "Env1" and then button "0."

It should become immediately apparent why envelope 1 seems to have no effect on the sound — all of its times are set to "00." Even though level 1 is set to 53, the envelope runs its course, and ends at a level of 00, in 00 time — why, that's no time at all!

Ah, but try setting time 1 to a value of, say, 50, and the effect becomes immediately apparent, with voice 1 swooping down in pitch to match voice 2.

This is all very well, but perhaps not too useful a sound — especially if you need to play anything faster than about a whole note. But try setting time 1 to a fairly short value — say 10 or so — and the effect becomes interesting. Now instead of hearing that rather seasick downward pitch bend at the onset of a note, the pitch change will happen so quickly that we won't necessarily hear it as a distinct pitch sweep, but more as a "blip" at the beginning of the note's attack. This can be a useful effect when you need to punch up the attack of some types of sounds, including those in the brass family. You might try shortening time 1 even a bit more — I prefer a value of around 4 or 5 for this type of thing. Now the pitch bend becomes very subtle, but notice that the attack of the sound has a good deal more bite than it did when we began.

This same sort of little bend at the beginning of a sound can be used very effectively to punch up lots of different kinds of sounds. As I've already mentioned, many of the plucked-string family of sounds, such as guitar, bass and banjo can benefit from this technique, as well as a number of drum-type sounds. And many horn and other wind instrument patches can be made to have a bit more "bite," as we've just seen in our analog brass patch.

This just about wraps up our discussion of envelopes, at least for now. However, before I sign off, I'd like to leave you with a few tips and ideas regarding the use of envelopes in your day-to-day existence.

The first tip is really a caveat, and that is this: you need to keep track of what all the envelopes in a program are doing. Why? Because when you're using multiple envelopes, it is possible for one envelope to sabotage what another is doing.

Let's say that you're working with envelope 3 (the AMP envelope) and you decide it might be nice to set up a rather long release time. So you head over to envelope 3, select [time 4], and set its value to a fairly high number, "40." But nothing happens. As a matter of fact, no matter what you set [time 4] to, the envelope always seems to decay much too abruptly. So what gives, here?

Chances are that if you head over to envelope 2, (the envelope that's normally routed to the filter), you'll find that [time 4] on this envelope is set for some relatively low value, and that this envelope is being used to control filter cutoff — you can check out the latter by hitting "Edit," then "Filter," and scrolling. If one or both of the filters' (FC1 or FC2) cutoff points is set to a

relatively low value, and either or both of them have the "Envelope2=XX" parameter set to a relatively high value, then bingo! Envelope 2 is "closing down" the filter(s) (allowing the filter's cutoff point to return to a low value) before the sound has had a chance to go through the complete release cycle set at Envelope 3. Since the filter is removing most or all of the sound's harmonics, there's no sound left after envelope 2 has run its course — so the effect of envelope 3 on the release time of the sound is not audible.

Once you have a handle on what all the envelopes in a sound are doing, you might want to try a couple of things out. For example, since envelopes, (like most of the modulators), can be applied with a negative or positive value, there are some interesting effects you can achieve by routing similar or identical envelopes (or LFO's or whatever) to similar or identical voices, but with opposing polarities. You might try modulating two similar voices from two similar envelopes, but give one a positive modulation amount and the other a negative modulation amount. The effect will be that of the pitch of one voice moving up while the pitch of the other is moving down; this can be particularly spooky using the "Vocal Ooohs" or the "Vocal Ensemble" waves and lots of slow envelope modulation.

By the way, don't forget LevV (velocity control of envelope level) and AtckV (velocity control of envelope attack time). These parameters allow you to control how the envelope responds to velocity, influencing how much pitch-shifting takes place by how hard you play the keyboard, for example, or at what rate the pitch shift happens.

Another idea might be to use one Amp envelope to fade a voice out, while another Amp envelope is fading another voice in. This gives you a way to control cross-fades between to different sounds, or to create stereo panning effects if the two voices are panned opposite in the stereo field.

Anyway, that should give you enough to stay busy for a while. See you next time! ■



*Bio: Clark Salisbury's into music and sound design.*

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TH -

I am interested in buying a used ASR-10. Are there any modifications in hardware that would make this a bad idea, or is it just the software that is different? Would I be able to get 3.0?

Dr Dave

[CS - As far as I know, the hardware for the ASR has remained unchanged; although both the software and firmware have been upgraded. The current ASR OS version is 3.53, and you shouldn't have any trouble obtaining a copy; Ensoniq has it posted at their web site (<http://www.ensoniq.com/>), as well as on CompuServe (go MIENSONIQ), and perhaps other places as well. Current version of the ASR firmware (EEPROM) is 1.50 (3.50 for the ASR-88). You can check the firmware version of any ASR in question by pressing Command, then Env 1, scrolling two ticks to the right, hitting Enter, and scrolling two more ticks to the right.

If you find you need to upgrade the firmware, it shouldn't be any big deal. Cost should be minimal (under \$50.00 or so, I think), and the operation itself just involves swapping a chip or two.]

[TH - You can now also find 3.53 at our ftp site.]

Hi,

I've got an ESQ-1 that needs a good boot - or reboot. I recall reading in an old issue of the Hacker how to do this myself. Could someone remind me which two buttons I have to press?

Thanks,  
Jeff Moore  
Boston  
JMOORE@WARREN.MED.HAR-  
VARD.EDU

[CS - If I'm not mistaken, press and hold the Record button in the sequencer keypad, and press the "soft" button in the top left corner above the fluorescent display. The message "ERASE ALL MEMORY AND REINITIALIZE" will appear. Select \*YES\* to proceed,

or \*NO\* to cancel (remember, reinitialization will erase both sounds and sequences from the ESQ's internal memory).]

[OCadena@aol.com - I am not sure if this is what you want but here it goes...

7. Factory Internal Programs Reloaded After Reinitializing: When the memory of the ESQ-1 is re-initialized (by holding down RECORD and pressing the upper-left-hand "soft-button" (I think the sequencer track buttons), then answering "yes," the 40 original factory sounds will automatically be reloaded into the ESQ-1's internal program memory, as part of the reinitialization process. This also erases sequencer memory and any programs that were in the internal memory at the time.]

