

# Transoniq

# Hacker

The Independent News  
Magazine for Ensoniq Users

## Understanding Envelopes in the VFX and SD Synths Part 6 — Applications

Robby Berman



Well, let me start off by apologizing for the delay in getting this final installment out to youse all (Good Robby — start out on your knees). My normally bucolic — okay, comatose — existence was interrupted by a couple of action-packed, fun-filled months working on a special project with the Ensoniq crew down in Malvern. I had a great time getting to know the gang there; in fact, I had such a great time that I didn't get around to writing this final article 'til now. I took lots of pictures — maybe I can put together a little photo spread for the *Hacker* to let you all see where your instruments are born.

Also, since our last episode ran, the *Interface* has received a couple of really nice letters about this envelope series. The letters mean a lot to me; thanks very much for the kind words.

And now, without further dieux-dieux...

So far in our series, we've spent a lot of time explaining how envelopes work. Now it's time to talk about using them.

### Living on Default Line

Though we touched on the built-in default envelopes back in Part 2 (Issue #96), I didn't want to get into them in detail at that juncture. More confusing than helpful — such neophytes were we then. But no more.

Ensoniq has kindly provided a number of the most common envelope shapes pre-programmed into your VFX/SD — the default envelopes. The idea is that you can just dial the appropriate one up to use as a starting point when building your own; they can spare you much grunt work. Very helpful. On some occasions, you may find them only rough approximations of what you had in mind; other times you might not have to customize them at all.

But, hey, that's the future. Since the defaults cover all of the most common envelope applications, they're even handier than Ensoniq intended; they provide an excellent, um, default syllabus for this article. By the way, when I was down at the factory, I asked some of their experts how they liked to use envelopes, and it turns out that a number of their favorite applications are represented in the defaults.

Let's get to it. Don't forget to peruse the

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envelope pages as we go through them, to see what's a-goin' on.

First, load in our original RAW WAVES program. Now press the Env 3 button, the Copy button, and then the soft button under DEFAULT. There are two things you must remember in order to painlessly call up the default envelopes: 1) You must always press an envelope button before pressing the Copy button to access the defaults, and 2) Whichever envelope button you press will determine which envelope the default will be applied to. After you finish this article, you might find it interesting to check out Chapter 10 in your *Musician's Manual*; it's all about the incredibly useful Copy functions.

Back to our story. Scrolling up and down at this point will show you the 17 default envelope shapes. Select SLOW STRING and press YES. This will "recall" the SLOW STRING SHAPE into Envelope 3. Play a chord real softly — the sound fades in like a soft string section. Now play a note with some force — aha, the VEL-ATCK setting of 41 on Envelope 3's third page means that the strings now jump right in, like real strings played hard.

Go back to the defaults and recall the PIANO DECAY envelope shape. Play and hold a note. Even though RAW WAVES uses a string wave, you can hear how the note slowly fades down in volume as you hold it, just like a piano note would. It's a good programming idea to practise being able to imagine components of one kind of sound grafted onto another. Of course, you can also press the Wave button, the upper left soft button, and then set the wave to GRAND-PNO (yeah, I know it sounds ratty — there's no filtering on this poor necked wave). SD owners can dial up the PIANO-16 wave way up in the PIANO-SOUND wave class (press the top middle soft button and scroll up to get there).

Ensoniq Sound programmer Ray Legnini enjoys using envelopes as an extra vibrato source. Let's try out the REPEAT TRIANG, REPEAT RAMP and SLOW LFO defaults. These use the REPEAT mode on the third envelope page to make the envelope shape recycle over and over. They're used most commonly with Envelope 1 to add vibrato to pitch, though they can also be put to good use when shaping filtering, panning or volume. Reselect RAW WAVES. Press the Env 1 button and go ahead and recall REPEAT TRIANG. Press the Pitch Mods button, select ENV 1 as your MODSRC on the top row and set MODAMT to +50. Play a key and watch it — I mean, listen to it — wiggle. Now try out the other two.

Next up is a default that uses a favorite technique of Ensoniq's customer service rep for the southeast U.S., Al Blake. Reselect RAW WAVES again. Now press the Wave button, press the middle top soft button and scroll to the WAVEFORM wave class. Press the left soft button in the top row and scroll up to SAWTOOTH. Press the Filters button, lower the cutoff to 10 and set ENV 2 to +99. We're doing all this to allow us to hear how the BRASS FILTER default envelope

can shape the lowpass filtering.

Press the Env 2 button, the Copy button and DEFAULT. Play a note or two to get a sense of what the SAWTOOTH wave sounds like without any filter enveloping. What the BRASS FILTER envelope is used for is to create a horn attack and swell, most typically with synth-based horn sounds (and sometimes with sample-based ones as well). Now scroll to BRASS FILTER and select YES. Play and hold a note (or chord) to hear what this does to your filter. Familiar? Don't forget to scrutinize the LEVEL and TIMES pages to see how it's accomplished. Interesting how enveloping the filter like this can affect the sound's dynamics, even though we're not shaping the volume section of the program, per se (although the sound certainly gets louder and softer as frequencies are allowed to pass or get filtered out).

The WIND PITCH default envelope will show you one of senior programmer — and the WAVEBOY himself — Bill Mauchly's favorite uses of envelopes. Reselect RAW WAVES, press the Wave button and the middle top soft button, and then scroll up to the BREATH-SOUND class — the first wave, WOODFLUTE, is the one we want. Recall the PIANO DECAY default envelope into Envelope 3, so that we'll hear the note trail away a bit. Now press the Pitch Mods button and turn Env 1 up to +06. Press the Env 1 button, the Copy button and DEFAULT. Scroll up to WIND PITCH and select YES.

Before you play a single dang note, press the Env 1 button and look at the values there: they're all 99 except for INITIAL, which means that the pitch will start out at the manual setting and then go up, right? Wrong 'em, Boyyo! Remember, now — the hard-wired Envelope 1 on the Pitch Mods page has a special bipolar talent (see Part 4, Issue #99). The value in the SUSTAIN field sets the numerical point above which the pitch will be driven sharp and below which it will be driven flat. Therefore, our INITIAL setting means the pitch will start out below the manual setting (since it's 0 and SUSTAIN's set to 99), before quickly jumping up to it — this simulates the instant it takes a real wind player to get his or her breath into the flute. It'll remain there until the key or the sustain pedal is released, after which it will dip under 99 on its way back to zero, with the pitch flattening to mimic the cessation of the wind player's breath. Cool, huh? You can use this when simulating any breath-driven instrument.

Take some time to try the other defaults. They'll all work to some degree on volume (Envelope 3); check 'em out on pitch, filtering and panning, too, to see what ya like. Just don't forget to enable each envelope after you recall a default into it. That is, if you want to try out a default envelope on Envelope 1, don't forget to turn ENV 1 up — or select it as a MODSRC (and turn up the MODAMT) — on the Pitch Mods page. Likewise, to play with Envelope 2, turn up ENV 2 on the Fil-

(Continued on page 4)



# Front Panel

## RND (🎵🎵)

### Third-Party News

This in from Garth (Rubber Chicken) Hjelte: "Yes, one more thing — Dave at Maartists called me back, in response to attempts on reaching him on SCSI interface information. They're still in business — Ensoniq thought they weren't. However, the EPS SCSI interface is discontinued, and they have none left. They have a limited amount of memory expanders, though. I get many calls on Maartist's SCSI interface and its availability — lots of folks have the Memory Expander and want to go SCSI now."

### Famous Hacker News

Reader Paul Santamaria reports, "Thanks for the great review of my music in #98. My next project is a new television show starring John Ratzenberger (Cheers' Cliff Clavin) that will be 52 weeks a year, nationally broadcast on cable networks. I am the sole music composer for each episode and will execute everything on the ASR-10." Congrats, Paul — have we mentioned our new Basement Tapes Alumni Fund?

## HYPERSOFT NEW PRODUCTS

**Ethereal Pop Primary School** announces the release of *Etherealbase* disk organizer. This is a new data base program for PC computers that can run in DOS or Windows. Very easy to use, all sounds can be listed with important information and comments, and later recalled by disk or category. This is a great way to keep track of sound disks, and a quick reference guide when looking for sounds. Also, all sound disks ordered from Ethereal Pop now come with a non-programable version of the program, free. The user version of the *Etherealbase* disk organizer is priced at \$49. For further information, contact: Ethereal Pop Primary School, PO Box 701266, Houston, TX 77270. Phone: 713-768-4556.

## TRANSONIQ-NET HELP WITH QUESTIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### Tested and Approved Hard Drives for the EPSs

The drives listed below are known to be compatible with the EPS and EPS-16 PLUS at the time of testing. Changes in firmware or hardware by drive manufacturers may make later versions incompatible (with the exception of PS Systems, Ramtek (Eltekon), and Frontera whose drives are configured to work specifically with Ensoniq products). Drives not included on this list may also work just fine. For up-to-date information about specific drives call Ensoniq Customer Service: 215-647-3930.

MANUFACTURER	MODEL
Dynatek	All Models
Frontera	All Models
PS Systems	All Models
Ramtek (Eltekon)	All Models
Rodime	45plus, 60plus, 100plus, 140plus
Microtech	R45, N20, N40, N80, N100, N150
PL1	45 Meg Removable
Mass Micro	Datapack 45

### Drives Reported to Work by Readers

The following drives have been reported to work satisfactorily with reader's EPS systems. No guarantees — but they'll probably work with yours. Try to try before you buy.

Jasmine Direct Drive 100	Quantum 100M, 210M
PowerDrive44	Seagate 80M
Syquest 555 (removable)	Tech Data Model 60e
Syquest 88, model 5110	



## *Understanding Envelopes (Continued from page 2)*

ters page and set the cutoff to some medium value; or select the envelope you've recalled the default into as a MODSRC (and turn up the MODAMT) on the OUTPUT page to investigate the defaults' effect on panning.

If you're confused by what the default envelopes are doing to the sound at any time, just look at the envelope pages and think. If you need to refresh yourself by going back to earlier articles, don't be embarrassed, that's what they're there for (you do save them don't you?).

## **In Praise of Dynamism**

Though it's impossible to go through absolutely all of the possible uses for envelopes, there is another important application we should be discussing before bringing this sucker on in.

Call up our patch LOUD + SOFT from back in Part 3 (Issue #98). If you recall, we set up this volume envelope so that when we struck some keys on the keyboard and held them down, the sound would get loud, soft, loud and soft again. How hard we struck the keys made no difference in the volume; we hadn't yet learned about the VEL-LEV feature on Envelope 3's third page. Go to that page now and turn it up to 99. Now play some more notes at different velocities and hold them down to see what happens to them. Since our VEL-LEV of 99 means that only with the hardest keystrokes will our envelope change the volume to the full value of its level settings — and softer keystrokes will sound as if we'd built it with proportionately lower level settings — we can now get different volumes at different velocities without losing the shape we created with our envelope.

Any time you're simulating an acoustic instrument (or merely trying to create an expressive synthetic one), this is the way to go. Get the note shaped properly using Envelope 3's LEVEL and TIME settings. Then, when you're done, turn up VEL-LEV until your program's volume changes from soft to loud — without losing the shape you've created — as you play comfortably through your own physical dynamic range.

But wait, one more thing! With real-world (seems I visited that place once) instruments, typically they don't just get louder when you strike/pluck/bang them harder — they get brighter, too. Here again, VEL-LEV is the trick. Set up your

lowpass filter cutoff and envelope so that the patch sounds just a little too bright. Now crank up the VEL-LEV value so that only the most forceful of hits make it sound that way; at lower, more typical, velocities, the program will sound more natural and pleasing. At the softest touches, maybe you want the patch to sound a little warmer than you'd like it to be ordinarily. Feel free to raise or lower your cutoff by small increments until it sounds just the way you want it at medium velocities, then at high and then low velocities.

Together, these two tips will go a long way toward making your patches sound alive.

## **The Road Goes On and On**

Here's a thought to keep you up at night. The VFX/SD synths have many, many places where envelopes can be applied. Any place at all that MODSRC appears is a place where an envelope can be applied. Since you now know that envelopes are just shapers, any spot you can imagine a shape is a spot to give one a whirl. Look out, world!

## **Benediction and Processional**

Well, that about wraps it up. I'd like to extend my thanks to all the folks at Ensoniq who helped out with this last installment (even if there wasn't space to get in all your enveloping ideas): Ray Legnini, Al Blake, Bill Mauchly, Joe Paschal, Tom Metcalf and Jim Bryan.

If anyone remembers how this all started — I wrote my first envelope article March '93 (published in Issue #94) — it was all my VFX-playing masseuse's fault. She's the one who got me wondering how to explain these things: these, these, envelopes, when she offered to swap a lesson for a massage. The TS synths (to which a lot of what we've discussed also applies) weren't even out when the series started. But, there now, it's finally done. I guess I feel better; I'm certainly older. What I really want to know is: WHERE IS MY MASSAGE??!! ■

*Bio: Robby Berman is a musician and recording engineer living in New York's scenic Hudson Valley. He's feeling kinda tight...no, lower...a little to the right...aaaaah. His latest album is "Rings and Rings."*

## **SUBSCRIPTION INFORMATION**

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



# Docu-drama, ASR-10 Style

Pat Finnigan

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Product: ASR-10 Instructional Videos. One tape of the set of four, "Introduction, Presets and Shortcuts" is reviewed here. The others are titled "Sequencing 1 & 2," "The Effects and the Architecture" and "Sound Edits, Sampling and Recording" — 8 video hours total.

For: ASR-10s.

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

Phone: (214) 722-1601.

Price: \$119.95.

