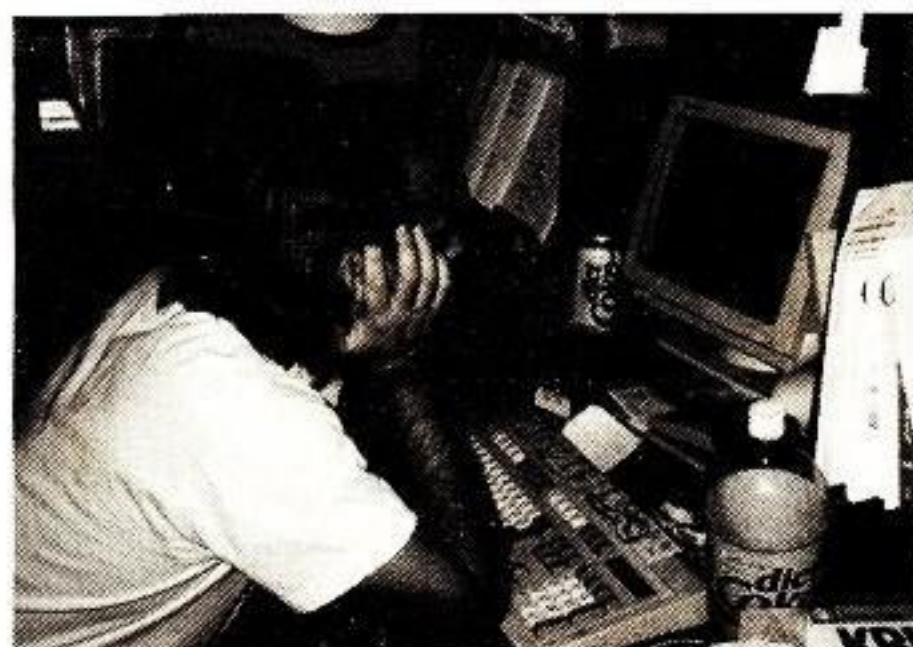


Transoniq Hacker

The Independent News
Magazine for Ensoniq Users

Review: Triviatoons

Jim Johnson



For: VFX-SD, SD-1
Product: Triviatoons, Volume 1.
Price: \$99.95 plus shipping.
From: Triviatoons. Order phone (215) 889-9744, Demo phone (215) 889-9746.

Every once in a while I'm asked to review a product that, when I load it into the computer or synthesizer, just makes me want to laugh. Usually, this is a painful experience — I hate to think of the amount of time and, more importantly, emotional investment that has gone into a set of sounds or piece of software that has nothing whatsoever to recommend it. Yet sometimes, I get to break out in a deep bellylaugh, at no one's expense (except, of course, those who have the misfortune of being in the room with me). Case in point: the night I loaded Triviatoons in my VFX-SD.

Triviatoons, Volume 1, is the first (I hope) of Michael Ford's series of sequence disks for the sequencer-equipped members of the VFX family. Those of you who've been following the Ensoniq

saga since the early days may recognize Michael as the guy who was responsible for the original Mirage sequences. I must admit, I'm not one of them and given the level of sophistication of the Mirage's sequencer, I can't apologize for not tracking them down in the past. But one thing is for sure: When you give this guy a top quality sequencer and sound generating system to play with, he can do some dynamite stuff. Words fail me here. Try "state of the art." Try "stupendous." Or maybe just "the best thing I've heard out of any sequencer." Anywhere. Ever.

Enough eloquence — now for the facts. Triviatoons is a collection of twelve sequenced renditions of well-known theme songs from popular TV shows of the '50s and '60s. (The list: two themes from the Looney Toons cartoons, the 20th Century Fox TV fanfare, the *Fractured Fairy Tales* theme, the *Twilight Zone* theme (of course), the *Leave it to Beaver* theme (ditto), the *Three Stooges* theme (nyuk! nyuk!), the *Tonight Show* theme, and the title music from *Alfred Hitchcock Presents*, *Perry Mason*, the *Tonight Show*, *Rocky and Bullwinkle*, and, of course, *Peter Gunn*.)

The incredible thing about these sequences is their uncanny resemblance to the originals. We're not just talking notes here: the orchestration, arrangements, even the nuances are virtually identical to the original recordings. Of course, the quality is far better, being 13 bit (or whatever) digital. My guess (I was going to use the word "obviously," but I've been

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in this business long enough to know that nothing is ever as it seems) is that Michael spent some time with the original scores for these pieces, along with a lot of time listening to recordings. Either that or he has one hell of an ear. Or both. Listen closely, and you'll hear all kinds of details that lesser sequencer players would ignore: the piano noodling at the end of the *Tonight Show* theme, the complex interchanges between the flute and marimba in the *Bullwinkle* song, the anticipated beat at the beginning of the swing section in the *Stooges* tune, and the precision of the horn swells in the *Twilight Zone* theme. No doubt about it — this guy knows his stuff.

Of course, in order to maintain my credibility, I suppose that I have to find a few flies in the ointment. And, truth be told, there are just a few areas where these sequences deviate from the originals. In the *Hitchcock* and *Perry Mason* sequences, for example, the cello attacks have a bit too much resin in them, as is characteristic of many sampled string sounds. On my first listening, I thought that the brass lines in the *Perry Mason* sequence were a little too laid back, but now that I've heard it a few more times, I'm not so sure. Do I sound like I'm straining? I guess I am. My earlier acclamations are not exaggerated.

Technically speaking, the sequences and sounds themselves are marvelous examples of what can be done on the VFX/SD-1. The imitative sounds used here are second to none. Michael also has several tricks that he uses throughout the set that caught my attention. For example, he uses a couple of sounds called *EVERYTHING* which combine trumpet, saxophones, woodwinds, and marimba, with the patch select buttons used to select various combinations. This allows him to create unison lines and various forms of hocketing, without any glitches due to program loading. Surprisingly, only a few sounds are used in the entire collection — at least half of the sounds that are loaded with the sequences are obviously inappropriate sounds from the original factory programs. Another surprise is that tempo changes are not created by changing the actual sequencer tempo, but by changing the length of the notes. To me this means that — believe it or not — the guy actually recorded at least part of this stuff in real time!