[Ensoniq - Original sounds are only loaded with O.S. versions 2.3 and higher. It is also a good practice to tune filters after reinitializing - to do this, press and hold Record, then press Filter.]

Aloha,

I am working on resurrecting an EPS "Classic" (with the extra RAM module) and getting it to work with a hard disk - most likely a Syquest cartridge drive that I have. (I am exploring the world of hard disk recording with Deck II at the same time.)

Most of our diskettes have become moldy and unusable due to the humid climate where we live. The disk drive may also be on its last legs. I have heard that it is possible, but I have had a hard time getting info from Ensoniq (a lot of this may have to do with my time schedule and the 5 hours time difference). Do I need a special SCSI card or adapter? Can I put the EPS OS on the hard disk? (I have found the info on the Mac utility, etc. on the OAK WWW Page.) I do not seem to find many sounds there - are there places to download/and or purchase sounds? Can I live without the diskdrive (which I see from other postings cost \$120 to replace)?

Last but not least, how much of your magazine's coverage is relevant to users of the older EPS machines? You (and the OAK

folks) already qualify for sainthood for having these useful www pages - I will gladly send my subscription in, if I am not wasting any trees.

Mahalo!  
David Fisher  
Maui, Hawaii  
dfisher@maui.com

[CS - You will need a SCSI adapter to use a hard drive with your EPS. Hopefully, SCSI kits can still be ordered from Ensoniq; I seem to remember the price being about \$250.

Yes, you can put your OS on your hard drive (or Syquest drive, or whatever). Of course, the OS will originally come from a floppy disk, so try to keep your floppy drive limping along for as long as possible. And yes, I suppose you could live without a floppy drive. You'll have to resign yourself to backing up data to another hard-drive (or to other Syquest cartridges) by manually loading the data into the EPS then saving it to the backup media. Also, you won't be able to use floppies for obtaining new sounds (although I imagine you've thought of this).]

[TH - The large degree of compatibility among the samplers has let us do an awful lot of stuff that applies to all of them and to keep publishing EPS material whenever we get it. We'll send you a copy of the current issue so you can better decide.]

[Ensoniq - The SP-1 SCSI kit is what you need. It can be ordered from your local Authorized Service Center for \$199.95. It requires that you have an ME-1a or ME-2 memory expander to work.]

Hacker:

First of all, I've been enjoying your publication for many years. I own an ESQ-1 and a Mirage (along with other assorted dinosaurs) and have been making MIDI music for about four years. By the way, I've had virtually NO problems with my Ensoniq gear.

Three years ago I sent in a tape for review. Imagine my surprise to see it critiqued in the March 1996 issue! I really appreciate the fact that it was finally heard. Much has changed

since 1993. I'm now in San Francisco, I've written much more since the "City Lights" tape (the one that was reviewed) and I will be submitting a more recent tape for review. In the meantime, your readers are welcome to drop by <http://www.creative.net/~duane> to check out a few clips from two of my latest efforts. This site also has some clips I wrote to attach to different system events on a PC or MAC (opening a file, error message, etc.) which are available for downloading.

Once again, thanks for listening and for putting out a great publication.

Duane Frybarger  
890 Geary St., #25  
San Francisco, CA 94109  
[duane@creative.net](mailto:duane@creative.net)

[TH - Well, thank you! Sorry about the long lead time. As you probably read in the last issue, we're doing some serious catching up. We're looking forward to getting the more recent tape.]

TH -

I was wondering which was widely considered the better synth: The VFX or the SD-1?

Thanks,  
[kingnod@earthlink.net](mailto:kingnod@earthlink.net)

[CS - Since the SD-1 is the direct descendant of the VFX, most would consider it to be a more sophisticated instrument. The SD-1, for example, includes more wave ROM, a number of new, improved samples, and a bit broader MIDI implementation, among other things.]

[GNormand@aol.com - I have owned two VFX-SDs and even though they can't play quite as many notes as an SD-1 (24 vs 32), somehow I have managed to make a ton of money with them. I sold them and got a TS-12. It will do a lot of neat things, but lacks some neat things the old VFX could do. Have fun.]

TH -

My VFX died last night - or at least appears to have. I had it on, I looked down and everything was fine. A minute later the screen was full of G0000 (0X's overlapped and other strange characters). I restarted several times, the buttons and keys won't respond. The OS never comes up - just G0000!!!!

Suggestions.....Help!!!! I need this item back in service. I am able to solder. I tested the power supply and it appears to be functioning, that is, putting out 4.93v and 11.92v respectively.

Have I burned the ROM or the Bios? Can I get new versions of ROM/OS for this machine? It was using version 2.00.

Please email response.

Thanks for your time!  
Kip Chatterson  
[kiprc@tenet.edu](mailto:kiprc@tenet.edu)

[CS - The best thing, of course, would be to get the machine in to an authorized service center (a list of service centers is available, I believe, at their web site. In the meantime, you might try this.

Turn the power on and off about ten times, at one second intervals. Many of Ensoniq's instruments can be reinitialized in this way. If you can resuscitate your instrument, perform a normal reinitialization next (after backing up any important data, if any remains).

This procedure is implemented in the early stages of a new instrument's design so that a method for reinitializing exists during initial development of a machine's OS. This may not work with your VFX, but it's probably worth trying.]

[Ensoniq - If we had to guess we'd say it sounds like a keyboard assembly problem. Take your unit to an Authorized Service Center and we will get it back up and running for you.]

TH -

I produce house music, remaking classics. So this tool is essential for me.

Whenever I sample, for example, a 16-bar vocal section from a song averaging 101 bpm to 125 bpm, I do my conversions and the whole procedure, get my percentage, set my quality at 99 and wait my time and then I test the outcome. (Here's the punch.) The ASR-10 will cut off half of my sample. But when I set the quality to 10, the sample is whole but the quality isn't acceptable.