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It appears that finally the musician has become a target of the information float. It seems that we are inundated with "Car/RT sort" mailings for CompuServe, America-On-Line, software from companies we've never even heard of, all because we own a computer/computer keyboard. Peter Norton promises us taped training, Microsoft has entered the fray with videos for the MicroSoft Office series, mindless infomercials ("No, Mike, there's nothing out there as revolutionary as new 'Auri'"). What we're really looking for are tips and tricks for our Ensoniq gear. And still we've tapped but a bit of the instrument's potential. I, for one, exhausted the sequencer possibilities before I started sampling with the EPS, and it was designed as the world's friendliest *sampler!* Conceptually, we gripe about the veiled sonic character and "tell-tale" sound of their earlier instruments, but would we trade that production environment? NOT!

So to keep the playing field even, Covert Video has introduced their line of video instruction; this month we look at the ASR-10 Series for sequencing and preset management. The tapes are VHS T-120 Maxell tapes recorded at SP speed, but since they're done on a VHS Camcorder (rather than commercial quality 3/4" U-Matic machines and dubbed down to VHS), video quality is about what you'd expect if you were filming a birthday party, giving it that "Covert" feeling indeed. I kept looking for time/date stamps in the lower left corner as if watching a repeat of the DeLorean bust. Documentation includes a footage guide for selected operations. That is, 176 documented operations from range editing to sequencing to tape. Did I mention thorough? Rick Parent, the bearded gentleman's name who demonstrates these operations appears to be quite a knowledgeable navigator, with all button presses and variables captured to tape. Narrative is good, with an occasional pause for you to practice what you've learned. Rick's an Ensoniq Sales Rep in the Southwest: Rick *knows* ASR-10. From "Erasing a track two ways" (counter #2517) to Automixing (counter #5530), you'll find every button press captured to video for your edification and instant replay.

As always, let me emphasize that this is *not* a substitute for the *Musician's Manual*; rather, it's an adjunct to be used alongside your ASR-10 with the manual. The tape about presets and organization is a topic fairly misunderstood by most users. The video explains layering to a T, along with saving the preset list and recalling them on the fly. Maybe the power users utilize performance presets to the max, but I'll bet a few more of you out there will get the big picture on presets and the power they manage after viewing this particular tape. Alas, this tape was made before the direct-to-disk and "Sound Finder" additions to OS 2.0 were released, so you'll have to consult Mount Malvern for this. Recording to available RAM is explained. Wanna record a guitar sound to RAM in song mode? Dial counter #5440. Wanna copy pitch bend to a track? Try #3500. Did I say "thorough" yet?

SCSI storage and operations are thoroughly discussed, as the star of the video (the ASR-10) is connected to a Ramtek Duo 44 Mb Syquest and CD-ROM mechanism. An explanation of CD-ROM Macro files and their 4-digit locator code are presented, and their seamless integration into bank files is discussed and demonstrated. Proper termination conventions are explained. Good stuff for users uninitiated to the black art of device order and ID # in the SCSI food chain.

Error in the video: "A single 1.4 MB HD floppy can hold 450 banks." Nah. In Rick's particular application of ASR-10 and SCSI devices, this may well be true (a bank is merely 3 blocks of pointer data), but only if all the wavedata and sequence data it points to is hanging out at a SCSI address other than #3.

Humorous irreverence: "Be sure to copy your master OS disk and keep it in a safe place," Rick says as he lofts it across the room. I'll bet more than a few Ensoniq software engineers (as well as guys like me who have a little more respect for coded medium) would cringe when we heard that disk crash into the wall. Ensoniq is a software company; their keyboards are only the embodiment of this software. I admit I did laugh; I'll give 5-to-1 that Joe Pascal, Alan Smith, et. al would code blue when seeing their wares become ballistic. It's a Ted Danson-Friar's roast kinda thing: I guess you had to be there...

Copyright Information: "The F.B.I. (in 18-point Times) (followed by 12-point Helvetica) Couldn't Care less if You Copy This Document. But I will be very Bummed and Hurt." See above paragraph.



Conclusions: This is a very complete set of instructional videos: every possible operation is covered in detail (up to O.S. release 1.61), so if you're looking for direct-to-disk hints you'll have to extrapolate this data from the sampling w/effects tutorial. I'd expect an update to the video (or even a new tape) concerning this when O.S. 2.0 is released. This instructional power comes at a price: 4 tapes (8 hours) will set you back \$120. Given, Ensoniq's EVS-1 ASR-10 tutorial is not as deep: then again, it's only \$17.95, and is much more professional appearing: video quality is far superior, post-house production and video effects are excellent, and, sorry, the engineers wouldn't let Roy Elkins throw an OS disk across the room.

The Ensoniq video is like an owner's manual where the Covert videos are an encyclopedia. Personally, if I were a novice, I'd start with the Ensoniq tape to get both my feet wet and get up and around navigating the ASR-10; then I'd dive into the Covert tapes to hone my skills. It's as complete a video text as I've seen; I just wish the picture quality was

better. Maybe I got a bad dupe or something, but Rick's Hawaiian shirt kept changing colors and dropping out to black and white; at this price I'd expect 2nd or 3rd generation.

But you certainly won't be left expecting more: this series is absolutely complete in scope, and for those of us who can afford this luxury and ignore the picture quality, it's a must have. I haven't seen anything else like it or as complete out there yet. ■



*Bio: Pat Finnigan is a service tech turned musician who writes secret messages in sequences on his EPSs, wondering how much harder he can push this Malvern silicon before it reverts back to sand.*

## HACKER BASEMENT TAPES

Daniel Mandel

### Fancy FurBoys

Tape: *rock-n-roll-n-rap-soul*.

Artist: SABLE.

Contact info: 3601 Franklin Ave., Granite City, IL 62040, phone: 618-451-9006.

Equipment: EPS-16+, VFX, Fostex R8, HR-16B for sync, and a few out-board processors by Korg, Alesis and Roland.

**Sable** (sa'bel) *n.*, pl. -bles, -ble: a) the European marten b) cape at the S. tip of Florida c) a rock band from Illinois.

If you chose definition C you must have done your homework, or you're a real good guesser. This is the most professional tape I've received to date. Excellent production values throughout are evidence of good choices in equipment and meticulous work by the boys in the band. Sable is made up of two Sables, Chris, bass guitar, and Jeff, raps, guitar and vocals, Joe Schuster, drums and percussion, Allen Zentgraf, keyboards and Vocoder, and Bob McCormack on lead vocals. They all have very long hair.

Chris Sable says, "On all the first eight tunes we ran kick and snare to tape, as well as vocals, guitar and bass. Other than that all other tracks are virtual tracks using the EPS sequencer. All of the drum loops, and stranger sounding things are

*all samples we've accumulated over the last few years. Since we recorded [this] we also have picked up an SD-1, and have another regular EPS for performance purposes."*

The sounds here are your standard bread and butter rock sounds, but really well done. That really captures the overall impact of the tape. SABLE is a competent group of musicians doing good work smack dab in the middle of popular rock and roll.

The vocals are nothing short of excellent. The only slight exception is the chorus of *ALWAYS ON MY MIND*. I imagine there was something about these takes that appealed to the band, but on a second listen, I would have re-recorded for a better take. Vocally this song stands out, simply because all the other songs sound so finished.

Also, a word on rap. The rap featured here is salted tastefully throughout, and it sounds good. It feels right. Nothing here feels forced. Any sequences used here were transparent enough, and well done, so that I was able to concentrate on the music.

The messages of the songs go in several directions. Either Sable is interested in gettin' the girl (*I WANT TO BE YOUR*



MAN) or faith in the human spirit (*FOLLOW YOUR DREAMS*). You will also find world peace and environmentalism thrown in for good measure.

SABLE also must have a sixth marketing sense because everything they prepared, from the J-Card to their letterhead was very stylish and presentable. If I were to place my bet, I would say these guys are one idea away from signing their name on the dotted line. ■

If you want your tape run through the ringer, err, Hacker, just

mail it off to: Basement Tapes, *Transoniq Hacker*, 1402 SW Upland Dr., Portland OR 97221.



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

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## ISC-2 for SQs/KSs

*Brian Rost*

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For: SQ-1/2/R, KS-32.

Product: ISC-2, 160 voice ROM card.

Price: \$99.95.

From: Ensoniq, 155 Great Valley Parkway, Malvern, PA 19355. Phone: (215) 647-3930 or contact your local Ensoniq dealer.

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For the second volume of the *International Sound Collection* series for the SQ family, Ensoniq takes us to South America, in particular, Argentina, for a set of patches dreamed up by programmer Ricardo Troilo. Unlike the ISC-1 set (see TH #84), this set lives up to the "International" name with a strong South American flavor, with fifty patches emulating native Argentine instruments.

The patches are more or less organized by type, making it easy to audition the sounds. The A bank starts with string and orchestral pads followed by some synth and vocal sounds before getting into the South American sounds. The B bank leads off with pianos and horns, before getting into some analog synth emulations, woodwinds, basses and organs.

The mod wheel is the only real-time modulator for most of the patches. No use is made of the CV pedal at all, and pressure is used sparingly as a second modulation source. Considering that the modulation routing is one of the strong points of the SQ programming architecture, I would have liked to see more use of multiple real-time modulators. Because the ISC-2 is a ROM card, in order to save any tweaks (such as new modulation assignments), the patch must be stored in the INT bank or to a RAM card bank. One nit in the otherwise good programming notes is that for many of the patches both the mod wheel and pressure are identified as active modulators for the same parameter when in fact only the mod wheel is active.

Before we jump into South America, let's sample some of the more general purpose patches. The string and orchestral pads are different enough from those in the factory ROM set to offer some useful variety. ORCHESTRA uses the mod wheel to mix a woodwind "soloist" above a string bed, while ARCO STRINGS OCT can cut through a dense mix because the octave tuning makes it extremely bright.

The synth sounds lean toward the analog side of things and many of these show clever programming with Transwaves. The SQ family has no resonant filters, ring modulator or sample and hold, yet patches like SWEEP, NEW BELL 1 and RANDOMWAVE will have you thinking otherwise. For thick analog pads, you can choose from four POLYSYNTH variations, EARLY POLY and ZEN PAD, all of which have useful filter modulations. If you're after analog lead sounds, 70/80 LEAD 1, SAW LEAD and SQUARE LEAD will be immediately familiar. SUB OSCILLATOR and SUB OSC 2 use all three oscillators tuned in octaves to create a really big and fat sound.

While the digital synth textures are not as abundant, there are some bells like ESQ-1 BELL, a good approximation of that hoary sound, and BI DIMENSIONAL, which is more of a chime. CYCLIC is the obligatory rhythmic loop, for those who have to have one (I'll pass myself). For the more sci-fi effects oriented, CONTEMPIANO is not a piano at all, but a very electronic sounding gong.

You want basses? Ricardo has provided some powerful ones, again with an analog slant. I favored ANALOG X BASS, RESONANT BASS and XPRESS BASS. SHORT BASS cuts off suddenly with no sustain. The same abrupt cutoff is used on PWM BASS and PWM BASS 2, but it just makes them sound funny. Of the three clavinetts, I found DYNACLAV to be the standout, much improved over the wimpy factory



ROM patch, nice and punchy, a good alternative for bass lines.

Moving on to the pianos, I found HONKY TONK usable although it could be detuned a bit more for my taste. The FM-LIKE ROADS actually sounds more like the real thing than the rather mushy ORIGINAL ROADS does. You can even use the mod wheel for the cliché stereo tremelo effect. For organs, there is the synthy ORGAN PAD and three DRAWBAR variations, all of which use the mod wheel to add harmonic variations. None of them approach a screaming B3 type sound, though, if that's what you're looking for. There are two SACRORGAN variations if pipes are what you had in mind, but I found these too delicate for my taste.

I wasn't too excited over the horn and woodwind patches, but CLASSIC TRUMPET will give you less "spit" than the factory TRUMPET patch and use of the mod wheel to control the filter gives BRASS SECTION some expressive potential. While I found the saxes to be forgettable, DOUBLE REEDS is a decent oboe sound, without the heavy handed vibrato that mars some wind patches.

I was very pleasantly surprised by the two SLOW CHOIR patches. If you can keep within a one and a half octave range, these both sound pretty realistic. The other vocal and choral patches make no attempt to hide their synthetic nature, with WOODS/VOCAL, a lush new-age type pad, probably the best of the bunch. There are a few percussion patches scattered about, including a nice crisp MARIMBA, a somewhat anemic KALIMBA and ROCKY HIT, an odd orchestra hit that doesn't use the Orchestra Hit waveform.

Where this patch set really starts to shine is in the South American sounds. I don't claim to know what all of the instruments being emulated are or what they sound like, so I won't vouch for the accuracy of the patches. What I do know is there are some really usable and unique sounds here, folks.

The fifty sounds fall into roughly four categories: percussion, plucked strings, accordions and winds. A few of the percussion patches, such as BOMBO LEGUERO (a bass drum) and the two CHAYERA (tom-tom) variations have the drum sound split with a stick sound. There is a single headed tambourine called a PANDERO which lets you bend the pitch with the mod wheel. This same sound is also heard in PANDERO+QUENA layered with a flute. The VIBRASLAP lacks a bit in the high end, although it is still quite usable as are the GUIRO and MARACAS. One really strange percussive effect is the PALO DA LLUVA, or "Rain Stick," which is basically a very long shaker. There are also two percussion kits provided.

For plucked string sounds, there are GUITARRA CRIOLLA, CHARANGO, and CUATRO. Variations of the first two are provided with a second pluck sounding on key-up, so you can

get more realistic tremelos. Airtio fans will recognize the sound of the single-string BERIMBAO, where pitch is controlled by the mod wheel.

Two accordions are represented, the VERDULERA, which comes in two timbral variations, and the BANDONEON, which comes in poly and mono variations of the same timbre. For someone who needs some good accordion sounds, these fit the bill nicely.

While breathy flutes have been overused, the two here, the QUENA and the SIKUS, are both excellent alternatives to the omnipresent shakuhachi variations. The sikus has some clever tongue fluttering controlled by the mod wheel, plus there are two SIKUS STACCATO variations as well. Switching between the three variations while playing adds quite a bit of realism. Rounding out the wind sounds is the AEROFONOS ENSEMBLE, a flute ensemble pad.