The big question with these sequences, though, is not how good they are, but what good are they? It would be easy to dismiss the collection as cute but what do you do with it?. It's more than that. For starters, anyone who plays in a hotel band or other "entertainment" (as opposed to "art") gig should immediately rush out and get these. You may never have much use for the *Perry Mason* theme — but how can you live without the *Tonight Show* music? And when they announce the winner of the evening's contest (be it a wet T-shirt extravaganza, or the award for Shoe Salesman of the Year), what can substitute for the brass fanfare in the *20th Century Fox* tune?

The sequences sell for \$99.95, which might seem steep at first, especially if your interest is primarily curiosity. I normally don't feel compelled to drag out the soap box, but this time, it seems appropriate. Thanks to the admittedly trivial nature of these sequences, I'm sure there will be a strong tendency on the part of many to pass out copies of them after they've been purchased. Considering the amount of effort that has gone into

them, though, this would be a grave injustice — so please, if you buy Triviatons, don't pass them on; and if a friend buys them, don't ask for a copy! End of lecture.

I certainly hope that Michael is hard at work on Volume 2 of this set — but I hope he's not done yet, because I have several requests. This series simply cries out for the *Star Trek* theme, along with the title music from *2001 (Also Sprach Zarathustra)* and *Dr. Who*. For those with less spacy tastes, the music from the *Andy Griffith* show (now there's a challenge!) and the *Peanuts* cartoons seem like logical additions. And then we have the game show themes... but by that time, I'm sure Michael will be ready to toss his television in the ocean.

Enough said. If you're a professional entertainer or a serious collector of the bizarre, these sequences are a must-buy. Two thumbs up. ■

Bio: Jim Johnson, an electrical engineer, has played synths in several Phoenix, AZ bands. He's written for Electronic Musician, KCS, and co-wrote Dr. T's Algorithmic Composer package. He is owner of JAMOS Music, a MIDI programming and consulting firm.

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Ensoniq News

Ensoniq is pleased to announce the development of the DP/4 Parallel Effects Processor. The DP/4 uses 4 effects chips, coupled to 4 inputs and 4 outputs to give new-found versatility to your signal processing needs. This 2-rack space unit contains 400 Presets covering single input, dual stereo inputs, 1 stereo and 2 mono inputs, and 4 mono input configurations.

Algorithms provided include Hall, Room, Plate, Reverse, Gated and Non-Linear Reverbs, Delays, Parametric EQ, Phaser, Flanger, Chorus, Pitch Shifter, Compressor, Limiter, Tremolo, Panner, Vibrato, and Distortion. Chains of up to 16 effects can be set up if desired.

Complete flexibility in signal routing is possible (Serial, Parallel, Feedback, Feedforward) and every parameter is modulatable from any of 8 user chosen modulators. The DP/4 provides for complete signal routing and signal mixing in software, giving you the convenience of 4 effects processors, a patch bay, and a mixing board all in one integrated unit. The DP/4 has a suggested retail price of \$1395 and will be available in late October.

We have now made available a new, higher-quality sustain pedal for all ENSONIQ products. The SW-2 replaces the SW-1, at the same retail price of \$16.95. Products built from September onward will have the SW-2 shipped in the box (except rack-mounts).

Hacker News

Well, you might have noticed that Clark's continuing series on programming the SQs didn't make it into this issue. Last issue we got on Clark's case to finish up some software reviews (in addition to handling the usual *Interface* questions). This issue he's been putting in 16-hour days finishing up some beta-testing for some hot new Ensoniq product. The price of fame. Have patience, our over-burdened Answer-Man *will* return! This series isn't over yet!

Third-Party News

Electro Acoustics, producer of a sample collection for the EPS, has moved. New address: 2257 Calle Cacique, Sante Fe, NM 87505. Phone: (505) 986-0578.

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.

HARD DRIVES & DRIVE SYSTEM — Rob Feiner, Cinetunes. 914-963-5818. 11 am — 3 pm EST.

EPS/EPS-16+ QUESTIONS — Brech Swanston, Maestro Sounds. 718-465-4058. Call anytime. (NY) If message, 24-hr callback.

VFX QUESTIONS — Sam Mims, Syntaur Productions. 818-769-4395. (CA). 10 am to 11 pm PST.

SEQUENCING — Larry Church, Danlar Music, 503-692-3663. Call anytime.

SQ-80 QUESTIONS — Michael Mortilla, 805-966-7252 weekends and after 5 pm Pacific Time.

EPS & EPS-16 PLUS QUESTIONS — Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 467-5668.

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

ESQ-1 QUESTIONS — Jim Johnson, (503) 684-0942. 8 am to 5 pm Pacific Time (OR).

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

SAMPLING & MOVING SAMPLES — "Mr. Wavesample" — Jack Loesch, (201) 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 QUESTIONS — Pat Finnigan, 317-357-3225. 8:00 am to 10:00 pm EST.

ESQ-1, MIDI & COMPUTERS — Joe Slater, (404) 925-7929. Eastern time zone.

HYPERSONIQ NEW PRODUCTS

Syntaur Productions has announced the release of *Soundset 4*, a set of 40 sound programs for the SQ-80. These patches are the first in this series to utilize the waveforms unique to the SQ-80. Plus, this set brings to the SQ-80 some of the "hidden waveforms" featured in *Soundset 3* for the ESQ-1, resulting in otherwise unattainable SQ-80 sounds. This is the only collection of programs available for the SQ-80 utilizing these waves. Programmed by Sam Mims, columnist for TH and keyboardist for Capitol Records artist Richard Elliot, this set is available for \$17.95 on SQ-80 disk and includes a 22-page booklet of programming notes and tips. Contact: Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602 or call (818) 769-4395.

Giebler Enterprises announces the release of the *VFX Midi Manager* package which transfers sounds and presets to and from IBM-pc's (or clones) with a MPU-401 interface and 3 1/2" drive. Using the optional disk manager (EDM) users can read and write sounds to VFX-SD and SD-1 diskettes on their PC, enabling VFX owners to purchase sounds on diskettes instead of expensive cartidges. Special offer — purchasers of version 1.0.3 get unlimited software updates for minimal s/h charge. Special offer — VFX Midi Manager for \$29 or with EDM (required to read/write diskettes) for \$39. Foreign orders, add \$6, NY residents add tax. Contact

Giebler Enterprises, 8038 Morgan Rd, Liverpool, NY, 13090 or call (315) 652-5741, EDT business hours.