Maybe this is because I have only 4 meg of RAM?

Christopher Obrien  
Jackson, TN

[CS - Sounds to me like you've probably answered your own question. Good job of it, too. So I'm taking the rest of the week off.

It seems logical that you may be running out of memory, but we'll be passing your question along to Ensoniq, so stay tuned for more possible info.]

[Ensoniq - Not knowing what OS you are using makes it hard to trouble-shoot what the problem is. First step - be sure you are using OS 3.53. If you don't have it you can get it from our Web Site (<http://www.ensoniq.com/>), or call Customer Service at 610-647-3930.

Your small memory is definitely an issue - the ASR needs enough room to process the sample and offer the new and old versions for you to audition. It seems likely that this is the problem.

We also don't recommend going to quality level 99 - it does take a long time! If 10 isn't good go up to 20, or perhaps to 40. The difference between 40 to 99 is probably not discernible enough to be worth the wait time. Time not an issue? Go ahead, the PROCESSING display has a nice calming effect...]

Hi.

I am trying to record sequences created on my SQ-80 into a PC equipped with Cubasis. Although all of my tracks on the SQ and within Cubasis are both set to different MIDI channels, the SQ sends all sequencer info to the one channel in Cubasis that is recording. I am aware CUBASE has a function that will let you remix to separate the tracks, but I cannot upgrade at this time. I have been told that there is a software program available that converts SQ sequences to a standard MIDI file. Does anyone know where I can get this program?

Thanks,  
Todd A. Miller  
Velocity Music Productions  
[toddm@idirect.com](mailto:toddm@idirect.com)  
<http://www.idirect.com/users/toddm.html>

[CS - What you're probably thinking of is one of the sequence converters available from Giebler Enterprises (26 Crestview Drive, Phoenixville, PA 19460; Phone: 610-933-0332; Fax: 610-933-0395). These programs are intended to provide a relatively painless way to transfer sequences between your PC and the synth of your choice. And yes, the SQ-80 is supported.]

*[Ensoniq – Another workaround would be to record each track separately into CuBase. Set all your tracks on the SQ except track 1 to LOCAL, and record into a single track on the computer. Then set track 1 to Local and set track 2 to BOTH and record that pass into another track on the computer, and so on, and so on until you've got all your track recorded. It takes time, but it will work.]*

TH –

I own an ESQ-1 that I love to use for quick ideas. However, the unit sends and enacts random modulation and data entry messages both internally and externally. For example, I can be using the unit without any problem, then suddenly, while in the sequencer, with the cursor on the tempo, the tempo will begin to change up and down in minor and extreme increments. The same thing happens when I am editing any designated parameter. I can see the MIDI signal on my MIDI activity monitor.

Of course when I put it in the shop, they can't find any problem because the synth won't do it. What could the problem possibly be? I can't afford THE EXORCIST!!!

Any help would be appreciated.

Thanks,  
ReggieB@eworld.com

*[CS – My guess is that you have a faulty data slider. What happens is the slider randomly fires off some data or other, affecting whatever parameter is currently underlined. One solution is to install a new data slider (I'd check with Ensoniq Customer Support for this). Another way to go is to make sure you never leave important parameters (such as tempo) underlined while sequencing.]*

*[TH – Sometimes a little spray can of contact cleaner can fix something like this – if it's not sealed or inaccessible...]*

*[Ensoniq – Make sure any contact cleaner you use has the phrase "safe for plastics" clearly printed somewhere on the label.]*

To: webers@transoniq.com  
Subject: EPS-16+ General MIDI drum kit sample?

Heeeelp! Do any exist? Ensoniq Corp told me that they haven't mapped any drum kit diskettes to the MIDI standard. Very strange, eh?

I would like to play my PC MIDI files through my EPS-16+, but then I'd have to re-map the keyboard/instrument/etc to have the drums sound correct... Yipes! I thought Windows 3.1 was difficult, try it in Windows95! It won't even allow me to do it! (At least not simply...)

Can you help me?

Thank you for your time...  
Mojones  
alla@usa.pipeline.com

*[CS – Actually, I think that several GM-compatible drum kits are available on CD-ROMs from InVision Interactive (415-812-7380). And it wouldn't surprise me if one of the major vendors – Rubber Chicken (800-877-6377), Eye & I Productions (800-726-7664), etc. – also had GM-compatible kits.*

*On the other hand, it's really not that big a deal to re-map drums in an Ensoniq sampler. Detailed instructions for doing so can be found at Ensoniq's Compuserve forum (go MIENSONIQ), or the documents can be retrieved via Ensoniq's fax-back system (800-257-1439). Or, just give them a call (610-647-3930), and ask them to send you the instructions.]*

*[Ensoniq – Clark is correct, there are GM-mapped kits on many of our CD-ROM disks, including CDR-4, CDR-5, CDR-12, and CDR-15. Our AS-6 floppy collection also has GM drum maps, but it is on HD disks, which your EPS-16 PLUS can't read. These kits are included in CDR-4 – that's where you can get to them.*

*If you want to remap some kits yourself, go to document #0007 on our Fax On Demand System (1-800--257-1439) for some help.]*

TH –

What is the way to know at what speed a 120 bpm beat on c2 will play at c#2, d2, etc.?

We want an article on how to transfer hard disk to CD ROM (details).

Is it true that the ASR-10 can play 31 voices, but can't play more than eight different samples at the same time (eight voices poly-timbral)?

How can I "turn off" the "parity" on my 44-meg Dynatek removable cartridge drive so my disktrack works properly?

Bravo to Ensoniq and Transoniq for their great work.