Overall, the ISC-2 seems to complement the factory ROM patch set quite well. Since the latter is strong in new-age pads, digital timbres, guitars and pianos, the ISC-2 mix wisely doesn't bother to include more of the same.

I thought the percentage of keepers was highest amongst the South American patches and would recommend anyone looking for some new percussive and wind sounds or doing Latin music to check out this card immediately. Lovers of analog timbres should also give it a listen as there are some strong patches here, particularly the basses. The weak link of the set is probably the organs, horns and woodwinds so if you're really after more of those, you'll probably want to look elsewhere.

Overall, despite my disappointment about the modulation routings, this is a strong set of patches. It adds some welcome variety to the SQ/KS world and the programming maintains the high standard of quality we've come to expect from Ensoniq. I'm looking forward to future releases in the *International Sound Collection*. ■

*Bio: Brian Rost has been spotted around the Boston area playing cajun/zydeco bass with Swamptone recording artists Gator Bait. He still is trying to get their accordionist to go MIDI.*

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# Making BigBux Doing What You Do Best

## Part VI — Scoring Soundtracks Success Sequence

*Jeffrey P. Fisher*

*“Chance is a word that does not make sense. Nothing happens without a cause.”*

— Voltaire (1694-1778), French philosopher, author.

All this talk about making money is useless unless you have a plan. You can't run a successful music scoring business by the seat of your pants. You need to take the time to decide:

- Who is your market?
- What marketing tools will you use?
- When will you market?
- How do you want to be known?
- How much time and money will you devote to your marketing efforts?

Keep your plan as simple and straightforward as this. Once you formulate your plan, follow it. Don't just write it down and file it away. Review it periodically and make necessary changes. Create a marketing scrapbook by gathering your plan, material, articles, brochures, letters, etc. into a three-ring binder. You'll be able to review your efforts easily and use your old materials as the basis for new ones.

Here is the sequence of events you must follow with every prospect you find. Consider this an ideal — you won't reach every step with every prospect. Still, you must persevere.

- Select target prospects.
- Write letter to prospects.
- Send marketing kit and demo to respondents.
- Follow-up, by phone, the material you sent.
- Schedule client meeting either in person or by phone.
- Send Thank You following meeting.
- Get hired to score.
- Send contract and get partial payment in advance.
- Write rough music sketch and send to client.
- Get approval of sketches.
- Write, record, and deliver final master.
- Invoice for final contract payment.
- Receive payment.
- Bring success to attention of others.
- Send press release(s) to trade press, etc.
- Solicit testimonial from client.
- Send thank you note or small token gift after testimonial received.
- Keep in touch regularly through phone, newsletter, letter, etc.
- Repeat from the beginning.

This is your basic marketing strategy. You follow it in a circle. If the prospect becomes a client, you keep in touch regularly. If they remain a prospect, you continue marketing to them until they become a client. Simple, isn't it?

### Keys to Marketing Success

Keep hitting your target market with your message repeatedly so when they need music, they call you first. You use your success with each client as a springboard to other prospects. A satisfactory client endorsement helps strengthen your position. People buy products and services only from businesses they are familiar with. Therefore, you must concentrate on making yourself known by sharing your successes with possible prospects.

- Send your newest demo of your latest music.
- Send project listings of your recent assignments.
- Send announcements of your work that is readily available (if it can be heard on radio or TV).

Your past work will get you more work because, fanfare, success breeds more success. Make sure you let both clients and prospects know what you have done and that you can and will do the same for them. People want security. If they have confidence that you can indeed do the job, they will buy. Of course, your music, your service, and your price all affect sales, too. However, you must also instill confidence in your client prospects — otherwise the rest will not matter.

### Final Marketing Thoughts

Regular marketing contact to both the universe and to your hot prospects and clients, telephone calls, reminder mailing, general PR through press releases and newsletters, helpful information, and more — this all keeps your name alive, builds credibility, and ultimately puts money in your pocket.

There is an old business adage that says you must spend money to make money. I heartily disagree. You must spend money marketing to make money! And this is not an expense. It is an investment in your future success. In the world of modern marketing warfare, creativity rules, NOT money. ■

Next time around: Setting up and running your soundtrack scoring business.

*Bio: Jeffrey P. Fisher scores, jingles, and sound designs for documentary, drama, and business TV. He is the author of the book “How to Make Big Money Scoring Soundtracks.”*



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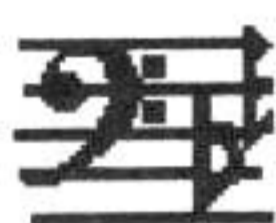


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# A DP/4 Application

Ray Legnini

As many of you know, the DP/4 is an extremely versatile sound processing device. With the ability to be configured in a variety of ways, it can be used to simulate screaming guitar amps, create a variety of ambiences ranging from a train station to a concert hall, add silky smooth chorusing to a recorded keyboard track, or tame the dynamics of a vocalist, just to name a few.

One effect that seems to go unnoticed in the DP/4 is the 4-unit Vocoder preset. In fact there are two of them set up for you as it comes from the factory. They are Config Presets #61 and #62. The vocoder is the effects patch you hear creating the popular "robot speech" or "talking keyboard pad" effects. Basically, the frequency spectrum of the input to the vocoder (plugged into DP/4 Input #1) is analyzed and that signal is then used to alter the sound coming from a second source (most often a sustaining keyboard sound patched to DP/4 Input #2). The new sound is then sent to the stereo outputs of the DP/4. The signal from the second source, patched into Input #2, is called the "carrier." The carrier's sound will only be heard when the trigger input signal is present at Input #1. This means that although you may be holding down a sustained chord on your keyboard being used as the carrier, if your input is of a rhythmic nature, the output signal will be rhythmic as well. For more theory on how and why the vocoder does what it does, and the editable parameters available, consult the *DP/4 Musician's Manual*, Section 5.

We'll presume you have a working knowledge of selecting the DP/4 effects algorithms, its Config. structure and how to hook its stereo outputs #1 and #2 up to your audio system. What you'll need for this little tutorial is a DP/4 hooked up to your audio system, a CD player, a mic (either high or low impedance), and a keyboard. Optional items could include an electric guitar, a drum machine, sequencer, turntable, cassette, or a DAT machine.

While there are many ways to configure your audio system, we'll presume also that you can route the signal coming from your microphone or other sound source we'll need to use as a trigger directly into Input #1 of the DP/4. Without going into too much detail, one possibility would be routing the signals through your mixer's submix bus, effects send or aux. send, and patching that directly to Input #1 on the DP/4, so that the original signal is not heard through the mixing console. You can use either of the DP/4's Input #1 jacks, front or rear; they function the same.

Patch your keyboard's output directly to Input #2 of the DP/4, instead of into your mixer. It will become our carrier. For starters, set the input volumes on the DP/4 to 12 o'clock for Inputs #1 and #2. Set the output levels of the DP/4 to maximum. Once you have everything hooked up, it's time to get down to business. Select a sustaining patch on your synth. String pads or vocals are a good starting point. While holding down a chord on the synth, speak into the mic. If you have everything working properly, you should hear the synth play in the same rhythm as your speech. Experiment for a while with different speech patterns, singing "aah," "ooo," or "ooh," etc. to get used to the possibilities. Okay, so now you've heard everything that's ever been done with a vocoder. But wait! There's more! Now for the really fun stuff.

Since the input source is not heard at the outputs of the vocoder, almost any sound source can be used to create really interesting sonic textures. Let's explore a few of the possibilities here. Grab your CD player and plug its output directly into the DP/4's Input #1, instead of the mic. Get a favorite CD spinning and play some chords on the carrier keyboard. Based on the harmonic and rhythmic content of the CD you've chosen you'll get some way cool sounds happening. I experimented with a bit of AeorSmith, some acoustic guitar music, a dance track, a drum loop sampling CD and some sound effects. If your CD player can repeat a small section over and over, you'll get very predictable results and some really cool rhythmic effects. Now put your multi-track in record and add some spice to your next hit song. This same technique can be used if your input source is a cassette, a DAT, a track already recorded on a multi-track master, or a turntable, as well. Guitar players should experiment with plugging a guitar, with or without effects, into Input #1 and using it as the trigger source. Instant James Brown strummed chords meets violin section...hmmmm. What!, no free hands left to play a chord on your keyboard? Use some masking tape to hold down a chord or record a part into the onboard sequencer first.

Of course, you should also experiment with different types of patches on your synth. Although sustaining patches have been the staple food of vocoders over the years for people like Brian Eno and Herbie Hancock, I've had good results with pizzicato violins, nylon guitar, piano and synth bass.

Now, for a DP/4 tweak to go along with the CD as the input source setup: The DP/4 vocoder algorithm has a setting



called "Sibilance Level" (parameter #04). This is used to allow some elements of speech through the vocoder directly to the outputs to help improve intelligibility when using a mic as the input source. But, when using a sound source from a CD like a rock or dance track, you may not want bits of vocals and percussion sneaking into the mix, especially if they're in a different key. They can be turned down or tuned out completely by lowering the value of the Sibilance Level parameter. Remember, the vocoder is made up of four units tuned to various portions of the audio spectrum, so you may want to experiment with this particular parameter in each of the four units to achieve the effect that fits your application.

But wait, we're not done yet! You say that you like the effect of playing a drum loop or track through the input but wish it were more predictable, even sync-able to the song you're working on? Hook up your keyboard workstation's sequencer to be the input source and record your own rhythmic vocoder food. This way you can sync the vocoded synth parts up to a tape track with SMPTE or MIDI clocks. How? For my example I'm using a TS-10, but any workstation synth that is capable of routing separate signals to its outputs will work. Start by recording a drum or percussion pattern on one track of your sequencer. Assign this track to come out of the auxiliary output on your synth and patch this directly into

the DP/4's Input #1. We'll use this to trigger the carrier signal coming from the same synth! Assign a synth pad to another track on the sequencer, but you don't need to record anything (of course you could record some chords and leave your hands free to do tweaks or play another instrument). Have this synth pad track come out of the main output of the synth and patch it into the DP/4 Input #2 (if you've been following this tutorial all along, the synth should already be plugged in there).

Start the sequencer playing and then play some chords on the carrier synth. Sounds cool, huh? Want more? Try changing the effects on the percussion track. Try guitar amp simulators, phaser, delays, etc. With a little bit of experimenting you'll open up a whole new world of sounds. I hope you enjoy your new-found sonic toolbox. ■

*Bio: Ray Legnini works as a part of the sound development team responsible for the development of the TS-10 and TS-12 at the Ensoniq factory in Malvern, PA. While some people say he's "tall," he prefers to be called "vertically challenged."*

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*Robby Berman*

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The Voice Crystal series of programs for Ensoniq keyboards dates all the way back to the ESQ series of synths. Eye & I Productions, of Milpitas, CA, has provided factory programs for many Ensoniq products, as well as producing its own line of sounds. Let's check out their latest offering, VC3-TS10, for the TS-10 and -12 synthesizers.

The VC3-TS10 programs come in a hard plastic protective case, all shrink-wrapped together with a free sample disk of Voice Crystal's sample disks. Stuck in the plastic box with the TS stuff is a paper sheet with the names of all the patches included in VC3. Unfortunately, although the page advertises the extensive use of patch selects, there is no documentation provided on what they are. There's actually quite a bit of space in this package dedicated to promoting Voice Crystal's ASR sample library; space which might have been more effectively used to give more info on the sounds.

The fact that Voice Crystal is giving users a free taste of their sample library is all the promotion these samples need in any event; they're really good. Included with VC3 is HONER CLAV, an extremely realistic clav (not so true as to include the ubiquitous 60hz hum of the real thing, fortunately) which immediately became my personal favorite clavinet. Also really enjoyable is LEXUS, a lovely 1-layer swelling synth sound sampled in fifths (those always lead to instant, undeserved profundity, don't they?).

When you go to load the TS programs from disk, you'll notice a 60-PROGRAMS file mysteriously labeled "VCTS10 DEMO" (a sequence load in a 60-PROGRAMS file?). Ah, they're just toying with me; no demos — as in sequences — here. It's more promo material to get through before we get to the actual sounds: a handful of programs from Voice Crystal's other TS sound sets. Each bank contains one program under the upper left soft button, with the other five spots being used to tell you the source of the sound (ie: "VOICE" "CRYSTAL" "VOLUME" "TWO" "VC2-TS10").

Well, hey, here come the programs of VC3 themselves. The collection starts off with six banks of imitative sounds, none of which, I'm sorry to say, does much for me (though the first piano, MW PIANO, sure got my attention with how strangely like my SQ-80 piano it sounds — that's not necessarily a

good thing). I don't really hold this against Voice Crystal, actually. The dilemma of synth programmers is that no matter how sophisticated our keyboards become at creating unique timbres, the public still hobbles them by demanding yet one more piano, organ or whatever patch. It's kind of an insoluble problem, of course; being a pop musician myself I know that there's no time in a typical groove to let a synth wave fully expand into something interesting. We need it dazzling and we need it quick. Oh, well.

Among the imitative patches there are some problems, especially in the first bank. The velocity response in the acoustic pianos is really ungratifying. Though you can get soft notes if you play really softly, beyond that range velocity does nothing, and it's a weird sensation to have so little effect no matter how hard you bang on the keys. Also, the volume enveloping in the electric piano emulations is wrong — the notes hardly decay away at all; in fact, enveloping problems occur throughout the imitatives. And some of the basses and guitars seem to go out of their way to accentuate TS wave grunge.

The first patch I encountered that I really liked was DIP-THONG BS with its sequence-y sound accentuated by phasing. HARP N STRING is a very nice layered jobbie also routed through the phaser — a nice expressive patch. Things start really showing signs of life at BIG SAW PAD, which is satisfyingly fat and crisp. Watch out for ULTRA-REZZZ, which immediately follows, especially if you're wearing headphones. Its rez is a little too ultra — don't forget to duck.