Rubber Chicken Software Company announces a new catalog for their re-packaged products. Call for free copy. All are available for the original EPS as well as the EPS-16 PLUS. The new phone number for questions and technical queries is (206) 467-5668.

Talking Owner's Manuals announces the inclusion of the *TOM-disk*® with the newly released Talking Owner's Manual™ for the EPS-16 PLUS. The *TOMdisk* provides vocal scats playable for lead and harmony work. These unique sounds exemplify keyboard playing of a capella vocal groups and scat syllables. Also on the disk is a 12-bar blues background that lets the user practice scatting on the keyboard. This is available, as is the VFX-sd 113-minute TOM, from all authorized Ensoniq dealers. New Talking Owner's Manuals with TOMdisks are being created for the SD-1, SQ-1 and SQ-2, to be released in October. Contact: Talking Owner's Manuals, 1159 Aviemore Terr., Costa Mesa, CA 92627. Phone: (714) 548-6784.

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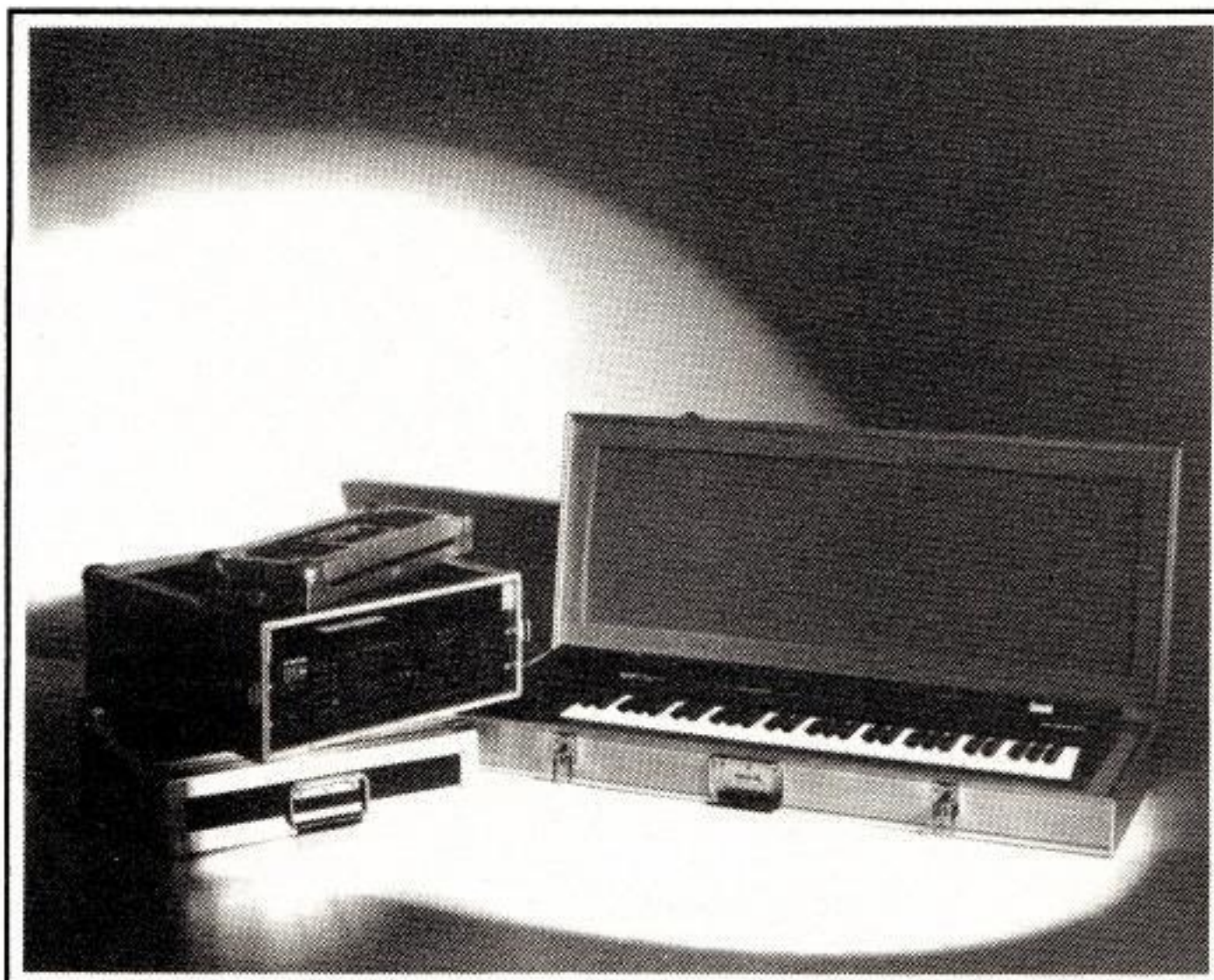
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Hat Head by Big Hat

Daniel Mandel

Tape: *Hat Head*

Group: Big Hat

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Big Hat is:

Violin — Char

Vocals — Yvonne

Percussion — Jim

Sax — Lorien

Samples — Preston

Keyboard Equipment: EPS with 4x expander. No other MIDI equipment was used. Preston says all his EPS sounds must fit on one disk, or rather one song = one disk with a piano loaded in instrument #1 at all times. And he says he rearranges his sequences to the vocalist's needs, then the violin percussion and sax add to that. *Hat Head* was recorded to an AKAI 12 track. They used minimal outboard gear — Midiverb II, ART SGE, and Yamaha compressor. "I wanted to do beautiful music 'outside' of Rock, Jazz, Worldbeat, Classical: not of a genre. I think we've succeeded."

Now this is an interesting tape. Here we have a band that is presently using the EPS and sequences as a main part of their original act. Big Hat formed in 1990, currently gigging in and around Chicago, Minneapolis and Milwaukee. I thought maybe I could talk them into taking a trip to San Francisco! Actually I talked to Preston and he said due to the cost of the trip they are pretty well bound to local clubs.

Yvonne's voice, like any good instrument is expressive — uniquely different in each octave. The recording of the vocals, though, was the weakest link in this tape.

The recording of the saxophone worked the best, always clear. The sax parts in this tape were well done, supporting without detracting from the vocal.

The violin often blended in with the samples of cello and other strings, which is probably to their credit. The violin can often come across as biting or obnoxious in a recording.