Alain Leymonerie,  
Club Internet  
Montreal

*[E. Becks (erb@freeway.net) – An octave has 12 essentially equal intervals over a 2 times frequency change. Thus each interval results in a frequency that is the 12th root of 2 times faster. (Grab your calculator.) So N keys up the keyboard will give you 2 raised to the N/12 power faster frequency. Your bpm's will pass more quickly so multiply bpm of the sample by 2 to the N/12ths power. Going down the keyboard divide by 2 to the N/12ths power.*

*I generally use the formula for wave period as opposed to frequency – which swaps the multiply/divide.]*

*[CS – Creating a CD-ROM for your sampler isn't difficult. Just make an exact image of the final CD on an Ensoniq-formatted hard disk (take care to put your files and directories in the order you want them on the final disk), and use your CD-recorder to make a disk-image of that.*

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

*The ASR-10 can play as many different samples as it has notes of polyphony. Since each ASR instrument can contain up to 128 wavesamples (spread across the eight possible layers), you have access to as many as 1024 samples at any point in time (128 samples multiplied by eight instruments).*

*What the ASR has only eight of is Instruments, which means that it can't respond to more than eight MIDI channels at a time. Since a single instrument can produce a number of different sounds simultaneously, though, this doesn't need to be a limitation.*

*As far as turning off "parity" on your Syquest drive, I'm afraid nobody on this end can offer you any advice. I'd suggest getting in touch with Dynatek, and firing your question at them.*

*By the way – while you're out net-surfing, you might look around for a program called*

"StudioPal" from Harmonics Systems. Apparently, it performs all types of audio-savvy calculations, including calculations which will address these particular problems.]

[Ensoniq - 3) The ASR-10 has a total of eight instrument locations. Although you can only play these eight instruments simultaneously, the "instruments" can consist of many different samples (for example, a drum set with many different drum sounds across the keyboard is considered one "instrument"). The ASR-10 is 31 voice polytimbral with dynamic voice allocation - you can play multiple notes of the same timbre, multiple simultaneous timbres (either the eight instruments or any of the timbres that make up the instruments) or any combination. With the proper combination of multiple-timbre instruments, it would be possible to play 31 different timbres simultaneously, but in most circumstances 31 different timbres wouldn't be available. Regardless, you can always play 31 voices simultaneously, but recognize that some instruments consist of multiple layers which use more than one voice per note.

4) Syquest 44 drives are not recommended for disk tracks. Also there is no parity on 44s that we have seen.]

Transoniq,

I just read the review on MR RACK by Pat Finnigan, and he said some interesting things. First he mentioned that the MR RACK is the only module that can reach 84 MB when the JV-1080 can. He also says that Roland is only capable of using the leftover expansions from the JV series and throwing a power supply and having individual expansions for a crazy price when you can have a MR RACK that holds three. Well, the JV-1080 can hold four and is quite impressive and is generally in the same ballpark in price.

P.S. I love the ASR-10 but want to know if there's a new sampler with some modern features on the way.

FrankieVe@aol.com

[CS - The rule is, there's always a new (sampler, synth, sport-utility vehicle, etc.) with newer, cooler features on the way. As far as a replacement for the ASR-10, though, we haven't heard of anything imminent. But then, we don't necessarily know more than anyone else about new releases from Ensoniq.]

Hi Eric and Jane,

I just finished reading #129 with the lead story being "The Name is Rack. Mr Rack!" by Pat Finnigan.

Now, I am a longtime supporter of Ensoniq, and still have three units, keys, sampler and effects, but I bought the Roland JV1080 a year ago last October, like 17 months back,

and I now have four added boards in it for over 1700 patches with all the effects. I would have bought MR Rack, but there wasn't any. It seems to me the MR Rack is me-tooing it - too little, too late, and this guy Finnigan is carrying on like he lived in a cave. What's the deal? Is the Hacker the only thing he reads?

Regards,

## 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). E-mail address: elfa@ozemail.com.au; their web site at <http://www.ozemail.com.au/~elfa>; or e-mail their resident clinician, Michael Allen, at [mallen@geko.com.au](mailto:mallen@geko.com.au). Phone calls, Business hours - Victoria. (03) 480-5988.

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

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

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

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

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

**VFX, SD32, and EPS-16+ Questions** - Dara Jones, Internet: [71055.1113@compuserve.com](mailto:71055.1113@compuserve.com) or call 214-361-0829.

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

**SQ-80, VFX Questions** - Robert Romano, 607-898-4868. Any ol' time (within reason) EST.

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

**EPS, EPS-16 PLUS, & ASR-10 Questions** - Garth Hjelte. Rubber Chicken Software. Call anytime. If message, 24-hour callback. (612) 235-9798. Email: [chickenEPS@willmar.com](mailto:chickenEPS@willmar.com).

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

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

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

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

**ESQ-1, MIDI & Computers** - Joe Slater, (404) 925-8881. EST.

Bill Forrest,  
San Jose, CA  
bforrest@ix.netcom.com

*[Patrick Finnigan – Okay, enough flames about the JV1080 already. The R box is twice the size (two rack spaces) and, with a 2Mb PCMCIA card in addition to all four expansion slots filled inclusive of internal WaveROM, comes to 42Mb – which, if Mr Forrest comes out of the woods to do the math, is half the MR Rack capacity. True, the JV1080 and the expansion board idea is a Roland first, but I didn't mean to get into a "chicken or the egg" diatribe. Sorry if it appeared so. I stand by my assessment of the new Roland rack modules: take the lid off of one and check it out for yourself...]*

*[Pricewise, MR Rack wins hands down. Now, back to my cave, sir...]*

*[CS – For what it's worth, I've had a fair amount of experience with both the JV-1080 and the MR rack, and I have a lot of respect for both products. Both machines sound wonderful and both provide for upgrades via expansion boards. The Roland provides more to choose from in terms of expansion, but it's been around longer. No doubt the MR will begin catching up soon.]*

*While the two units don't sound alike, it's tough to say that one sounds better than the other. I think I'd leave it up to the individual to decide which one gets the nod for sound.*

*One can be a bit more objective about programmability, though. While the Roland provides some excellent sound-shaping tools (I'm particularly fond of the multi-mode resonant filters, the dual MIDI-syncable LFOs, and the flexibility provided by the various "structures"), I think you've got to give the nod to the MR. With up to 16 layers per voice, Transwaves, shift-able sample split points, and so on, there's much more potential for sound warpage in the MR (note, though, that you have to have a computer – Windows or Mac – to do real sound editing on the MR).*

*Ultimately, the decision to buy an MR or JV-1080 will probably come down to which machine's sound appeals most to your particular taste. The two instruments are worthy competitors, though, and that's a good thing for consumers.*

*By the way, you might want to check out the review of the MR in this month's Keyboard magazine.]*

*[Ensoniq – BTW, the MR also has syncable LFO's.]*

Hi there!