At Bank 6, I really started having fun. SAW CHIME is much more interesting than its name suggests; it's got the TS's METL-LOOP wave adding a cool shimmering quality (REVELATION's sort of its cousin, with a slower sparkle, courtesy of the WNDCHIME2 wave). GARDENOF GOD is a male vocal pad with a bell attack. I especially liked TALKING PAD. It's basically a string section with a RESONANCE wave coming in and out, adding an almost troubling undertone emotionally. Have you noticed that music is sometimes most affecting when there's a little something thrown in that thwarts your ears' expectations, something that's not quite "right"?

TS-10 ANGER and its sibling ECTOSKELETON use the male choir sample with almost Varese-ian percussive oddities thrown in (a TAMB-LOOP wave in the former; CLICKER and BIRD-SONG waves in the latter). WINE GLASS in bank 8 is tenderly warm; for a really realistic version, hit the left patch select, which plays only the program's GAM-BELL wave.



The last bank in VC3 is kinda fun. It opens with FIREWORKS, specifically a twirler (I'm not that up on pyroterminology) that finally booms when you dare let go of the key (okay, I admit it, I jumped). There are a couple of amusing Hyperwave grooves here — I'm a sucker for those — and a couple of nicely constructed drum kits, especially B.B.D. KIT.

Overall, VC3 is at its best when set free of copycat duty. My guess is that Voice Crystal probably covered that territory more effectively with its first two TS sets. There are certainly

some interesting and useful non-imitative sounds here worth checking out at your local music store (and the giveaway samples are definitely a plus). I look forward to the day when we let the programmers of our fantastic keyboards be just as fantastic themselves. Maybe we need to find a way make more room in our grooves for complex timbres; perhaps then there'll be some new music that's truly new. ■

*Bio: Robby Berman's a musician and recording engineer who lives in New York's Mid-Hudson Valley. That's his excuse, anyway. His latest album is "Rings and Rings."*

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## An EPS Envelope Primer

Tom Shear

A while ago I received a letter from a reader who was having trouble learning about certain aspects of the EPS. The manuals didn't touch on it, and neither did any of the third party books he had bought. The one feature I have found to be most widely neglected are the envelopes. Thankfully, I had some experience in synth programming long before buying my EPS-16+ so the concepts weren't completely foreign. Given how long it took me to learn the EPS envelopes, I can only imagine what a nightmare this would be for a total novice with no experience at all. So this month, I'll provide a very basic guide to the envelopes for any beginners out there having trouble with them. As you know, there are three envelopes available for any given wavesample. These each have different functions, but they all work very similarly.

The first envelope is called a Pitch Envelope. It's job is to cause changes in the pitch of an instrument throughout its duration. This is most often used to simulate the way many wind instruments quickly "rise up" to their pitch from a slightly lower tone. Sometimes it is also used on voice sounds for a spacey effect. Of course you may also use it for very extreme, wild effects, but these are the most common uses.

To apply a pitch envelope to a sound, hit EDIT-PITCH and scroll right until you see something that says ENV 1 AMOUNT=+00. You can change this number to any available non-zero value to have the shape of Envelope 1 alter the pitch of your wavesample. For instance, load a synth sound and change this value to +5.0 or so, then hit EDIT-ENV 1 and scroll through the preset envelopes until you see WIND PITCH. Play a few notes. Hear the difference? By messing with the parameters of the envelope (I'll get into that in a bit) you can have the pitch sweep up or down to the static pitch, go up and down a few times or drift all over the place. Try some of the other envelopes.

The second envelope is the Filter Envelope. You can think of

the filter as a brightness control. In general, sounds with higher filter cutoff values are brighter. We aren't just restricted to having the whole sound be brighter or darker though. Through the use of ENV 2, we can make individual parts of the sounds brighter or darker and have it change. For instance... you might want to make a sample of a synth bass and have the attack be very bright, but the rest of the sound a little darker to emulate the way a plucked sound works... or you may want a synth pad to start out dark and gradually get brighter...this is what is happening in those filter sweep sounds we all know and love from the '70s.

Finally, we have the third envelope known as the Amplitude Envelope. This controls volume changes in the overall sound. As you know, most real sounds don't sustain at a steady volume indefinitely. They fade out. Basically this envelope acts like an automated volume slider that turns the volume of a sound up or down according to the instructions you give it. This lets you have sounds fade out, or have softer attacks like strings and horns do. Mess around with the preset envelopes here for a while too. Analyze what is happening in each one. What kind of attack does it have? Does it fade out or sustain? How long? This will give you some insight as to what is going on.

Now for the general envelope parameters that are common to all the EPS-16+ envelopes. Press EDIT-ENV 3 and follow along. You should first see something that says ENVELOPE= and the type of envelope...most likely it says CURRENT VALUE. CURRENT VALUE is the default and also what it says when you edit the sound's envelope. You can use this as a starting point, or you can scroll upward through the selection of preset envelopes. Most of these are great as they are, but you can also use them as starting points for your own envelopes, customizing them as you see fit.

Scroll right again and you'll see something that says HARD-



VEL = with 5 sets of numbers after it. This is where you set the volume levels for different sections of the sound. If a sound is velocity-sensitive this is what the volume levels will be if you hit a key hard. Softer hits would be following the instructions given on the next page (SOFTVEL =) If a sound is not velocity-sensitive, it will only use the values on the HARDVEL page. The first number to the right of the HARDVEL is what's called the initial level. Since this is a very basic article, we'll assume you probably won't have much use for this right now, so you can set this to 00 (make sure you set its corresponding TIME value, mentioned below, to 00 as well).

With the initial level set to 00, the remaining four numbers give you what is known as an "ADSR" envelope. The A stands for attack. This is how loud the beginning of the sound is. A level of 99 will give you a loud attack and is the most common. Lower values here can be used to make a sound fade in with the appropriate TIME setting. This is useful for emulating strings and brass sounds and for pads. The next number is D which stands for Decay. Decay is what level the sound falls to after the attack. A level of 00 is very low and can give a very short, sharp sound if the TIME value is set correspondingly short. Higher levels are more similar to the way natural instruments evolve. A level of 99 is used for indefinitely sustaining sounds like organs. S stands for Sustain. As you might have guessed, this is the volume level the sound will be at after it decays. A 99 would be used for an organ, and a lower level would be used for most natural instrument samples. Finally, R stands for Release. This is the level of the sound after you release a key. A level of 00, in most cases, means as soon as you lift the key, the sound will stop playing. A higher level will let the sound fade out when it has a high enough TIME value and you lift the key. This can be used to make a sound seem to be in reverb. Take a bell sound and change the release values around. See how strange it sounds with no release... now try raising the value to different numbers...

After you scroll past the HARDVEL and SOFTVEL pages, you see a very similar-looking page that says TIMES= and is also followed by 5 numbers. As you may have guessed, these correspond directly to the values on the HARDVEL and SOFTVEL pages. What these do, is determine how long the sound will stay at the particular level indicated in the HARDVEL and SOFTVEL pages. Suppose you wanted a sound to fade out quickly. You would set the TIME for sustain to something very short, have a 00 value for the attack, and a short time for the Decay. An organ sound would most likely have all these values set to 99 except attack which would be 00. Get it? Look at the illustrations in the manual of envelope shapes. Visualizing the shape of sound's envelope can be helpful when trying to start one from scratch. In general though, I'd recommend choosing one of the preset envelopes closest to what you're shooting for, and then tweaking values from there.

Scroll right again and you'll see the 2nd Release page. If you want to use this, it will add an extra part to the envelope that works just like all the others, after the release. This is mainly used to simulate reverb, but isn't terribly useful since if you already have on or outboard effects. Scroll right again to find the ATTACK TIME VEL page. What this lets you do is alter the attack time in real time according to how hard you hit a key. In other words, you could have a sound that fades in slowly at low velocities and gets a more immediate attack the harder you hit the key.

The next page is the KBD TIME SCALING page. What this does is to make keys higher than the wavesample's root key have shorter envelopes than ones below it. All the envelope values remain the same relative to one another. This value just compresses them according to its value. This is useful for emulating the way piano notes get shorter as you reach the high end of a keyboard.

Next we have the SOFT VEL CURVE page. This is where you select whether you want a sound to be velocity sensitive or not. Basically the different options you have here are different only in that they select different velocity levels at which the sound switches from the HARDVEL envelope values to the SOFTVEL values and vice-versa.

And finally, the last envelope page is the ENVELOPE MODE page. In NORMAL, the sound will play only through the part of the envelope it gets to while you're holding down a key and then skips right to the release portion. In CYCLE, the whole envelope will play all the way through regardless of whether you hold the key down or lightly tap it. This is useful for drum and percussion sounds and non-sustaining bass sounds with quick decays. REPEAT will go back to the beginning of the envelope and play it through again after it reaches the end and continue to do so until you let go of the key. You can use this for wild "Wah-wah" type sounds.

Well, obviously this is only a very basic discussion of the Ensoniq envelope functions, but hopefully it will be helpful to those of you stumped by the manual. Once you understand the basic behind sound envelopes, it will become second nature to you. Fortunately, in a world of ever-growing technology, the envelope is a rugged survivor from the earliest days of synthesis that will most likely apply to all of the remarkable innovations of the future just as well. ■

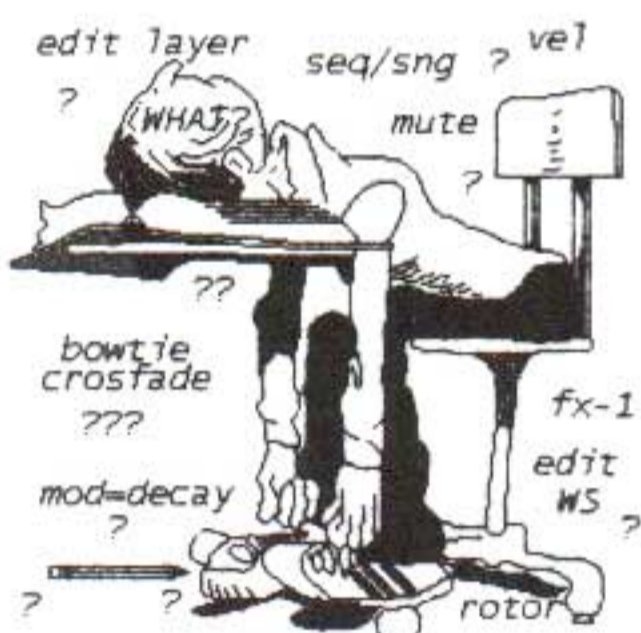


*Bio: Tom Shear's solo project, Assemblage 23, has sent out many demos to record labels. One, which rejected him, has since gone out of business, so all of you other labels out there should think twice before tossing him aside. (Insert sound of sinister laughter here...)*





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# Waveform Mutilation 101

## Some Home-Made Hits

Jack Stephen Tolin

Ever since the beginning of sound synthesis, people have wanted to hit things — anything, really — just to make a sound. Whatever they hit surely did not need to be conventional, just available. The best contemporary examples of this are drum pads and alternate MIDI controllers, such as the Octapad, the DrumKat, and the Thunder. Devices such as these make sounds instantly available for a variety of needs — such as triggered sampled sequences, complex audio textures (orchestra hits), or just simple percussion and drum sounds. Which is the subject of this article.

To make this kind of subject more interesting — not to mention more *practical* — for the home synthesist/composer, allow me to narrow the chasm, as it were. Think of anything you may have heard recently in the popular media. Now consider the percussion. Of course, much of the “drums” used in much of today’s music are not even drums — they are synthesized, sampled, and all around synthetic. Almost any example will suffice — from Amy Grant’s “*I will Remember You*” to Elton John’s “*I Don’t Want To Go On With You Like That*.” Remember those “snare drums?” They are hardly *acoustic* snare drums, and yet they still tend to snare the listener. What we’re going to cover here is just that — synthetically digital percussion that can be successfully used either in place of or in addition to acoustic drums.

Now, let’s begin. Open up (turn on) your textbook (the SQ/KS) to Edit Sound; Bank 0 (Wave); Screen 5 (Change Sound Mode). Well go *on* already, press Enter — you know

you *want* to. Now you should be in Drum Sound Mode. Simple? Just wait! Now what you have to do is program in the drum map program below.

Now let’s go through these one at a time in order to determine what exactly is going on:

Number 1. Here is a good example of a bass drum sound hidden within the audio confines of an entirely different waveform. Who would have ever thought that a percussion sound was hiding here of all places? The trick to finding some covert noises is experimentation — here we must reverse the direction of the waveform.

Number 2. Well, what do you know — another bass drum sound! And another example of finding new sounds from old. Here we shift that pitch way down.

Number 3. Of course, not all sounds used for the purpose of synthetic percussion have to be dug out of the desert — very often the ol’ waveform direction parameter is all that needs to be adjusted.

Number 4. Here is an unusual snare(?) -type sound with that Elton John flavor mentioned earlier. You may prefer an adjustment of pitch.

Number 5. Talk about unusual high-hats! Unless you choose to use this simply as a guitar-picking effect, some original

### Drum Map Program

(Unless otherwise noted, Oct, Semi, Fine, and Gate = 0.)