There were a few problems with the way things were planned out. In the orchestration of the instruments there were a couple

songs where the strings or backing instruments competed in volume alone for attention. And in some cases they competed by being as interesting as the lead vocal. With this kind of music, leaving room for the vocalist to do her thing can be a real challenge. Big Hat is doing some great things with a wide variety of sounds that might not always be traditional, yet still the basic rules apply. I have room to say this as there were both good and bad examples sprinkled throughout. When the vocal recording was well done, the song really stood out and appeared whole.

Some of the samples of the strings were especially breathy sounding. In particular, there was a bass instrument I never could quite place — what was it? It kind of twisted back onto itself (now there's a technically observant description — I bet you can all run to your synths and program that voice!)

Another aspect of the use of the EPS that strikes me after listening to this tape over again, is that I haven't felt compelled to discuss the sequences. I know sequences were used (because Preston mentions them) but however they were set up and executed, they are transparent on this tape. Having come from a theatre background and worked on many productions this is one of the unglorifying things about such work. Often the better you do your job, the less it is perceived by the audience. If I can hear where every sequence loops and am constantly reminded of the sequence itself, the piece as a whole suffers. Big Hat has managed to get beyond that and I would remind you that they take their EPS on the road and play live.

One thought that kept running through my mind was the role of the producer here. I wondered what this band would sound like given an established producer. Would they "compromise" their sound? Would the producer be able to take it and push it further? Would he make it something entirely different? This is one of the questions that bands must constantly ask themselves. Producers who do their job well are said to pull the best performance, however that may be evaluated, out of their artists. It's intriguing to speculate how Big Hat would have sounded given an outside producer to direct their efforts.

Big Hat is currently working on another project which will be recorded in a studio. They've sold several hundred copies of their tape, "*Hat Head*," and from what I can gather they have a somewhat loyal following. I really do hope to be able to catch

them on my next trip back to the Midwest. If you're in their area definitely go see them.

Overall I really found Big Hat's music enjoyable, interesting and thought provoking. With a few minor tweaks this band could put out some phenomenal recordings!

TH: What kind of microphones did you use on this project.

Preston: Mics? Violin direct from a pickup. Sax and all the vocals from the only mic we had, a Shure Unisphere 1. When we're going live the violin uses a T.S. Barrett 5 string electric; sax — whatever the sound man wants, vocals: ditto.

TH: How would you say the music is written?

Preston: I've always been an adventurous one when it comes to music — making or listening. I'm somewhat burned out on jangley guitar bands, pop bands, grunge, jazz, ambient, new age, folk — most categories! So, I wanted to do something fresh, positive, and non-genreable (!). Yvonne and I met at the right time. She was eager to work with someone, having just started singing she knew little about band politics, equipment, organizing, writing, etc., but I loved her voice and she had a point of view necessary for art. I limited my sound palette for Big Hat, purposefully. I construct often very detailed song structures (sequences) which Yvonne then works her vocals into/onto. Then I adjust key, tempo, repetitions, elimination of parts. Char (violin) and Jim (percussion) add parts and we all readjust to each other.

TH: Technically how was the recording made?

Preston: Recording was both easy (we had one mic, one stand, the 12 track recorder and outboard gear) and difficult. How do you introduce variety with so few options? Sequences to tape were first. I didn't trust time code very much. Then we added vocals, violin, percussion sax. Then we would redo any parts that needed to be adjusted.

TH: Who made the decisions for what sounded good?

Preston: Since I was the owner of the recording equipment and it was in my space and I'm the best engineer in the band (although far from good) I was present with hands on at all recording, overdubbing and mixing sessions. Yvonne and other members were often present. Whoever was listening helped make decisions.

TH: What do you like about working with the EPS?

Preston: I don't want this to sound like an ad, but I love my EPS and wouldn't trade up. There's only one reason — ever — for me to own a piece of music gear: can I make the music I want with it? The EPS freed my imagination, allowed me to create music I could not physically play, and has helped us to

get that music to many people's ears and hearts, in the studio and live.

TH: What don't you like about the EPS?

Preston: We play live. Each Big Hat song and its sounds are on individual disks. Loading takes time. I've got some work arounds that are artistically valid, but still wish I could load faster. (We have an a capella song for the gigs where the EPS crashes and I gotta reload.)

TH: How does it work to use sequences live?

Preston: Big Hat is visual. We have an aesthetic, a point-of-view. Most people who see us enter our world, and it's a world of sequenced and live music. It's moving and it's enjoyable. We are accepted.

TH: Where do you find yourself as a band on the rise, as you look for recording opportunities? What do you think of major commercial labels versus independent?

Preston: Our response to the major vs. indie query is: Who will help more people hear our music? Radio, press, distribution, touring — Major. Who will understand what we're doing and keep their hands off — Indie. Who will do both? That's what we want.

TH: If you had the chance to redo *Hat Head*, what changes would you make?

Preston: If we were to redo *Hat Head*, I'd do it in a "real" studio with rooms and mics and outboard gear and a better engineer than me. If we had to redo it at my studio, I'd hire an engineer and hope she'd have gear to bring along. Music is organized sound. *Hat Head* was organized the best we could but given better tools and a better operator at the board, our sonic architecture would be quake-proof.

(An aside: Preston told me the reason I never saw Big Hat play while I was in Minneapolis was that they just started when I had moved to San Francisco about a year ago. They've played the Loring cafe, the new Glam Slam, the Uptown and the Fine Line. I'm still hoping they find a way to the Bay area...) ■