Asking for assistance!

I recently purchased a program called INFINITY from Jupiter Systems, but (painfully) the tool which transfers samples between my EPS Classic (called ASR\_SCSI) doesn't do anything other than quit!!!

I'm using a PPC 8100 with the newest release of OMS and an Opcode Studio 4. If I'm going to attach my old Atari computer to the setup with GenWave, transferring data works fine. Do you have a clue what's going on with this software?? (OMS is working all right, it doesn't seem to be a setup problem.)

Thanks for your help!  
achim.froehlich@giessen.netsurf.de

*[CS – ASR\_SCSI was developed by Steve Berkley and licensed to Jupiter Systems (now known as AnTares Systems). Though the program's copyrighted by Ensoniq, they never intended to distribute or support it, so I think your best bet is to keep in touch with AnTares Systems for support and (hopefully) upgrades. I've used ASR\_SCSI on several different Mac systems, but never on a Power PC, so I suppose it's possible that the current version (now at 1.39b, I think) doesn't work on the newer Mac models.]*

*I tried checking in at Steve Berkley's ftp space (ftp://ftp.crl.com/ftp/users/rolsberkley/Utilities/) to see if I could find any info on (or perhaps a newer version of) ASR\_SCSI, but couldn't find anything helpful. Perhaps one of our readers can shed some light...]*

*[Ensoniq – That utility was written by a fine gentleman by the name of Steve Berkley. He has his own company now called BIAS Software, which makes an excellent Mac sound editing package called Peak. (Steve, make the check out to Jerry...)]*

*I would contact him at 415-331-2446 or Sberkley@crl.com for any insights.]*

To All Who Attempted to Help –

Greetings, I am very thankful for all of the help your group gave me as I attempted (and finally succeeded) to repair my ESQ-1.

She's humming again and I am eternally grateful.

You are all great!!!!!!  
Lloyd S. Mandula  
Gideon Film Group

TH –

I subscribe to paper version of TH, use a TS-12, EDM, Cakewalk, and Soundvert. I have two questions that TH may be able to help with:

1) Does anyone have current email address for Tim Dorcas – the author of Soundvert. I'm interested in updates and have technical questions and suggestions. The Soundvert documentation has an email address that does not seem to be functional.

2) From the level of technology I would expect that TS-12 should match or outperform an Allen Organ. Are there Allen samples out there? Or really great sets or pipe organ samples? (I have the Rubber Chicken CD with its few samples.)

E. Becks

*[CS – 1) I couldn't find an email address for M. Dorcas, but I did find an analog address you might try writing to: Tim Dorcas, 17 Kipling St, Providence, RI 02745.]*

*2) I'm afraid I don't know of TS-12 compatible any pipe organ samples. Readers?]*

Hi folks!

1. I am looking for a Windows-based sound editor for Ensoniq's KT-88. Does anyone know where I can get such an editor (commercial or shareware)?

2. Is it true that there are only 8 MIDI channels available if you use the KT-88 with an external sequencer software like Cubase?

Please answer to my e-mail address:  
(st.schmalhaus@wiesbaden.netsurf.de).

Thanks in advance.

CU on the bitstream...  
Stefan

*[CS – 1) I know of no shareware editors for the KT series, but that doesn't mean that none exist. You might want to cruise over to Michael Hyman's most excellent Ensoniq Resources on the Internet guide (http://www.netaxs.com/~mikeh/ensoniq.html). You may find a link or two there that'll lead you*

to something useful.

As far as commercial programs goes, you might want to look into Mark of the Unicorn's universal editor/librarian, "Unisyn," which is reviewed in the April issue of Keyboard (Mark of the Unicorn, 1280 Massachusetts Ave. Cambridge, MA 02138 (617)576-2760; fax (617) 576-3609). You might also want to check with Sound Quest Inc. They sell a universal editor/librarian for the PC, (and MAC, Atari and Amiga) called MIDI Quest, as well as individual editor/librarians for specific synths. Sound Quest can be reached at (800) 667-3998, or via the Internet at 76702.2205@CompuServe.com.

2) You can get 16 channels on the KT-88 by entering GM mode. Of course, this limits you to the GM sound bank; the normal complement of KT sounds is unavailable when in GM mode.]

[Ensoniq - 1) Clark is correct, Unisyn does have full KT support.

2) Yes, in regular multi-timbral operation the KT has 8 parts. GM mode will give you 16, but limits you to the GM soundsset.]

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Hi Hacker,

Tom Shear wrote in eTH130:

"FM: No Static At All?"

"You've heard me say it before. If you like to program your own samples, there are few items more essential to your EPS/ASR toolbox than the Waveboy disks. One of my favorite is the Resonant Filter disk. I hope whoever the engineer was who convinced synth and sampler manufacturers to stop putting resonance on their filters got fired."

Let me put it the other way 'round: Maybe we should fire those synth and sampler manufacturers who convinced their engineers to stop putting resonance on their filters. ;-)

PS: I agree with your verdict on the Waveboy Reso+FM-Disk, Tom. Simply a must.

Dietz / ASL  
Dietmar -Dietz- Tinhof  
Music-SoundEngineering-SoundDesign  
dietz@atnet.at

---

TH -

I have been a subscriber since 1994 and find

the issues very interesting.

I own TS-10 and I use it mainly for live performance. My problem is that I can not master transpose the keyboard. For example, transpose -1, +2, etc.

I use the keyboard in program and preset modes, and I need to transpose both with a simple key press. Could you please, please help??? Any ideas...

Please reply on my email address: kiran@prismles.com. Also, please include my question in Transoniq magazine.