Wave:	Pitch:	Amp:
1 Expansion/Accordion (Backwd)	Oct=-2	Gate=01, Release=09
2 StringWave/GuitarHarmonic	Oct=-2, Semi=-05	Release=10
3 TunedPercs/RackBell (Backwd)	Oct=+1	Gate=05, Release=99
4 16BitPiano/Thud	Semi=+01	Gate=06, Release=48
5 StringWave/ChukkaGuitar	Oct=+2	Gate=20, Release=20
6 Inharmonic/NoiseLoop		Release=42
7 Inharmonic/NoiseLoop	Semi=-01	Gate=02, Release=09
8 Inharmonic/NoiseLoop	Semi=-02	Gate=10, Release=20
9 Expansion/LongRapKit) Backwd)		Release=15
10 Percussion/SynthThump		Gate=10, Release=05
11 Expansion/PercOrgan	Oct=-2	Release=20
12 Inharmonic/ClusterLoop		Gate=05, Release=10
13 Inharmonic/ClusterLoop	Oct=+1	Gate=20, Release=30
14 Inharmonic/TriangleLoop	Oct=-4	Gate=05, Release=20
15 Inharmonic/AnvilLoop	Oct=+4	Gate=02, Release=17
16 Inharmonic/TubularLoop		Gate=04, Release=48
17 TunedPercs/Kalimba		Gate=05, Release=05



programming may yield a new fad in R&B and dance music.

Numbers 6-8. What's all the noise for? A ride-cymbal or open high-hat, a brush-hit snare or closed high-hat (you may want to lengthen or shorten the release just a bit), and a muffled crash cymbal or snare, respectively.

Number 9. Another bass drum sound? And, another good example of taking a useful drum sound and reversing it.

Number 10. All right, so some of the resident waveforms in the percussion ROM sound good in a kit. So sue me.

Number 11. You can really find some toms and bongos in the strangest places. Don't know quite where yet, though.

Numbers 12 & 13. The first one could simply be considered a good example of how to take a wave (in contrast to a waveform) and turn it into a percussion sound. The second one reveals how a little adjustment in pitch may yield a tambourine.

Number 14. This isn't what I think it is, is it? Yes — creative programming!

Number 15. A little shortening of the arteries here and you have one of the weirdest high-hats in existence.

Number 16. It's not really your doorbell — it's an essential part of every drum kit.

Number 17. Another tuned perc. Embellish your toms and accent bass notes.

The next step is to add a little highlight to all of this — make those frequencies soar. You'll notice below that I've put together some added effects. Fine, but here's the trick: not all of the effects sound proper with all of the drum bits. Here's the key:

Wave	Effect
1	3
2	3
4	1, 8
6	2, 8
7	2
8	1, 2, 8
9	1, 2, 3, 8
10	1, 2, 3, 8
11	1, 8
12	8
13	1, 2, 8
14	1, 3
15	8
16	1, 2, 8
17	2, 8

Okay? If you decide to go ahead and use a different effect with the wrong sound, the noise is on your own ears. The only exceptions are effects 4, 5, 6, and 7. The first three go pretty well with just about anything. The proper sound to match with effect 7 will be pretty obvious as some of the drum hits just won't make any sound, period.

<b>1 ROOM REVERB</b>	<b>2 PHASE-SHIFTER</b>	<b>5 LESLIE+REV+X VAR=2 CLEAN 122</b>	<b>6 CHORUS+REVERB+X VAR=1 WARM CHORUS</b>	<b>7 WAH+DIST+REV+X VAR=3 DOWN TIME</b>
35	99	23	25	39
45	49	33	25	31
27	15	25	24	56
72	99	20	+5	0
10	50	44	1	39
99	-35	75	36	50
00	+48	1	12	78
99	99	39	10	84
+13	OFF	WHEEL	28	-99
FX1-MIX	FDBACK	31	50	+0
MODWHEEL	MODWHEEL	0	+0	WHEEL
+64	+70	68	25	+/-99
		0	100	EXT LINE IN
<b>3 CMPRSS+ DIST+VERB</b>	<b>4 CONCERT- REVERB</b>	EXT LINE IN	200	40
50	25	40	25	
00	50		WHEEL	
35	50		+99	<b>8 44KDELAYS+X VAR=3 SLAP</b>
99	46		EXTERNAL LINE IN	25
00	33		40	19
99	27			30
07	53			50
04	99			50
+00	+06			50
00	DECAY			50
79	MODWHEEL			30
DAMPING	+21			50
MODWHEEL				EXT LINE IN
-99				40



Also, if you haven't yet noticed, effects 5 through 8 are found on the EPS-16 PLUS. Access is obtained with the Audio-In Effects disk from WaveBoy. If you have an ASR-10 or DP-4, you'll have quite a few more options to choose from. If you plan things out ahead of time, you can end up with a variety of effects across the board with each key sounding superb. Just program a duo-effect for the kit on the SQ/KS, map each key accordingly, pump it through the outboard effects unit with another duo (at least, for example). With parallel effects, you have all the more to choose from, especially with MIDI-verifiable multiple outs.

The last stop on our journey, the signpost up ahead, is a little "Added Flavor." Added Flavor can be added to most hits to liven up the flavor of the attack, or it can be used alone. With a partner, this little bundle of joy adds that ol' random element — somewhat like the one everyone talks about in regard to the Roland R-8 or R-5 drum machines. Human? Well... not exactly. It is more just something to use if you are interested in having the same drum/percussion instrument sound different in any given passage. Alone, it sounds rather... ummm... unique. Try it on for size and see what you like. Adjustments will need to be made depending on how you use it. If you layer it with a single drum (e.g., snare drum, bass drum, and so on), adjust the pitch appropriately. Pitch tracking may obviously need to be adjusted as well.

### Program Sheet:

WAVE	PITCH	LFO	FILTER	AMP	OUTPUT
One	+0	00	2LoPass	00	99
On	+00	99	2LoPass	99	On
Transwave	+00	99	102	00	Off
(any one)	+00	00	+00	00	+00
000	+00	Noise2	+00	00	+00
00	Keybd	Pos/Sine	Veloc	02	A0
LFO	+00	Off	+50	40	C8
+99	Off		000	16	FX1
00	Off		+00	00	Medium
	00		+00	00	+00
			On	QuikRise	>000
			Normal		
			+00		

As always, change anything you want to — it's *your* beast. Although I cannot take responsibility for your results, it's my intent, through these articles, to inspire you to mix it up some. What good is a synthesizer or sampler if you do not mix it up? ■

*Bio: Jack owns CrossWave Sounds (a music production studio that markets sounds for Ensoniq instruments) and performs his original music with his band, "Clay in Hand."*

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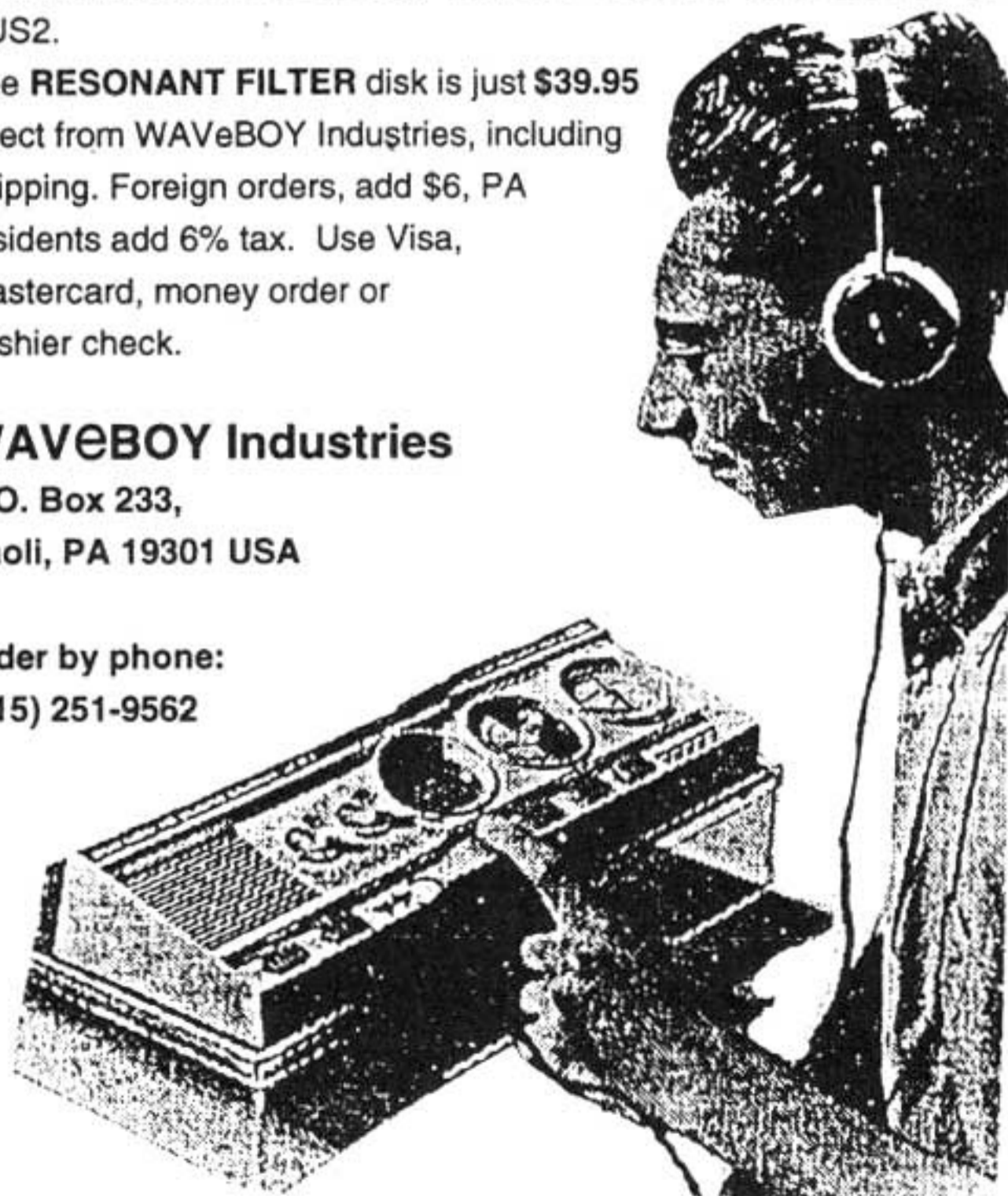
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# MIDI 1010101

## or Lessons from the School of Hard Knocks

*Bob Lang*

Do you have any of the following problems when controlling your Ensoniq equipment from a computer? Are your track volumes incorrect or different each time you play a song? Does your synthesizer fail to respond properly to SysEx dumps from the computer? Are you having trouble switching to RAM/ROM card sounds from your computer sequencer? Is your pitch wheel command not working from your computer? If you have any of these problems or just want some MIDI basics, then read on.

MIDI information is transmitted serially between MIDI devices such as computers and synthesizers, over the MIDI five pin cable. MIDI commands are broken down into binary signals, bits, which are represented by voltage changes on the line. Plus five volts represents a 1 bit and zero volts represents a 0 bit. The data transmission rate over the MIDI cable is 31250 bits per second. When an instrument receives a MIDI command such as "note on" it must receive the eight bits of information that make up the "note on" command, decode it and act upon it.

MIDI commands are divided into status and data bytes. A byte is 8 bits of information. Status bytes always have high order bit equal 1. Data bytes always have the high order bit equal zero. Table 1 has some common MIDI commands and the corresponding status and data bytes. Figure 1 is the string of bits that will start a middle C with a velocity of pianissimo on MIDI channel 2.

There are several "problems" that have to do with the serial nature of the MIDI data link. Two things to keep in mind are that MIDI commands are processed sequentially and stay in effect until they are counteracted by another command. The following are a list of "problems" that result from not understanding the serial nature of the MIDI link. All examples are for an Ensoniq SQ-2.

### **Track Volumes Are Not Correct**

Track volume is controlled with MIDI controller #7. When your computer sequencer sends a MIDI volume control change, it stays in effect until it is changed by another volume control command, the synthesizer is powered down or the computer sequencer is restarted. What can easily happen is that Track X on one song is sent volume control command for pianissimo (pp). If the next song played does not have a specific volume control command for Track X, then the board will remember the pianissimo from the previous song. This

can be quite disturbing if you were expecting the default triple fortissimo (fff) setting. It is therefore not wise to assume anything about MIDI volume control settings and start each track in a song with the initial volume control command you want for the track. That way you can not go wrong.

### **Pitch Wheel Controller Messes Up My Song**

Another problem related to controller commands occurs with the pitch wheel controller. When you use the physical pitch wheel on a synthesizer to bend a pitch up or down and release the wheel, the wheel automatically returns to the center or no pitch bend position. This is not true of the pitch wheel controller! When you put in a pitch wheel controller command such as E0 7F 7F to bend the pitch a full step or draw a pitch bend curve in with a program like CAKEWALK for WINDOWS, the pitch wheel remains in that position until a E0 40 00 command is sent to reset the pitch bend to midrange or zero bend. This means every pitch for that MIDI channel for the rest of the song will be a full step off. Yes, that can sound really bad! The solution is to always reset the pitch bend controller to mid range after a use. This is also true of other controllers as well.

### **Track Volume is Correct, But Can Not Hear Instrument**

In addition to track volume, each individual "note on" command has velocity information which is a measurement of playing force. If the track volume is set properly and the notes are not playing at the proper volume, check the velocities in the "note on" commands. If they are set low, increase their values. If the velocities are set to zero, the notes will not play at all. Many computer sequencers have a way to set all note velocities to a certain value or increase all velocities by a certain value. Try applying an adder to the existing note velocities.

### **Synthesizer Fails to Respond to SysEx Dumps**

If your Ensoniq synthesizer completely ignores your attempts to load an Internal Sound Bank Dump or other SysEx file from your computer to your synthesizer, check the MIDI channel number of the dump. The SysEx dump contains the base MIDI channel number-1 that was used when it was dumped to the computer as the fifth byte. See Table 2. If the base MIDI channel setting of the keyboard is changed after the SysEx dump to the computer, then the board will ignore



any attempt to load the file onto it because of the MIDI channel mismatch. The quickest solution to this problem is to reset the Ensoniq base MIDI channel to the original base channel. Press EDIT/SOUNDS followed by BANK 9, SCREEN 0 to see or change the base MIDI channel.