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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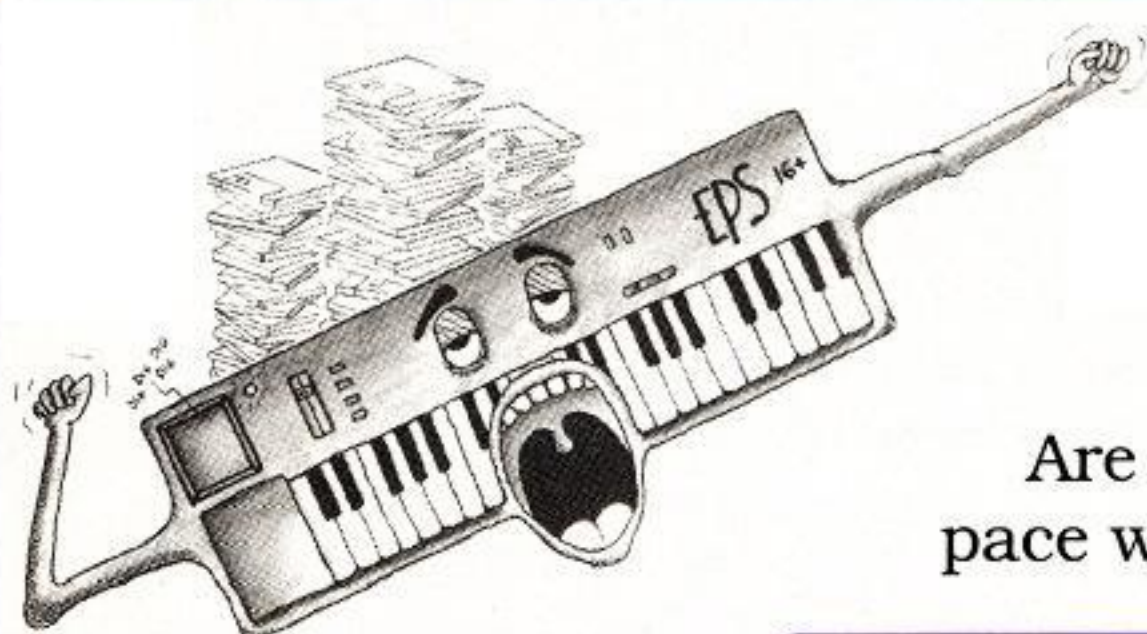
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Create Your Own Orchestra on the VFX-SD/SD-1

Jim Grote

I want to share some tips and techniques I use in the creation of authentic sounding acoustic instruments, in particular, wind instruments. The techniques I will discuss apply to just about any kind of wind instrument, from oboes to trombones. I will concentrate on the bassoon which is demonstrated in the accompanying *BASSOON* patch.

I've been refining my original bassoon patch for a long time now, modifying it here and there. Over the past several months I've come up with a combination of different techniques which lend an element of realism to the bassoon sound. Each one of these techniques causes a very subtle change, but the combination really make it happen. What I'll do here is discuss the development of these programming techniques.

I started out using just one waveform, *WOODWIND*, and created a simple bassoon sound — easy enough. I added a touch of pressure sensitive vibrato and let it go at that. And, as expected, I got tired of this patch and wanted something more exciting so I changed the bassoon's tuning. What I did was create a custom pitch table from the pitch page and just randomly shifted some (not all) of the notes up or down a few cents, the largest shift being about 10 cents. The effect of this is subtle, but it makes the bassoon sound a tad more authentic. The included bassoon patch doesn't show my tuning table but it's simple to make one.

Refer to the owner's manual for more on creating a custom tuning table. To best hear the difference the tuning makes, play a simple scale (such as C major) with and without the custom pitch table. Now do this in all the keys to make sure no notes are too far out of tune. Remember, it's easy to get carried away so keep it very subtle.

Keyboard instruments such as the piano are tuned to "equal temperament." This tuning places the 12 notes of an octave equally spaced apart. Therefore, 1/12 of an octave is between each half-step. This tuning is easy to do on something like a piano since each note is individually tuned. This allows songs and chords to be played in any key without tuning problems. Wind instruments, on the other hand create notes based on parameters such as length and size of the instrument. Different notes are created by pseudo-changing these parameters by pressing pads closing off holes in the instrument. This is obviously a brief and generalized description of how wind instruments operate. The point is that wind instruments are inherently not really equal tempered. Therefore by creating slight variations in the scale, the instrument sounds more authentic and interesting.

The next thing I did was add another waveform which creates a bit of spit noise on the attack. This oscillator has the random *NOISE* modulator with zero frequency applied to its volume. Therefore, this spit sound is only occasionally heard as opposed to being sounded on every note. Once again, this is a very subtle effect. Also, since the bassoon usually plays a solo part, I made the patch *MONO* and added a touch of legato glide. I then set it

up so that any of the patch select buttons select an oscillator without mono-glide if you need to play chords. Another thing I did was modulate the oscillator down in pitch about 4 semi-tones with an envelope on the pitch mod page. I then compensate for this by transposing it up the same amount on the pitch page. This changes the sound of the multi-sampled waveform, making it sound deeper like a bassoon rather than an oboe. The reason why I use two waveforms is to compensate for a very noticeable split point in the multi-sampled waveform. Brightening the filter on the upper part makes the sound more even across the split point.

The above techniques made the bassoon sound good, but maybe a little boring when I just held one note down. When one note is held on an actual wind instrument, the person playing the instrument will vary the force of air being blown into the mouthpiece. This causes slight variations in pitch. To do this, I apply the *NOISE* modulator to the pitch of the oscillator. This creates slight irregular variations in pitch of a sustained note. This is an effect that is more subtle and quite different from vibrato.

And finally, an important part of any sound is the ambience. Where are you going to put this bassoon? I chose the *CONCERT REVERB* because it creates the ambience of a big hall and has the smoothest decay. I send the bassoon oscillators to bus *FX1* and set this to 99. This means you're hearing only the reverb and no dry sound. What this does is place the instrument totally in the acoustic setting, as opposed to adding some reverb behind the dry sound, which isn't the same. If you want it in a smaller room, do the same thing with *WARM CHAMBER*. With *CONCERT REVERB*, the bassoon really sounds like it's coming from the orchestra pit in a concert hall.

The way to control the bassoon's volume relative to the reverb is the "early reflection level" parameter. Changing this alters the apparent closeness of the bassoon to the listener. A high setting makes it sound like it's right in front of you (you have front row seats), while a low setting places the bassoon further away. This use of reverb is much more significant than the other subtle programming techniques and this technique applies to any sound, not just wind instruments — piano patches, guitar sounds, basically any sound.

Most of these techniques here can be applied to just about any wind instrument patch you have. For example, apply some of the modifications to the factory trumpet patch, *SOLO TRUMPET*. First, give it essentially the same *CONCERT REVERB* settings as the bassoon patch. This really effectively places the trumpet in a hall. Add a touch a random pitch variation to the oscillator to make a single held note sound more natural. Now create a custom pitch table with the subtle random variations. This improves the realism of the sound. Now it sounds like Masterpiece Theatre. Try them on factory patches like *FANFARE*, *FRENCHHORN*, or *WOODFLUTE*, etc. The custom pitch table variation works well on the factory *WOODFLUTE* patch.