Thank you very much,  
Kiran Thakarar

[GNormand@aol.com - No, there isn't a master button. I have a TS-12 and wish there were such a tool. Make your preset - I do key bass on bottom, keys and strings on top with the strings on the CV pedal for volume-touch your transpose keys and move all three sounds where you want them. Save to the adjacent preset location, and when you need to immediately transpose, just press the adjacent preset button and you're in a different key. If you are only going 1/2 key either way, a speedy way is master tune-slide it up or down all the way.]

[CS - I think GNormand has a couple of excellent solutions. Thanks, GNormand!]

---

TH -

I am purchasing a new keyboard this year and I was reviewing some of the specs to the MR-Workstation and it looks like it will be a winner. I was also impressed with some of the features on the TS Series. I wanted to see if it's worth my while to wait for the MR-Workstation.

Q1. It says in the brochure that the MR-Workstation can load ASR/EPS samples. Can it load these samples like the TS-10/12? Will it load and play it completely with all of the effects, mapping, velocity, aftertouch, etc.? (The same way the TS-10 can just load up and play an ASR sample.)

Q2. Will The MR-Workstation be SCSI compatible?

Q3. Will the MR-Workstation have most if not all the features that the TS-10/12 had, except for maybe Hyperwaves and only a 16-track sequencer?

Q4. How much are you expecting your FLASH memory boards to cost (range)? Will I also be able to save programs, sequences, and songs on the Flash memory boards?

Q5. What type of wave expansion memory will there be and how much will they cost (range if possible)?

Q6. Will I be able to audition all edits before saving changes like the TS-12?

I know these are a lot of questions, but it is very important to me in my decision-making process of what keyboard to buy.

Jamal Hartwell,  
jlh9@pop.cwru.edu

[Ensoniq - 1) The new MR-61 and MR-76 will be able to load ASR/EPS samples and \*.WAV files from floppy disk only into an optional Flash memory board (MR-Flash). The board will offer 4 MB of Flash memory and retail for \$299. You can use up to 3 Flash boards if you wish. This feature will not be available in the first release, but will follow shortly.

ASR/EPS sounds will load in with near perfect translation - but the effects will not be translated, as the architectures will be very different. Also you should note that Flash memory takes a while to write to, so you will not be changing sounds between songs etc. It will allow you to configure a group of sounds/wave data that is totally of your choosing and then always have it available (think of it as a user-configurable expansion board). When you want to change a sound you can, but it is not fast-performance oriented.

2) There will be no SCSI option for these keyboards.

3) The MR's will be mostly different from the TS - they use the new voice architecture and ESP-2 effects like the MR-Rack. The Idea Pad and Drum Machine are totally new concepts, and the sequencer is a new model allowing for 16 tracks and SMF compatibility. (Just as you all have been asking for!) We have even changed our disk format to an MS-DOS compatible format. See, we are listening!

4) MR-Flash will retail for \$299. It only holds wave data - the sounds etc. have to be stored into RAM locations, and can be saved to disk. When the MR loads a sample from disk it will automatically create the needed program in RAM for you.

5) We have already announced that MR wave expansion can be up to 24 MB per board. See the announcement about EXP-1 in the front of this issue for more details. Future boards will include a 20 MB Dance/Hip-hop board for \$425, an Orchestral board, drums, and others. Stay tuned – we'll announce more details as they are ready.

6) I'm not sure of this (at press time).]

TH –

Can anyone tell me if there is a way to read Mirage formatted disks on the PC? My Mirage disk drive went south and I can't afford to (or really want to) have it repaired, but I would like to keep the sample library I have accumulated over the years. Please help if you can.

Thanks...  
Manuel Silva

[CS – The "Ensoniq Diskette Manager" from Giebler Enterprises claims to be able to read, write, format and copy any Ensoniq format disks on a PC. Contact them at 26 Crestview Drive, Phoenixville, PA 19460, phone: (610) 933-0332, fax: 933-0395.]

Hi everyone,

I have an ASR-10 with which I am very satisfied. I am looking for pure sinewave samples at a range of frequencies to experiment with. Does anyone have and/or sell such samples?

Thanks,  
Al Finn

[CS – Sine waves are pretty easy to generate using any of the sample editing software available. I use Alchemy, personally, but you might find it a bit expensive just for a few lousy sine waves. However, you may know someone who has access to Alchemy, or something like it, who could help you out with the editing.

Another thought would be to borrow or rent nearly any synth, and certainly any analog synth, and just sample its sine waves. You could sample them at a variety of frequencies, or simply get one good sample and transpose it in the ASR.

Finally, if you're trapped on a desert island, you can generate a square wave on the ASR. Simply boot the machine, create an instrument, create a layer, and create a wave-

sample. The resulting sound is a bi-directionally looped square wave. If you then apply heavy filtering to the wave, you should be able to turn it into a sine wave. Resample this wave, replicating and transposing as necessary.]

Dear Transoniq Hacker,

Hello there, friends! I have had a problem using my TS-10 with a Cakewalk PC setup, and I can not postpone this letter any longer. I need to make full use of my Ensoniq instrument! I am asking for your help, please?

My setup includes the following:

\* A TS-10 Synth with OS version 3.05 (connected to the MIDI IN/OUT of a AWE32 Sound Blaster in my PC).

\* A Roland SC-88 Super Canvas (connected to the "THRU" port of the TS-10).

\* Cakewalk Pro. 3.01 for Windows running on a 486 66MHz PC.

The sound out of the TS-10 goes to the sound INPUT of the SC-88 for mixing then the SC-88 sound output goes to a sound amplifier.

The problem that I have not been able to overcome is that I don't seem to be able to access any of the U0, U1, R2, R3, R4, TS sound banks from my Cakewalk setup. Cakewalk comes with a TS-10 instrument bank definition already setup, and even though Cakewalk's Track/Measure screen displays the proper bank patches names, the TS-10 only displays and plays the General MIDI Sound Map. It appears that the TS-10 is not receiving or is ignoring the patch change commands from Cakewalk. I have read the TS-10 Musician's Manual many times and even bought the EVS3 and EVS4 Ensoniq videos but still can not fix my problems.