### Error Message When Transferring SysEx Dumps

If you get an error message when copying a SysEx file from the computer to the Ensoniq, you may have sent the data too quickly for the Ensoniq synth to absorb it all. Most dump programs have an adjustable time delay between blocks of data. Try slowing down the data transmission by increasing the delays between data blocks. Some synthesizers have trouble accepting MIDI dumps as fast as the computer can send them. I have not observed the problem in going in the opposite direction from the synthesizer to the computer.

### Trouble in Switching to RAM/ROM Card Sounds

The SQ-2 allows you to access 80 instrument patches and 20 drum patches in ROM memory and an additional 80 instrument patches in internal RAM and an additional 160 instrument patches in RAM/ROM cards. Since the MIDI program change command only allows instrument patches from 0 to 127, how are these 340 patches selected? First, the default is to select the 80 internal RAM instrument patches and the 20 drum patches. If you wish to access any of the other patches you must have your computer send two program change commands. The first program change is shown in Table 3 and selects from one of four sound sources. The second program change selects the instrument patch in the range of 0 to 79.

This seems straightforward. If I am using the Sound Source Unlimited Top 40 card and I want to select Alpine Horns (patch #36 decimal or 24 hex) on MIDI channel #2, I need to send C1 7E C1 24 bytes to the keyboard. A problem arises with some computer sequencers. On some sequencers you simply assign a patch number to a track. But I have two patch numbers I need to send, 7E and 24. I tried setting a patch of 24 to the track and then manually inserting a patch change of 7E first thing in the track. This did not work because the sound source select (7E) must be sent before the instrument patch select (24).

The solution is to insert both the 7E and 24 manually in the sequence in the proper order and leave the track instrument select set to 0. Also remember that like the other MIDI commands such as volume control, the sound source select stays in effect until the Ensoniq board is powered down. So if you are using the Alpine horns on Track X in one song and you change songs, remember you will still be getting a Sound Source Unlimited Top40 sound for Track X unless you specifically change the sound source by sending one of the program changes shown in Table 3.

### Conclusion

So there you have it; the "problems" described above are merely difficulties you may get into by not being familiar with the way MIDI works. Hopefully these lessons from the school of hard knocks will allow you to avoid having to learn this stuff on your own.

**Table 1**  
**Some Common MIDI Commands**

Description	Status Byte	Data Bytes
Note off	8m	nn pp
Note on	9m	nn pp
Controller	Bm	rr ss
Program/Patch Change	Cm	qq
Pitch Bend	Em	ss ss
SysEx Start	F0	
SysEx End	F7	

where:

m = a MIDI channel number, 0-F hex, 0-15 decimal (MIDI channel is biased by 1, 0 is MIDI channel 1, 15 is MIDI channel 16)

nn = A MIDI note number, 0-7F hex, 0-127 decimal. Middle C is 60 decimal.

pp = Note velocity, 0-7F hex, 0-127 decimal. pp = 40 decimal, ff = 90 decimal.

qq = Program or patch number to change to, 0-7F hex, 0-127 decimal. Harpsichord = 6 decimal, violin = 40 decimal in General MIDI standard.

rr = Controller number, 0-7F hex, 0-127 decimal. Volume = 7 decimal, Pan position = 10 decimal.

ss = One or two bytes of controller or pitch bend data. High order bit in byte is always zero. Volume = 0-7F, Pan Position = 0-7F, Pitch bend = 0-7F7F.

**Figure 1**  
**MIDI Data for Middle C**

1   0   0   1   0   0   0   1	8 binary bits = 1 status byte
9   1	hex
145	decimal
0   0   1   1   1   1   0   0	8 binary bits = 1 data byte
3   C	hex
60	decimal
0   0   1   0   1   0   0   0	8 binary bits = 1 data byte
2   8	hex
40	decimal



**Table 2**  
**First Few Bytes of Internal Sound Bank Dump**  
**SysEx file**

F0 0F 06 00 00 03 ...  
 | | | | | | Message Type, 3 is all internal sounds.  
 | | | | | | MIDI Base Channel -1, 0 indicates channel 1 on  
 | | | | | | Ensoniq front panel.  
 | | | | | | SQ-1 Model ID Code.  
 | | | | | | SQ-x Family ID Code.  
 | | | | | | Ensoniq Code.  
 | | | | | | System Exclusive Status Byte.

**Table 3**  
**Program Changes Used to Select Sound Sources**

Hex	Decimal	Action
7C	124	Internal RAM sounds
7D	125	Internal ROM sounds
7E	126	Card A Sounds
7F	127	Card B Sounds

## Classifieds

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It's not too late to save yourselves! Send an SASE for Tom Shear's catalog of inexpensive samples for the EPS/16+/ASR/TS samplers. From classic Moogs to current Korg favorites, we still give you the most for less! Tom Shear, 255 Small Road,

Syracuse, NY 13210.

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

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Will buy original sound cartridges, disks for VFX/SD-1 from someone in D/FW area. Call Mo, (214) 330-6414.

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

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Desperate **MIRAGE** user looking for almost anything Mirage: sequence expander,

OSs especially if made by Upward Concepts or Leaping Lizards. Can you help me? Send list & prices to: Ariel Aramburu, Ruiz Huidobro 3923, 7mo "C," (1430), Capital, Argentina. Thanks!

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## Prog: SHADOWCASTER

By: Dan Richards, Canton, Ohio

Notes: A chorused electric guitar. I tried to get the tone something like my Stratocaster.

WAVE	1	2	3
Select Voice	On	Off	Off
Wave Class	St Wv		
Wave	ElectGuit		
Delay Time	0		
Wave Direction	Forward		
Start Index	0		
MODSRC	Off		
MODAMT	0		
Restrk Decay	50		

LFO	1	2	3
LFO Speed	0		
Noise Rate	0		
Level	0		
Delay	0		
MODSRC	Off		
Wave	Tri		
Restart	Off		

AMP	1	2	3
Initial	99		
Peak	95		
Break	90		
Sustain	0		
Attack	15		
Decay 1	40		
Decay 2	80		
Release	30		
Vel-Level	13		
Vel-Attack	0		
Vel Curve	Convex		
Mode	Norm		
KBD Track	0		

PITCH	1	2	3
Octave	0		
Semitone	0		
Fine	0		
ENV1	0		
LFO	0		
MODSRC	Off		
MODAMT	0		
KBD Ptch Track	On		
Glide	Off		
Glide Time	0		

FILTER	1	2	3
Filter 1	2Lp		
Filter 2	2Hp		
FC1 Cutoff	0		
ENV 2	+75		
FC1 KBD	-10		
MODSRC	Off		
MODAMT	0		
FC2 Cutoff	0		
ENV2	+65		
FC2 KBD	+35		
FC1MOD-FC2	Off		

OUTPUT	1	2	3
VOL	99		
Boost	Off		
MODSRC	Off		
MODAMT	0		
KBD Scale	0		
Key Range	A0 C8		
Output Bus	FX1		
Priority	Med		
Pan	0		
Vel window	0		

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	99		
Peak	95		
Break	80		
Sustain	0		
Attack	15		
Decay 1	40		
Decay 2	70		
Release	30		
Vel-Level	19		
Vel-Attack	0		
Vel Curve	Convex		
Mode	Norm		
KBD Track	0		

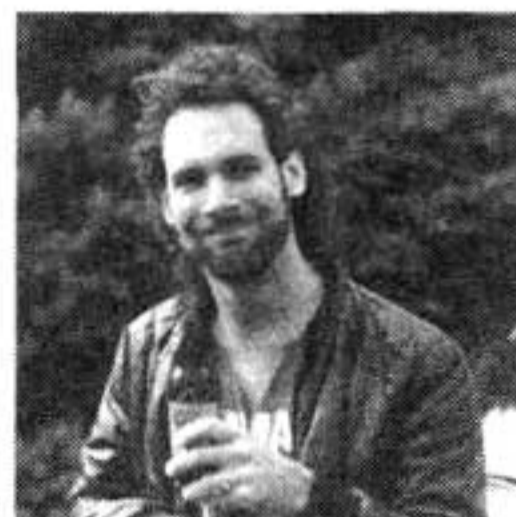
### EFFECTS — CHORUS AND REVERB

FX-1	25	FX-2	25
Decay time	20	HF Damping	0
Chorus Rate	18	Chorus Depth	35
Chorus Center	50	Feedback	0
Chorus Level	99		
MOD (Dest)	FX1-Mix		
BY (MODSRC)	Modpedal		
MODAMT	0		

**The Hack:** This electric guitar has a nice warmish bite and is among the better comping sounds I've heard. (It also has a great patch name.) It's good enough to stand (almost) on its own — it doesn't really need the chorus at all. For reverb only, go to the Output Section and look under Output Bus. Switch to FX2. If you elect to use both Chorus + Reverb (thus using FX1), here's a couple of slight alterations: Decay Time = 30, HF Damping = 13, Feedback = -10, and MODAMT = 55.

A little LFO may be effective if it's brought in by the Wheel (or whatever). Enable the LFO. In the LFO Section bring LFO Speed to 32 and Level to 13. The MODSRC should be set the Wheel. Then, at the Output, change MODSRC to LFO and MODAMT to

+10. Make changes in the Pitch Section too: MODSRC = LFO, MODAMT = +04. Play this guitar wherever you find Steve Cropper, Robert Cray, Tower of Power, James Brown, Joe Lewis Walker...



Jeffrey Rhoads

*Bio: Jeffrey Rhoads has been a keyboardist/composer on the Philadelphia Jazz and R + B scene for a period of time resembling forever. He has an interest in cinema and has developed some film courses. Jeff still believes in magic and longs for city lights.*

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

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



## SD & VFX Prog: POTS-N-PANS

By: Walter Cooper, Latter Sound Production

**NOTES:** Taking a page from Yamaha's 4-operator synths, here's a recreation of one of my favorite DX sounds. The pots 'n pans sound melodically cool. Of course, velocity is everything to this patch.

**THE HACK:** POTLID-HT has always been one of my favorite VFX waves, and Walt has made good use of it here. To get a vibrato in the sound, I changed LFO to +07 on the Pitch Mod page of Voice 1 — but this only gives vibrato from key pressure. I wanted the wheel to add it too, so on the LFO page, I changed the

WAVES	1	2	3	4	5	6
Wave	PotLidHit	WoodyHit	MetalDink		DigitalX	DigitalX
Wave Class	TunedPerc	Perc	Perc		Transwave	Transwave
Delay	0	0	0		0	0
Start	0	0	0		0	0
Direction	Forward	Forward	Forward		-	-
MODSRC	-	-	-		LFO	LFO
Mod Amt	-	-	-		0	0

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

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

PITCH MODS	1	2	3	4	5	6
MODSRC	LFO	LFO	LFO		Press	Press
MODAMT	0	0	0		+23	+23
Glide	None	None	None		None	None
ENV1	0	0	0		+5	+5
LFO1	+1	+1	+1		0	0

FILTER 1	1	2	3	4	5	6
Mode	2LP	2LP	2LP		2LP	2LP
Cutoff	0	0	0		0	0
KBD	+15	+15	+15		+15	+15
MODSRC	Timbr	Timbr	Timbr		Timbr	Timbr
MODAMT	+38	+38	+38		+38	+38
ENV2	+99	+99	+99		+99	+99

FILTER 2	1	2	3	4	5	6
Mode	2HP	2HP	2HP		2HP	2HP
Cutoff	8	8	8		8	8
KBD	0	0	0		0	0
MODSRC	Timbr	Timbr	Timbr		Timbr	Timbr
MODAMT	+22	+22	+22		+22	+22
ENV2	+46	+46	+46		+46	+46

OUTPUT	1	2	3	4	5	6
VOL	99	99	99		41	63
MODSRC	Wheel	Wheel	Wheel		Wheel	Wheel
MODAMT	0	0	0		0	0
KBD Scale	0	0	0		0	0
LO/Hi Key	A0/A0	A0/A0	A0/A0		A0/A0	A0/A0
Dest Bus	FX1	FX1	FX1		FX1	FX1
Pan	40	40	40		33	40
MODSRC	Veloc	Veloc	Veloc		Veloc	Veloc
MODAMT	+13	+13	+13		+13	+13
Pre-Gain	Off	Off	Off		Off	Off
Voice Prior	Medium	Medium	Medium		Medium	Medium
Vel Thresh	0	0	0		0	0

LFO	1	2	3	4	5	6
Rate	34	34	34		34	34
MODSRC	Wheel	Wheel	Wheel		Wheel	Wheel
MODAMT	+99	+99	+99		+99	+99
Level	0	0	0		0	0
MODSRC	Press	Press	Press		Press	Press
Delay	0	0	0		0	0
Waveshape	Sine	Sine	Sine		Sine	Sine
Restart	Off	Off	Off		Off	Off
Noise SRC RT	-	-	-		-	-

LEVEL MODSRC to WL+PR, and set the RATE MODAMT to 0. If you want more upper notes and don't need the clangorous bottom range, change the Pitch OCTAVE to +1, or even +2; the high octaves are quite nice.

For some free new patches, shift over to the Wave page and try SYN-PLUCK and PLINKHORN as waves. They both work most triumphantly.