Creating accurate simulations of orchestral instruments requires

careful attention to what makes the real instrument work. Without adding the subtle nuances, patches can sound like a plain and boring raw sample.

There, I've said it and I'm glad. ■

Bio: Jim Grote offers a disk of 60 of his original VFX-SD sounds — see the classifieds. He's been programming and playing synthesizers for years and is co-founder of a band called Basement Slime. He recently graduated with a B.S. in Electrical Engineering from the University of Cincinnati.

NOTES: Pressure adds vibrato
0, 0 = Polyphonic

Timbre controls pan position
** = Thicker sound

SD & VFX Prog: BASSOON

By: Jim Grote

WAVES	1	2	3	4	5	6
Wave	Woodwind	Woodwind	Woodwind	Woodwind		
Wave Class	Waveform	Waveform	Waveform	Waveform		
Delay	0	0	0	0		
Start						

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

PITCH	1	2	3	4	5	6
Octave	0	0	0	0		
Semitone	+4	+4	+4	+4		
Fine	+7	+7	+1	+29		
Pitch Table	Custom	Custom	System	Custom		

PITCH MODS	1	2	3	4	5	6
MODSRC	Noise	Noise	Noise	Noise		
MODAMT	+8	+8	+8	+8		
Glide	Legato	Legato	None	None		
ENV1	-26	-26	-26	-26		
LFO1	+2	+2	+2	+2		

FILTER 1	1	2	3	4	5	6
Mode	LP/2	LP/2	LP/2	LP/2		
Cutoff	82	90	82	127		
KBD	-19	-19	-9	-19		
MODSCR	LFO	LFO	LFO	LFO		
MODAMT	+14	+14	+14	+14		
ENV2	+24	+24	+24	+24		

FILTER 2	1	2	3	4	5	6
Mode	HP/2	HP/2	HP/2	HP/2		
Cutoff	25	27	25	35		
KBD	+99	+99	+99	+99		
MODSCR	Off	Off	Off	Off		
MODAMT	0	0	0	0		
ENV2	0	0	0	0		

OUTPUT	1	2	3	4	5	6
VOL	75	89	75	41		
MODSRC	LFO	LFO	LFO	Noise		
MODAMT	+11	+11	+11	+43		
KBD Scale	Zon	Zon	Zon	0		
LO/HI Key	A0-G5+	A5-C8	A0-G5+	-		
Dest Bus	Fx1	Fx1	Fx1	Fx1		
Pan	50	50	50	50		
MODSRC	Timbre	Timbre	Timbre	Timbre		
MODAMT	99	99	99	99		
Pre-Gain	On	On	On	On		
Voice Prior	Med	Med	Med	Med		
Vel Thresh	0	0	0	0		

LFO	1	2	3	4	5	6
Rate	31	31	31	30		
MODSRC	Press	Press	Press	Off		
MODAMT	+15	+15	+15	0		
Level	0	0	0	99		
MODSRC	WL+PR	WL+PR	WL+PR	Off		
Delay	0	0	0	0		
Waveshape	Sine	Sine	Sine	Sine		
Restart	On	On	On	On		
Noise SRC RT	91	93	91	93		

SELECT VOICE

00	1	2	3	4	5	6
0*	1	2	3	4	5	6
*0	1	2	3	4	5	6
**	1	2	3	4	5	6

ENV1	1	2	3	4	5	6
Initial	99	99	99	99		
Peak	99	99	99	99		
Break 1	99	99	99	99		
Break 2	99	99	99	99		
Sustain	0	0	0	0		
Attack	99	99	99	99		
Decay 1	99	99	99	99		
Decay 2	99	99	99	99		
Decay 3	99	99	99	99		
Release	99	99	99	99		
KBD Track	0	0	0	0		
Vel Curve	Concv3	Concv3	Concv3	Concv3		
Mode	Repeat	Repeat	Repeat	Repeat		
Vel-Level	0	0	0	0		
Vel-Attack	0	0	0	0		

ENV2	1	2	3	4	5	6
Initial	0	0	0	0		
Peak	99	99	99	99		
Break 1	77	77	77	77		
Break 2	14	14	14	14		
Sustain	1	1	1	1		
Attack	0	0	0	0		
Decay 1	0	0	0	0		
Decay 2	42	42	42	42		
Decay 3	65	65	65	65		
Release	19	19	19	19		
KBD Track	-9	-9	-9	-9		
Vel Curve	Qikrise	Qikrise	Qikrise	Qikrise		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	99	99	99	99		
Vel-Attack	99	99	99	99		

ENV3	1	2	3	4	5	6
Initial	78	78	78	0		
Peak	99	99	99	99		
Break 1	99	99	99	0		
Break 2	99	99	99	0		
Sustain	99	99	99	0		
Attack	5	5	5	4		
Decay 1	32	32	32	10		
Decay 2	15	15	15	0		
Decay 3	40	40	40	0		
Release	13	13	13	11		
KBD Track	+5	+5	+5	0		
Vel Curve	Cnvx1	Cnvx1	Cnvx1	Cnvx1		
Mode	Normal	Normal	Normal	Normal		
Vel-Level	20	20	20	0		
Vel-Attack	10	10	10	0		

PGM CONTROL

Pitch Table	On
Bend Range	2
Delay	X1
Restrike	2
Glide Time	2

EFFECTS (1)

Effect	Concert Reverb
Decay-time	45
FX1	99
FX2	25

EFFECTS (2)

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

EFFECTS (3)

FX2Mode	Nrml stereo Send
LF Decay	0
Reverb HF Damping	18

PERFORMANCE

Timbre	0
Release	0

Pressure Key

The SQ - Yet Another Personality Revealed

Review: Sound Source Unlimited MASTERAM 64

Jack Tolin

For: SQ-1, SQ-R, SQ-1+, SQ-2.

Product: MASTERAM 64 Collection, Volume 1.

Price: 16K RAM card, \$99.95, Disk, \$49.95.

From: Sound Source Unlimited, Inc. 5320 Derry Ave., Unit O, Agoura Hills, CA 81303, (800) 877-4778, (818) 879-0093.

According to the accompanying notes from Sound Source, "These SQ sounds were programmed by Andrew Schlesinger, a well-respected programmer in manufacturer circles. He routinely programs for Ensoniq, Korg, Casio, Eventide, Peavey, Sony and others. Andrew has been programming synthesizers for over 16 years." I hadn't even heard the sounds yet and I was already impressed.