I have tried both the "Ensoniq" and "Cakewalk" fax on request services and I did pick up good information and tips but I still have not been able to fix my problems.

I have set the "PROG-CHG" switch to ON in the TS-10 (transmit and receive program changes over MIDI).

I am confused as to what Bank select method the TS-10 uses! Is it controller 0? Is it controller 32? Is it both? Or does it use Patch change (program change) events to change

banks?

Is there a document that will show me the proper numbers to use for controller 0 or 32 to send to the TS-10 from Cakewalk?

By the way, I am able to access all sounds in the SC-88 with this same setup.

Last question: Can "SysEx" messages be used to change MIDI program set up on the TS-10 just before I start a sequence-play-back from my PC? I am confused because somewhere in the TS-10 documentation I read that "when in General MIDI Mode, the Universal SysEX General MIDI Off message is the only SysEx message that will be received; all other SysEx messages are ignored." Do I send my SysEx messages before entering MIDI mode? Has anybody compiled a list of common SysEx messages for the TS-10?

Even though I am a novice in the MIDI world I do look forward to and enjoy reading your magazine. Please keep up the good work!

I appreciate any help and pointers you can offer.

Thank you very much,  
Guillermo Pena  
pena@chips.com

[CS – You say that when you send bank and program change messages to your TS-10, it will play only sounds from the GM set. This would indicate that your TS is in GM mode, in which case it won't respond to normal TS bank and program change messages.

If you haven't put the TS into GM mode on purpose I'd guess that you are playing back GM-compatible sequences which include a "GM-ON" message (this should show up as a short sysex string at the beginning of your sequence – probably on track one). Deleting this message may solve your problem. If you've been enabling GM on your TS for some specific reason, you'll need to decide which is more important to you – to have your TS respond correctly to GM program changes, or to have access to the standard complement of TS-10 sounds. The two are mutually exclusive.

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

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

As far as using sysex messages to control aspects of the TS-10, what your manual is trying to tell you is this: the TS-10 will not respond to sysex messages when it is in GM mode, with one exception - the message which turns GM off. If you wish to use sysex with your TS, the TS cannot be in GM mode.

Ensoniq will provide you with details regarding the TS-10's sysex implementation. Send them a request (in writing) for the TS-10 MIDI spec. Address your request to the MIDI Spec desk, Ensoniq, 155 Great Valley Parkway, Malvern PA 19355. You might also be able to locate a copy via their fax-back system (800-257-1439), or perhaps on their web site.]

[Ensoniq - Also note that there is no provision for SysEx control of parameters that have an existing MIDI controller, for example program change numbers.]

TH -

I have an ASR-10 and I have two questions. Why is it that when I sample a drum loop at 30 kHz and adjust it to a set tempo, it changes quality wise and time wise when I change just the effect to a 44-kHz effect? It shouldn't do that should it?

And, I was wondering if you could tell me if you know of anyone who has made a vocoder effect for the ASR-10. I've talked to Wave-Boy Industries about their voder disk. I was told that this disk was not exactly what I'm looking for. I just want to know who I should talk to to see about having this effect created for me - if the ASR-10's architecture is capable of doing this.

Micah Demetrius Otis

[CS - I'm not sure I exactly understand what it is you're asking, but do you think that's going to stop me from trying to answer your question? Of course not.

First, it's possible that if you sample a sound at 30kHz, and then change the pitch by a small amount (a couple of ticks or so) you can hear a small change in the quality of the sound. This has to do with the way the ASR interpolates to make pitch changes. This, however, should not be a factor when you play back a 30kHz sound at 44kHz. Neither should the tempo of the sound change, simply because you've changed the playback rate.

My advice is to get in touch with Ensoniq customer service and take them through this process with you, to see where things may be going haywire.

Oh - and I don't know of any vocoder effects for the ASR. Unfortunately, creating a new effect algorithm for the ASR (or any digital effects processor) is not trivial. It would be a lot cheaper to just buy a doggone vocoder, rather than to hire some gigabucks-per-hour software geek to spend weeks creating the code for you. If the ASR could support it, that is.]

[Ensoniq - The ASR-10, like all digital audio devices, processes audio at a specific sample rate. The sound generator and the effects processor must run at the same sample rate, since they are communicating digitally. That is to say, the output of the sound generator is not converted from a digital signal to an analog signal and then fed to the effects processor where it is converted from an analog signal to a digital signal for processing. The digital output of the sound generator is fed directly to the digital input of the effects processor. For this to work, the sample rate of both systems must be the same. Therefore, when you change to a 44-kHz effect, you are changing the sample rate of the entire system. At the higher sample rate, the bandwidth is increased and aliasing is reduced, which improves the quality of the signal. Although the system attempts to compensate for the pitch/tempo change that would normally occur when a sample is played back at a different rate than it was sampled at, there is a limit to how far it can go.

When dealing with time-critical samples (such as drum or rhythm loops) you should only play back the sample at the rate it was sampled at. If you want higher fidelity, sample at the 44-kHz rate. If you need more sample time, use the 30-kHz rate.]

Hi there,

My name is Arthur Perkins and I'm the proud owner of an EPS sampler.

My problem is this: I am trying to download samples from the EPS into a PC using Samplevision for Windows, but the program always pulls down the same wavsample regardless of the wavsample I requested. I am using v2.49 of the EPS operating system and v1.03 of Samplevision, along with Windows 3.11.

Can anybody help?

Thanks,  
Arthur Perkins  
atrain01@castle.net

[CS - I'd suggest getting in touch with Rubber Chicken (800-877-6377), distributors of SampleVision. They should be able to give you a hand.]

[Gvran Ekstrvm, 100337,3217@compuserve.com - A few months ago another letter was published from an ASR-10 owner who, like myself, was having the same problem. I managed to get the attention of a guy called Ted Hermanson from Turtle Beach who was very helpful. It took a couple of weeks to sort out the problems (there were some believe me, not just the "same sample" problem) with the EPS/ASR driver and I now have a working Samplevision for Win <-> EPS setup.