- Sam Mims

### SELECT VOICE

00	1				
0*		3		5	
*0	1	2			
**		2			6

ENV1	1	2	3	4	5	6
Initial					53	53
Peak					0	0
Break 1					0	0
Break 2					0	0
Sustain					0	0
Attack					0	0
Decay 1					0	0
Decay 2					0	0
Decay 3					0	0
Release					0	0
KBD Track					0	0
Vel Curve					Conv2	Conv2
Mode					Norm	Norm
Vel-Level					0	0
Vel-Attack					0	0

ENV2	1	2	3	4	5	6
Initial	99	99	99		99	99
Peak	99	99	99		99	99
Break 1	54	54	54		54	54
Break 2	52	52	52		52	52
Sustain	45	45	45		45	45
Attack	0	0	0		0	0
Decay 1	44	44	44		44	44
Decay 2	38	38	38		38	38
Decay 3	38	38	38		38	38
Release	7*	7*	7*		7*	7*
KBD Track	11	11	11		11	11
Vel Curve	Cncv1	Cncv1	Cncv1		Cncv1	Cncv1
Mode	Norm	Norm	Norm		Norm	Norm
Vel-Level	76	76	76		76	76
Vel-Attack	0	0	0		0	0

ENV3	1	2	3	4	5	6
Initial	99	99	99		99	99
Peak	99	99	99		99	99
Break 1	99	99	99		99	99
Break 2	73	73	73		73	73
Sustain	65	65	65		65	65
Attack	0	0	0		0	0
Decay 1	17	17	17		17	17
Decay 2	46	46	46		46	46
Decay 3	38	38	38		38	38
Release	16*	16*	16*		16*	16*
KBD Track	11	11	11		11	11
Vel Curve	QuikR	QuikR	QuikR		QuikR	QuikR
Mode	Norm	Norm	Norm		Norm	Norm
Vel-Level	0	0	0		0	0
Vel-Attack	0	0	0		0	0

### PGM CONTROL

Pitch Table	Off
Bend Range	**
Delay	X1
Restrike	0
Glide Time	0

### EFFECTS (1)

Effect	Chorus & Reverb1
Decay	70
FX1	28
FX2	25

### EFFECTS (2)

Rate	14
Depth	50
Delay	8
Rate Mod	+44
Depth Mod	0
Mix	50

### EFFECTS (3)

Waveshape	Sine
Mod SRC	Wheel
HF Cut	Off

### PERFORMANCE

Timbre	0
Release	0
Pressure	Key



## ESQ Patch: SNTANA

by Ted Ulle, Brighton, MA

I use this patch to simulate a Santana-like sustained guitar lead. The portamento effect when notes overlap contrasts in a very "guitaristic" way with discrete key hits, sounding like slurred notes and individually picked ones. The pedal introduces some "beating" effects. This patch sounds amazing through a distortion pedal!

### The Hack

I didn't have a distortion pedal handy, but I bet it works wonders; effects are an important part of a lead guitar sound. I found it hard to play fast lines with such heavy portamento; pulling the GLIDE level to 07 did the trick for me. The overall sustain was too long for me, so I pulled T4 of ENV 4 down to 40, but this will depend on your own tastes and on the effect you are piping this through. As a final touch, I wanted more vibrato than the wheel would give, so I cranked the LFO 1 depths up to +03 on the OSC 1 and 2 pages.

## ESQ Patch: SUDOE2

by Marc Hoppe, Las Vegas, NV

This bell sound has a delay/echo effect.

### The Hack

And a rather cool one at that. After the initial bell sound, there is a "reversed bell" effect (OSC 2) pitched a fourth higher, followed by an echo of the normal bell, and this cycle keeps repeating for as long as a key is held down. The mod wheel sends these echoes sweeping from one side to the other. LFO 2 controls the delay time of the echo effect; increasing the LFO FREQUENCY will make the repeats happen faster.

Try substituting the SINE waveform for the BELL of OSC 3; this gives a much mellower sound. Or try turning on the SYNC function (Modes page) for a rather nice modification; OSC 2 is now pitched on the same note, and is a more pronounced backwards sample effect. Turning on AM instead gives a clangorous bell effect.



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

## ESQ-1 PROG: SNTANA

By: Ted Ulle

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	00	00	SINE	LFO1	+01	OFF	-
OSC 2	-1	00	00	SAW	LFO1	+01	ENV1	+24
OSC 3	-1	00	00	NOISE3	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	-	OFF	-
DCA 2	63	ON	OFF	-	OFF	-
DCA 3	00	ON	PEDAL	+42	ENV2	+31

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	013	00	27	ENV3	+63	LFO2	-34

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	00	01	06	WHEEL
LFO 2	09	OFF	OFF	TRI	00	00	00	PEDAL
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	+63	+00	+00	00	00	00	35	00	07	00
ENV 2	+63	+00	+00	63	00	00	15	00	00	00
ENV 3	+63	+57	+52	32	07	00	02	63	48	00
ENV 4	+63	+60	+55	25	11	08	32	39	53	00

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	ON	OFF	ON	19	ON	ON	OFF	OFF

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

## ESQ-1 PROG: SUDOE2

By: Marc Hoppe

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+3	0	0	BELL	*OFF*	+0	LFO1	+2
OSC 2	+1	5	2	BELL	*OFF*	+0	LFO1	+1
OSC 3	+0	0	4	BELL	*OFF*	+0	LFO1	+2

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	26	ON	LFO2	-63	*OFF*	+0
DCA 2	26	ON	LFO2	+63	*OFF*	+0
DCA 3	58	ON	ENV2	+63	*OFF*	+0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	85	0	0	ENV3	+63	*OFF*	+0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	62	8	LFO2	+63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	19	ON	OFF	TRI	9	0	11	*OFF*
LFO 2	9	ON	OFF	SAW	63	0	63	WHEEL
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	+63	+50	+45	0	0	0	50	63	51	9
ENV 3	+63	+44	+32	8	0	0	50	63	51	9
ENV 4	+63	+63	+62	8	0	0	0	35	46	9

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

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



# The Interface

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

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

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

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

Dear Snart Hack,

I wrote a letter a while back which discussed sequencing an ASR-10 from an IBM 286. My letter revolved around the fact that the ASR-10 was receiving and or giving hanging notes from or to my computer's sequencing software. Through the magic of technology, I, along with a technician at Ensoniq, found the problem.

I still ditched the computer because it was too slow, but I recently bought an Oberheim Matrix-6. I was sequencing my Matrix from my ASR-10 and noticed the Matrix had missing or compressed notes when the sequence was played back. After calling Ensoniq, a very kind gentleman told me that Ensoniq keyboards always send program change messages.

So the problem was that the Matrix was too slow to handle that much data, and that the notes were being interrupted by program change messages. I simply programmed my Matrix to ignore the program change messages and now it works like clockwork. I'm guessing that if you're using a 286 to do any sequencing, you would also have to instruct the sequencing software to ignore program change messages.

I also have two quick questions. When using the dual delays on one "instrument," any other "instruments" which are routed through BUS 3 seem to be muffled. Does this have something to do with algorithms and hardware/software conflicts which would require a couple more years of calculus to understand - or is my machine faulty? My last question involves step recording. Why isn't this feature implemented on the ASR-10? The event edit track thing gets pretty tiresome after a while. Will there ever be an operating system version which has step recording, or is this also a hardware thing?

Sampling, Sequencing, and Programming,  
Christian Hresko,  
Bel Air, MD

[TH - Snart Hack?]

[CS - You can also delete program changes from individual tracks using the ASR's "Fil-

ter Events" command.]

[Ensoniq - Regarding the BUS 3 sounding "muffled" - it seems to us that you are running your system in mono. With a few of the algorithms there is a phase offset that will cause this symptom when the two sides of a stereo signal are summed to mono. As a workaround, we suggest that you either run your system in stereo, or at least place a dummy plug into the other output so the ASR doesn't automatically sum the signal to mono. Note that if you do use the dummy plug you will have to check the panning of your sound to be sure that it is set fully left (or right) to get a full signal. We are currently looking into this situation.

The ASR doesn't support step-recording, which is a design that we developed in our synthesizer sequencer. The synth sequencer is a different design than our sampler sequencer, so they do not have all the same features. We do not have any current plans to add step recording to the samplers.]

Dear Hacker,

I really appreciated the article by Sam Mims on "Creating pads on Ensoniq Synths" (TH, November, 1993). While being easy to follow, it provided some excellent instruction on the basics of sound synthesis. And, what a great pad! I can't wait for the next installment.

In his article, Sam talked about using the "Copy" page to make copies of one voice into a second voice. I realize he was talking specifically about the VFX/SD-1 family. However, I have a KS-32, and try as I might, I couldn't find a way of copying all the voice parameters from one voice to another voice within a single sound. I also couldn't find any reference on how to do this in the Musician's Manual. Can you let me know if the KS-32 has this copy feature, and if so, how to access it?

Another question while I have your ear. I notice from time to time in TH, lists of the most recent versions of operating systems of various synths. How do I find out the version of my KS-32?

Love the magazine, and keep up those great articles!

Yours sincerely,  
Manfred Jusaitis  
Daw Park, South Australia

[CS - Sorry - there's no equivalent of the VFX/SD/TS-10 copy command available in the SQ/KS series of instruments. You'll have to enter parameters manually. However, you will develop real good hand-eye coordination, eventually.]

[Ensoniq - The current O.S. for the KS-32 is version 3.01. You can find the current version by pressing (in quick succession) EDIT SEQ/PRESET, BANK 9, SCREEN 1.]

Dear Hacker,

I've just purchased an ASR-10 rackmount to replace my EPS-16+. When I'm working with the following commands: Mix Wavesamples, Merge Wavesamples, and Splice Wavesamples, the unit will not perform them correctly.

An example for Mix Wavesample: After I've selected the wavesamples that I want to mix, I select the Mix Wavesamples command, then I press Enter/Yes. The display shows, "Are samples layered?" and then I press Enter/Yes again. I continue through the procedure until I set the volume balance and press Enter/Yes to perform the command. The display will show, "Keep = Old/New." If I press Enter, sometimes it all works fine and sometimes the display shows, "Saving New Data..." and there it so remains. I must turn the unit off. If I press No/Cancel to keep the original intact, in the destination instrument appears wavesamples numbered 254, 247, and so on.

I've this same problem with mix, merge, and splice commands, but not with the others. Is this a software problem? (I've got ROM O.S. Version 1.50, and RAM O.S. Version 1.61.) Is my ASR-10 damaged? It's had only one month of life!

Sincerely,  
Andrea Bondel  
Trieste, Italy



[CS – It's possible that you've discovered a bug; turns out that so few people actually use the mix, merge, and splice functions that it's altogether possible that no one's noticed the problem before (I, for one, almost never use these functions). If there is a problem, it's more likely that it would manifest itself when trying to process stereo samples, though. If this is what you're trying to do, you might try turning the stereo layer link off, processing the samples as though they were mono samples, then turning the layer link back on. In the meantime, if you can successfully replicate your problem, give Ensoniq Customer Service (215-647-3930) a call and explain it to them. This way there'll be good a chance that the problem might be fixed in a future OS release.]

[Ensoniq – You have found a bug and it has already been corrected in O.S. Version 2. We have just started shipping it to all of our dealers and distributors, so it should be in Italy by the time you read this reply.]

Hello Hacker,

After doing a couple albums and innumerable sequences for live use on Ensoniq keyboard sequencers, it's refreshing to see they have finally added a tempo track for ritards and accelerandos. There is still one editing feature that is missing which is necessary to allow it to compete with "serious" sequencers. That is an "offset" feature which allows values to be increased or decreased by a specific amount. Scaling works by percentage and widens or narrows the range – but frequently that is not what is needed. An example would be in raising (or lowering) the bass drum velocities on the chorus. The note range would be set to the assigned note, the measure range would be set from beginning to end of chorus and the offset would raise (or lower) the velocities of all bass drums by, say, 20 steps. This maintains the same relationship between louder and softer bass drum kicks while increasing (or decreasing) them all by a fixed amount.

This technique can also set an upper or lower limit by adding or subtracting until the values "peak out" at either end and then add or subtract back to the desired level. As of now, even with the TS-10 you must either go into Event Edit and change each value one at a time, or use scaling which just doesn't work.

I've gotten to the point where I will put the track in my Yamaha QY-20 and edit it and then dump it back to my Ensoniq. The Yamaha is a \$400 – \$500 unit and it totally amazes me that Ensoniq is so far behind in this regard.

Well, they finally got the tempo track together – even though five or six years late – I'm hoping the offset feature will come soon. By the way, some of us prefer to work with a keyboard sequencer instead of a computer sequencer, so don't think that there isn't "serious" sequencing being done out there in the trenches on keyboard workstations.

P.S. I still think they should upgrade the VFX/SD-1s to 32 voice!

Great mag. Keep up the good work,

Roshan Kumar,  
Waialua, HI

[CS – I agree – a simple process for adding or subtracting velocities from a range of notes in a track is pretty much essential, and for just the reasons you've mentioned. And as for the VFX/SD upgrade, there were upgrades available at one time. Technology marches on, though, and I believe that the upgrades are no longer available.]

[Ensoniq – Thanks for the input. We'll keep it in mind.]

Hello to the Hacker,

When reading the December 1993 issue of the *Hacker*, I was really surprised to hear about the "purging" operation that can be done by turning the power switch on and off seven times at one-second intervals.

Some questions... Why would you want to do this? What will happen to the system if you do perform this action? What conditions might exist to tell you that it is "time to purge"? Are there any potential "side-effects" from doing this? And anything else you can share about this operation.

Thanks and Happy New Year to you all.

Ron Rink,  
CS: [73144,1727]  
Middlebury, Vermont

[CS – The ONLY reason to purge your memory in this way is if you can't get your

machine to boot up at all (you turn the machine on and immediately get a system error/crash/etc.). If your machine boots up okay but exhibits some sort of untoward behavior, use the re-initialization procedure as outlined in your owner's manual.

Either procedure will purge your onboard static RAM, meaning that the machine will be returned to its factory default settings. This also means that any non-factory programs or presets, or any sequences in memory, will be erased. It is therefore wise to be sure that any of this type of data that you wish to retain be backed up somewhere before re-initializing so it can be re-loaded after re-initializing. The bottom line is, unless your machine seems to be behaving incorrectly, you probably shouldn't re-initialize using either procedure.]