Load, play, listen, play, listen, load, listen, play.

So, to get right to it, let me get my major nit-pix out of the way. Going back to the notes we read that "one of the unique features of the SQ series is its ability to assign real-time control to one of the parameters in the effect processor. This has been implemented on every patch in some form, ie., keyboard control of the reverb decay, velocity control of the wet-dry mix, etc. Experiment with the various controllers — they have also been implemented on various patches." Although this is entirely true, I have a few personal complaints: Almost half the patches have their effects parameter controlled by the keyboard modulator — not my own favorite of the real-time modulators — and though I acknowledge that, theoretically, subtlety can be extremely effective, care needs to be taken that it is not overdone ... or underdone — whatever. For instance, "Twin Peaks" has a modwheel depth of only +03 and "BREATH FLANGE" a velocity of +02 and, this hurts, "Caribbean" and "Squeezer," the only two patches with the effect modulator set to pedal, have depths of +00!

The modwheel is programmed, for most of the sounds, in such a way that moving the modulator all the way forward will result in a kind of slow, wobbly vibrato. This turns out to be all right for two reasons — 1) a decent vibrato is obtained by moving the wheel just a bit forward and 2) having the wheel on full is great for synth stabs with sounds like "Jupiter Ate" (or maybe it's just too slow for the tastes of some.) On "Obie 4voice SEM" it's programmed to modulate the LFO which, in turn, is programmed to modulate the filter yielding the classic wow-wow sound effect. On each of the four organ patches it's used to bring in (surprise!) vibrato. On about 20% of the patches it's used to integrate some change made of a parameter in the effect processor along with whatever else it's doing.

But enough of the facts, let's get aesthetic.

This collection is awesome. These sounds are dripping with in-

spiration! If the modwheel controlled absolutely nothing, this volume would still be worth every penny. Just be warned this isn't one of those collections that offers ten different versions of violin. I'm talking imagination and variety. Oh sure, there is your share of acoustic emulations, classical analog simulations and colorful hybrids, but the majority of these patches seek to stress the fact that they were created for something more than just a mocking device. As a result, a deeper personality of the SQ is revealed.

Specifics:

Atmospheric/special effects sounds like "Lost in Space," "Ghost Story," and "Out There" are not only a pleasure to listen to, but inspired me to make other sounds from them. I like, natch, to think I'm a programmer at heart.

"Jupiter Ate," "ARP Solina," "May Trix 12," "Big Synth," and "June Oh 106" are excellent patches all entirely composed of sawtooth waveforms. With a few of these, as well as others, I've found myself shortening the attack time in the amp bank and raising the KEY ON sustain level to suit my taste.

"Squeezer," "Old Land 3," "Digicycle," "Monsta," "Hi Rezosweep," "Strange Clavino," "Peepee Gee," and "Sample & Hold" utilize the transwaves in a variety of interesting ways. There are others; these are just the cream. Maybe a couple here and elsewhere would sound better to me set back in a deeper reverb. I suspect this is simply because with quite a few of the patches in this collection, I get a distinct impression of how I would use each in a specific musical context.

Some of my favorite hybrids in this collection include "Giant Stack" (string and brass ensembles with high velocity bringing in grand piano,) "Caribbean" (kalimba and flute, high velocity bringing in tambourine,) "Fourth World's" (horns playing the note pressed and the fourth,) "Fullness" (two brass ensembles and a transwave, a good synthesizer sound for chords,) "Glas-sette" (not your typical Ensoniq bell-like sound,) "Pipe Lead" (a hard and buzzy flanged sound that cuts through any mix,) "Vapor Drawings" (a soothing synthetic mellow sound playing the note pressed and the fifth,) and "Harpsituar" (a cross between a harpsichord and a guitar.)

Those that I could do without include "Rhythm Nation" (a bass, an agogo bell and a transwave. I'm still not sure what I'm supposed to do with this,) "Death Flange" (the biggest let-down after reading the name,) "Transfer" (a bass and two transwaves, not really bright or dynamic) and "Ambient Piano" (a long, sustaining piano with a big concert reverb that wiggles in pitch.)

Overall, if you're looking for a bank of sounds that will stimulate you to create music, here you go. Yeah, more real-time control could have been added. And vibrato could have been programmed to sound perfectly with the modwheel at full thrust. And there could have been peace in the Middle East. It comes down to this — even beyond the issue of aesthetic preference (that old chocolate/vanilla thing) every single patch

— even the few I don't particularly like — have their own distinct personality in the collection.

Sounds are also available on disk via Mac/Atari Downloader/Soundloader, Kawai Q80, Alesis Data Disk and Yamaha QX3 Sysex. ■

Fat Finger Syndrome

The Search for Phantom Voices

Tom Jordan

Losing your Voice was a great article by Garth Hjelte in Issue 70, on the problem of running out of voices to play your music. Perhaps I can contribute a bit more by talking about the dreaded phantom. Phantom voices or phantom fingers, just a matter of perspective, may be causing your problem of not enough voices to play your music.

"Phantom," you say?

I usually identify this problem as "my fat fingers." When you play, it's quite easy to bump the neighboring keys slightly, and even though you don't hear them, those bumped keys go on the "score board" as a hit (using one or more of the available voices on the keyboard).

Looking for Phantoms

To find these problem places, watch your Sequence or Song Edit screen as you play back the music. When you hear the theft of notes, write down the location, sequence name, and bar number. Also make a guess as to which track you think the phantom notes might be in; that's where you want to begin your hunt. Thick chord parts and percussion parts are likely tracks to get bumped keys.

Save Your Work!

Save a copy of your music before you begin. Pull it out of your machine and set it aside, and save another copy to work from. As you work, you can continually update your "save" to include the latest changes. No matter how much you "hack and slash" you can always go back to that other copy you took out of your machine. You did make another copy, didn't you? It never fails — when I have worked too long without a save, I get a crash.

Time For Some Notes Busting

To knock off these bad guys you gotta go to the step editor and examine the sequence and track in question. Start a couple of bars before the problem location. Step through your notes,

watching the pitch and the velocity. The most glaring evidence of a phantom will be a velocity value that is far less than all of your good notes. If all the notes have velocities between 50 and 127, and then you find a couple of 3's and 6's, you suspect these are candidates for the trash. Besides velocities that look out of place, a pitch that doesn't belong should be tossed away. An F major or F minor chord with a bonus f# probably doesn't make you a happy listener — give him the delete!