Contact Turtle Beach and ask for the updated EPS.DLL file. Mine is dated 1996-02-24 and is 92120 bytes large.

Oh, there is one small problem/quirk left with this driver. In my setup, the EPS-16+ must be in EDIT mode or SV4WIN timeouts. Took me a while to figure that one out! Not really a problem if you remember it. I can also recommend getting a SCSI connection for sample transfers, it works really great with the Adaptec 2940 SCSI card I have.]

TH -

Where can I find VFX patches for my Macintosh?

Greg Duel  
duelg@peak.org

[CS - I'm afraid VFX patches won't work on you Mac; you'll need a VFX to use them

(sorry - I couldn't resist).

Most of the usual vendors (Eye & I, Sound Source Unlimited, etc.) have patches for the VFX. Whether or not they can supply them in a format readable by your Mac is something you'd have to ask them.

Ensoniq, of course, also has patches, but you'll have to purchase them on cards, an expense I assume you're trying to avoid. If you're interested, though, you can probably get an idea of what's available from them at their web site.

In the meantime, try pointing your browser at Michael Hyman's most excellent Ensoniq Resources on the Internet guide. (<http://www.netaxs.com/~mikeh/ensoniq.html>) This should steer you in a helpful direction.]

---

Howdy dudes and dudettes!!

Help me out folks. I want to access some of these samples out here in cyberville - but, doggone it, I've got a MAC!! Looks like to me that those "Boys" over there at GIEBLER are totally STUCK on the ol' diesel IBM machines. Can you guys help me figure a way to use my Mac Q605 to get samples from the NET into my ASR-10? I can't spring for one of those POWER Macs just yet and I sure don't plan on getting an IBM-DOS-WINDOW / BGates any time EVER (again).

In closing - I betcha, there's more musicians on Macs than any other platform. Or maybe, it's just there's "more better" musicians. Right?

Thanks in advance  
Davo  
[davidbell@coastalnet.com](mailto:davidbell@coastalnet.com)

[CS - First of all, start by checking out Garth Hjette's "From Cyberspace to your Ear," available at the Hacker's ftp site. This should tell you pretty much everything you need to know to get going.

If you're just looking for a way to move samples between your computer and ASR, head over to Steve Berkley's ftp space (<ftp://ftp.crl.com/ftp/users/rolsberkeley/Utilities/>) There you'll find a Mac program called scEPSi, which allows you to transfer samples between your Mac and your ASR (or EPS) via SCSI or MIDI.]

---

Sirs:

A friend is looking for an Ensoniq TS-10. He wants me to locate one, buy it and bring it to him in Russia. Can you help me? Are there sources for pre-owned units of this model?

Thanks for your help,  
Fred Ward  
[ward@centuryinter.net](mailto:ward@centuryinter.net)

[TH - You might try a small (freebie) ad in our Classifieds.]

---

TH -

I want to begin this message to The Interface by saying how much I enjoy owning my TS-10. I like the sounds, the feel of the keyboard and the many other features. Something that probably doesn't get praised enough is the onboard sequencer. From what I've seen it has to be the most complete hardware based sequencer while still being the quickest to operate. I have not yet had the need to get a computer involved in my system.

Having made music with this great instrument for a while now I wanted to request my current three wishes from the Ensoniq genie as follows:

1) Sample Edits - When I read the manual on this subject I can understand the basic architecture of the sample section and the program parameters seem to pretty much match the synth section but somewhere in the middle I get lost. I've been able to deal with single layers but something eludes me when there are many to deal with. I think I need more detail than is in the manual on what the display is telling me and how to navigate around the layers. Could one of the excellent HACKER writers who owns both a TS and an ASR do a series of articles walking us through this ?

2) Resonant Filters - I've read the exchanges on this in the past but I still want to record my vote. Polyphonic filter sweeps of hyperwaves would be exceptionally cool.

3) MIDI Sample Dump Standard - I've been reading the various schemes for converting samples in other flavors to TS format but I have not yet seen a possibility that would easily create original waves within my setup short of the purchase of an additional full sampler. Just recently, however I had an idea when I saw that the "Y Company" is producing a small hand size phrase sampler using flash ram that will send its wave data out in MIDI Sample Dump Standard. If the TS

could be upgraded to read MSDS wave data into its disk drive in Ensoniq format, the gap could be bridged to creating custom samples. This would be a pretty powerful scenario with a very portable sampling front end, processed by all the power of the TS (aided by wish #1 above). A next best alternative would be for one of the innovative code heads out there to write a PC disk utility to do the conversion.

P.S. At the next Transoniq Hacker Peoples' Choice Awards my vote for "Best Article Title" ("Polygamy and Memory Failure...No, sorry - Polyphony and Memory Shortage") goes to Paul Rowland for the March, 1996 issue.

Garry Wasyliw  
Regina, Sask., Canada

[TH - Robby Berman assures us that an article on sample edits is in the works.]

[CS - When looking for sample editing tips, don't neglect TH back issues. We've published a number of features dealing with sample editing operations for the EPS and ASR series (EPS and ASR editing environments are nearly identical). EPS coverage started with Issue #35. If you ask real nice, maybe my cheerful and talented editor will send you a listing of back issues...

I wouldn't hold my breath waiting for Ensoniq to implement MSDS on the TS-series. In the meantime, though, there are several utilities available for PCs that will allow you to manipulate samples and save them to Ensoniq-compatible diskettes. I'd suggest getting your hands on a copy of Garth Hjette's "From Cyberspace to your Ear," which originally appeared in TH Issues #122 (August '95) and 123 (September '95) for starters. That should help to get you pointed in the right direction.]

---

Hacker:

I have an Ensoniq TS-12 (no SCSI or memory expansion). I'm looking for a sample of the famous electric grand piano, the Yamaha CP-80. Can you help me?

Thanks,  
Lucio Gregori  
Sao Paulo, Brazil

[TH - Anyone?]

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## ASR - TS SIMM Memory



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