Dear Hackers and Hackerettes,

About this need for patches for the EPS and ASR samplers... What I have tried once or twice (since I own an SQ-R+ and a '16+) is to copy the parameters from an SQ-R patch to the '16+, and try them with different

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[Garth Hjelte, *TH*, July '93]

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waveforms to see what happens. The params are saved and reused as "COPY PARAMS ONLY." Ergo, if a set of parameters that had the most pronounced effect on the waveforms were presented as EPS "patches," it would open up the door for a different method of hacking.

An aside to Ensoniq - is it possible for these two machines to pass this sort of data back and forth through MIDI, like in the form of a sys-ex dump?

Rick Ledbetter  
Small Dog Music  
Toluca Lake, Calif.

[CS - Thanks for the cool tip, Rick! And even though your question is directed toward Ensoniq, I think I can answer it. No. The parameters and associated values for the two different machines are not similar enough to make programs compatible.]

Dear Hacker,

I have owned an SQ-2/32 since June. So far, I use it to hear with my ears the music I

have heretofore only heard in my head and written out. It has been a great pleasure to do so.

One gripe I have is that it is so hard to make a smooth tempo change. I'm not a good performer, so I play slowly with the click, then use the tempo setting to bring it up to speed before recording it onto an audio cassette. My music has a lot of rubato (not only swing, but ritards and accelerandos), and the tempo button doesn't react fast enough, then, as it is held down, goes too fast - making proper tempo changes difficult or impossible. Data Entry and Volume are on slides; why not tempo? Can wheel status be changed so that I can use it somehow?

Also, why does the SQ-2/32 return less memory when a sequence is deleted than it took to create it? I write "thick" music which tends to use many events and run out of memory quickly. Therefore, I try to keep an eye on how much memory I use. It seems to me that the percentage change is greater as I build the sequence/song that it is when I finally delete it to make room for a new work. Does it have anything to do with the need to fragment memory when

storing the changes that I make as I polish a work?

Hope to see some answers soon.

Sincerely,  
Sonya Sherman  
Tallahassee, Fla.

[CS - Unfortunately, there's no way to create the kind of tempo changes you want on your SQ-2/32. You can, of course, create several shorter sequences at different tempos, then chain them together to create the final song, with tempo changes.

It's pretty normal for the amount of memory in your SQ (or any computer-based system) to vary slightly after you've performed the types of operations you describe. If you are getting major variations, though, I'd suggest contacting Ensoniq Customer Service (215-647-3930) directly and explaining the problem to them. If you run out of memory a lot, you might want to consider picking up an SQ memory expander (I believe it's called the SQX-70, or something like that). It should increase your memory by a factor of about 4.]

Sirs:

I own an ASR-10. Can you please write an article in depth on how to sample and properly truncate snare drum samples from microphones or sample disks? Most drum sound floppies I own always have snare drums that, when played fast in fills or rolls, sound like machine guns. This is almost always the dead-give-away that the drums aren't being played by a drummer in the albums or demos that I hear. How can you take three samples, like a soft, medium, and a hard hit, and assign all three to the same key? How do you get the key to respond to change according to touch sensitivity? This would probably work great on stiff sounding hihats also.

Joseph VanOrden  
Union Beach, NJ

[CS - Actually, the "machine gun snare" syndrome is more often a symptom of improper sample programming than it is of a bad sample itself. Try taking an offending drum sample and increasing its sensitivity to velocity. For a quick edit, try selecting the preset percussion envelope for both ENV2 and ENV3 (filter and amp). Back off FC2 (filter 2 cutoff) to something in the

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range of 64 - 90, and set FC2 MOD to something in the range of +37 to +64. Now the drum sound should get both brighter and louder as it's played harder. For the final touch, use velocity to modulate the pitch of the sound by a small amount - something between +1 and +6. This will help to mimic the way a drum tends to sound slightly sharper the harder it's hit. And last but not least, make sure that your programmed sequencer parts utilize the drum sound's dynamics. All the programming in the world won't help if you don't vary the dynamics in your sequenced tracks.

If you want to velocity-switch between several samples, you'll need to make sure that each sample is in its own layer, and that each has the same key range. In other words, to switch between three drum samples, put the soft sound on key D2 in layer one, the medium sound on key D2 in layer 2, and the loud sound on key D2 in layer 3. Make sure all three layers are enabled in the patch you want to work with, and then use the LYR VEL menu to control which layer will play for which velocities. In this example, you might want to set layer

1 to respond to velocities of 0-48, layer 2 to velocities of 49-96, and layer 3 to velocities of 97-127. Then again, you may not.

At any rate, more detailed instructions on any of these processes can be found in your ASR-10 owner's manual.]

[Ensoniq - Another method that some users find helpful is to put the three different samples on adjacent keys, and then use the different hits in combination to sound more musical. Some people find it harder to use velocity control to accurately get the effect they want.]

Sirs,

I am facing difficulties finding sounds for my KS-32 here in France and would like to create a SQ/KS users group. Would it be possible for you to publish my proposal with my address so that French SQ/KS users could contact me?

Thanks in advance - and, please, more articles about the SQ/KS.

Yours,  
Greg Marechal  
10 Rue Jean Bleuzen,  
92170 Vanves,  
France

[TH - Sure.]

[Ensoniq - We currently have the following cards for the KS-32:  
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To the Interface,

Boy, the last few months have been terrific in this forum! It is great to have so many readers tips and great suggestions. There are a couple of things I can expound on from last month.

First, thank you for the great review on our Ultimate Organ Library. It's great to get a constructive write-up like that. The loop in 80 0800 008 (only on the Original EPS) has been fixed, the Farfisa Tone Booster

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KYBRD AMP MOD has been turned off, and quality control concerning the labels has been improved. Thanks for the review!

Second, Angelo Zucco mentioned that he would like a parameter editor/librarian for the ASR-10. The EDM from Giebler can provide librarian functions, and we (Rubber Chicken Software) are planning to release an EPS-SENSE parameter editor for the 16-Plus and the ASR-10 very soon, perhaps with Windows compatibility! What Angelo described is exactly what EPS-SENSE does - relay SYS-EX messages to remotely change parameters easily from a PC, eliminating the "button-surfing" Clark fondly alludes to. And what Clark said concerning availability is completely true - the music/keyboard market is too small to support a programmer doing this. The release date for EPS-SENSE-16 and EPS-SENSE-ASR is mid-February, and EPS-SENSE-TS late March. Projected price - \$59.95.

Third, Paul Bissell threw down a gauntlet for the Rush "Tom Sawyer" sound. Some other people had been asking for it, so we programmed and now have it. Give us a call, Paul, and we can send it to you.

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(P.S. Clark, I swear I saw you in most of the Dean Martin "Roasts" back in the '70's...)

Fourth, speaking of upgrades, are we ever going to see 2.5 for the Original EPS? This was supposed to include the backup/restore function for storage devices.

Fifth, will the *Hacker* ever be available in music stores?

Sixth, it looks like maybe Maartists is back in some shape or form. There is a new number for them (404-623-3907), in which you presently get an answering machine, which mentions they are updating their phones. We haven't got a call back yet, but maybe this will help the Maartist people who need support.

Seventhly, we're really hungry for the Watt Products EPS Tempo Controller. Just what we need!

Eighthly, here's my reader's tip (courtesy of the people who call me on the Transoniq-Net). Here's a cool way to backup your sounds – get Giebler's Ensoniq Disk Manager, transfer all your sounds into a PC, and back them up to tape cartridge (if you have such a mechanism). You can then stow it away the cartridge for safe keeping.

And lastly, I've been reading a lot of good stuff concerning what Ensoniq has been doing with their "Soundscape" technology. Ensoniq is providing a custom chipset for soundboards for PC's, etc, which includes a lot ASR-10 and ESP technology. Sort of like putting a TS-10 in your PC. Mentioned are the Kalix, SPEA, REVEAL and Criterion boards, which offers wavetable synthesis, 32 voices, 16-bit wavetable sounds, Microsoft Windows Sound System Compatibility, and 16-bit/44.1 kHz stereo record/playback, among other things. En-

soniq, can you comment on this?

Just so you know, our studio EPS-16 Plus has worked, and always has! (The plastic display glass always falls off, though...)

Garth Hjelte  
CS: [72203,2303]  
Rubber Chicken Software Towers  
Davie, FL

*[CS – That was Kitty Carlisle you saw in those Dean Martin roasts; we're often mistaken for one another.]*

*[TH – Well, there's a few brave music stores that buy the Hacker in small quantities (we suspect it's probably more for their staffs than for resale). But, with our flyer-in-the-box advertising, we really get pretty good exposure and music store sales probably don't make too much "cents" (heh). Music stores are certainly welcome to give us a call if they want to try it.]*

*[Ensoniq – Hi Garth!*

*4) We are not currently working on or planning any further revisions to the original EPS Operating System. Unfortunately, sometimes the best laid plans...*

*And while we can't comment completely on the activities of our MultiMedia division we can say that our plans keep changing and we really should update all you hackers – perhaps in the next issue. Our main thrust for our current technology is to enter the game sound card market, so to define the current Soundscape as a TS-10 in your PC is a bit exaggerated. That market won't bear the price needed to put that level of technology onto a card. We do have plans to offer different levels of our technology at different price points in the future, so stay tuned – you may someday get that type of*

*card from a third-party company or ourselves.]*

Dear Transoniq Hacker,

I'm a U.S. soldier currently stationed in Germany with one gigantic problem – no contact with real music stores!! Now don't get me wrong, I've found some good ones here in Europe but when it comes to getting equipment fast or just getting the equipment, they're lost. Here's my dilemma: I went to Frankfurt here in Germany looking for a 4x Expander for my EPS. It took over three weeks just for them to get the response from their distributor that, "They don't make them anymore." So my first question is, do they still make the 4x Expander? My second question is, is there any way to get hold of an old one? Any help on this would be greatly appreciated.

Mike Johnson  
Somewhere in Germany

*[TH – The 4x Expander (the ME -2) is still available from Ensoniq. They've lowered the suggested list price to \$349.95, and you should be able to get one from a dealer. If you can't, try ordering directly from Ensoniq. (We've passed your address along to Ensoniq and they'll be sending you some information.) To try to find a used one, probably the best bet is to just put a small ad in our classified ads.]*

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### BACK ISSUES

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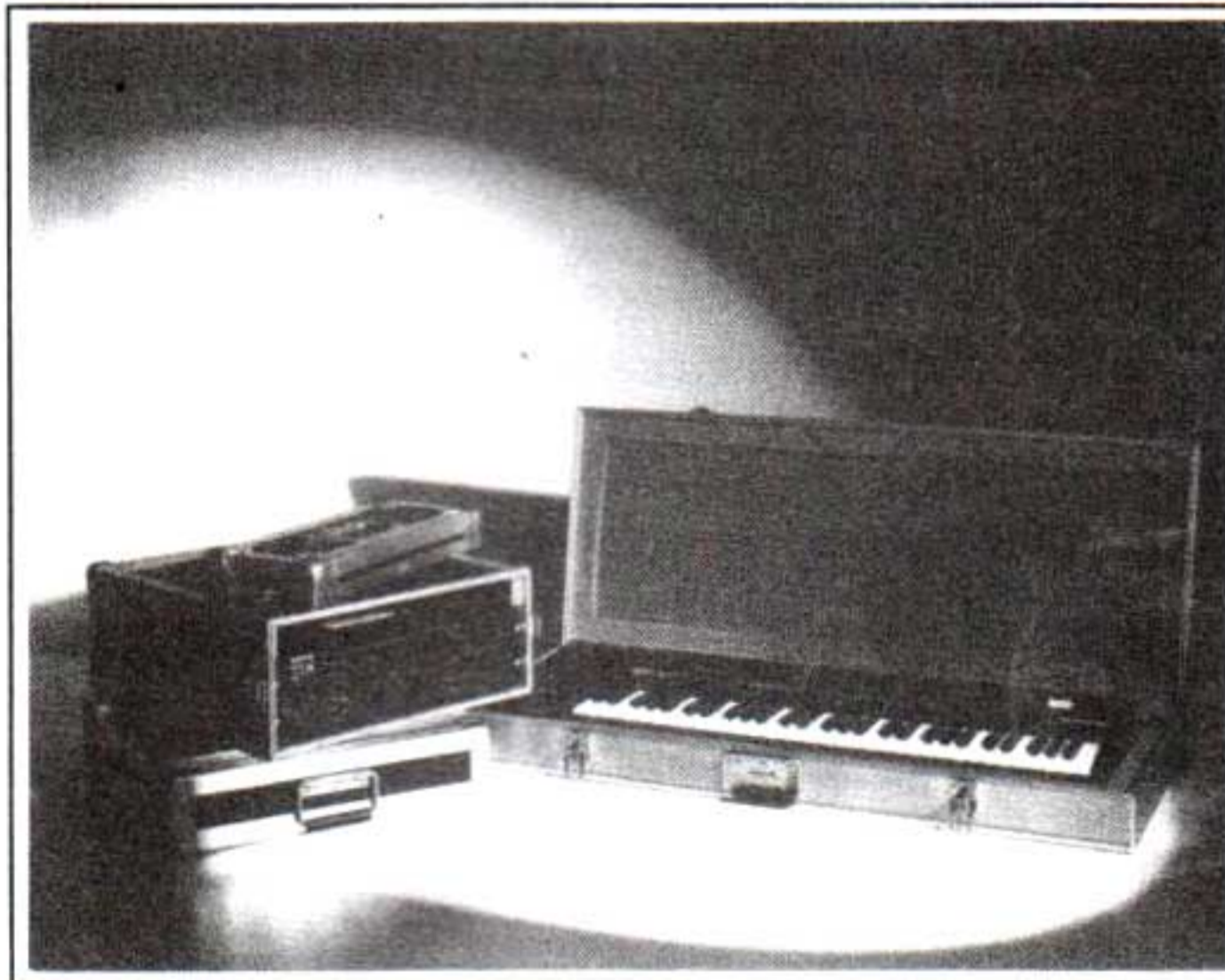
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