Be sure to check all of the suspected tracks at the problem locations.

On a drum track you may need to just do some judicious snip-'n-clip to lighten the load. Definitely step your drums through the problem places, listening for a sound on every step. Your snare roll or tom fill may include a bogus cow bell that looks okay on the screen, but doesn't help your music.

Finally

Sometimes, I go paranoid and examine everything for these unwanted thieves, but most of the time, you can just leave the occasional bumped key in your sequence without any noticeable missing parts. But if you decide to drive another synth that does not read velocity data, you may quickly discover these hidden phantoms waiting to re-arrange your music! Happy hunting! ■



Bio: Tom Jordan's most recent project was a performance with the Smithsonian Institution's traveling show, "Visions of Flight: A 25 year Retrospective of NASA." Tom used his EPS to control his live solo show with 8-foot video projector and multiple 19" TV's presenting his video art in a low-tech synch of video tape, audio cassette and EPS sequences.

Review: Midi Mark

Barry Carson

Product: EPS Samples — House Set.

For: EPS Family, also for S-50/55/330, W-30 and Mac.

Price: 4 disks, \$38.

From: MIDI MARK, P.O. Box 217, Whittier, CA 90608

The folks at MIDI MARK Productions are selling disks of "Funkodelic Throbomatic Samples From Top Studios" for the EPS. They showed up for me to review, so let's see what we got here.

The first disk is called *Technosis*. Samples only exist in Layer 1, so the patch select switches do nothing. As a matter of fact, on all of these disks, the patch switches only call up the default layers with nothing on any layers but layer 1. This would tell me that either the programmers didn't know the EPS real well, or that this was a real rush job of sampling.

Anyway, back to *Technosis*. Most of the keyboard plays a short, detuned analog synthesizer sound. It is not looped, and it doesn't use the EPS's envelopes. The sound was sampled with a pretty short envelope, so at the bottom of its range the sound lasts about a second, at the top of the keyboard it would last about a 16th of a second. This sound is sort of multi-sampled with the first sample played back from one key (an octave too low), the second covering two keys, and the last sample playing back from the remaining 45 keys. The bottom of the keyboard contains some drum samples and a few synthesizer resonance effects like everybody made when they first played an ARP 2600. This setup reminds me of Mirage samples designed so you could play all the parts from the sequencer, but since the EPS is multi-timbral and multi-instrument, why do it this way? As on all the disks, a short demo sequence bounces along. If you are really looking for a short, detuned analog synth sound and some resonance squeaks and whistles, this could be the disk for you. If not, look elsewhere; weighing in at 1391, there's not so much bang for the blocks here.

The next two disks feature drums from the Akai XR-10 (1279 blocks) and SP-1200 (506 blocks). These disks certainly don't give you the best drums available for the EPS; comparing them to Ensoniq's new 16 bit, HI-FI drums makes that clear. What they do give you are is what I would assume to be the sounds of the XR-10 and SP-1200. Of the two, the XR-10 sounds better with a few nice drum sounds, but over half the keyboard is filled by one sample of a predictable orchestra hit that is pitch shifted up to a tiny little squeak and there are no high hats or rides, making it difficult to play a typical rock drum part. If you want to possess every good drum sample in the world to construct your own custom sets with, you may well find some useful stuff on this disk. The SP-1200 disk is harder to recom-

mend. The sound is muffled, the cymbals are harshish, almost four octaves play back the same sample of a small drum that becomes an annoying little tick at the top of the keyboard. If you always wanted an SP-1200, or if you had one but had to sell it, this disk may be just what you've been waiting for. Others may be somewhat disappointed with these samples.

The last of these disks is my favorite of the bunch. *House Boom 2* reminds me of the Sequential Rap Drums disk for the Prophet 2000. Some good drums, a couple great shouts (Hit it! Ow-wwow!), some scratches and other effects. Again, we only have a little more than one octave of these sounds, leaving almost four octaves of one sound. Since the disk has only 648 blocks on it, there was room to include some other samples. If you love to play rap type music, or add rap elements to whatever you do play, here you go. Some re-mapping of the samples could utilize the keyboard better and increase the creative potential of this disk.

Overall, I was somewhat disappointed with this set. Since none of the special features of the 16+ were used, I assumed these were sampled on an EPS classic — however, none of the special features of any EPS were used. These would've been pretty fair Mirage disks a number of years ago when most people buying third party samples expected to have to loop and map, and low fidelity was the norm. Today's EPS users have been spoiled and expect more. I would guess the MIDI MARK gang know the Roland samplers really well and are kinda getting their feet wet with the EPS. Some of the *House Boom 2* sounds show that these guys can sample. Once they unlock the inner secrets of the EPS and take some time and care programming for it, they'll come up with some great stuff. Watch for them. In the meantime, unless one of these disks are exactly what you've been holding your breath for, I'd wait. ■

Bio: Barry Carson is now working on an eight part series of philosophical articles for the Hacker that will explore the question: Are there technologically advanced civilizations in our galaxy, and if so, can we buy Ensoniq's next sampler from them second hand?

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The Complete EPS Track Mix Primer

Garth Hjelte

Ah, the EPS track mix parameter! The favorite fader of the MIDI-master. The potent parameter defining dynamics in technological time or a crummy, confusing carcass simulating software-substitution. Whichever, it is imperative that we voraciously verse ourselves in this crazy control if any seductive sequencing is to be deceptively done.

I will now perform the never-before-attempted feat of unwrapping the mysteries (all of them) from this parameter. I apologize in advance for the complexity of the issue and my way of making it worse (uh-oh). Some of this will be brand new information (only in the Hacker, of course). Hold on to your hats! Here we go...

Wait! (sorry) One disclaimer. As of this writing, we are at the brink of OS 2.45 and this OS might work differently. My experiments are all based on 2.4.

OK, this time for real. History lesson: Ensoniq didn't even implement track mix until OS 1.95, so if you're still using 1.5 (or 1.3), ignore this article and skip to the classifieds.

Let's go over some basic sequencer concepts first. When you start recording/playing a sequencer, a time counter starts moving. If you're recording when you strike a key, the sequencer remembers when you struck it, what key you struck, and how hard you hit it. When you release a key, it remembers when you released it, what key was released, and how long it was from the time you struck it in the first place. These "remembrances" are called NOTE EVENTS. During the time you are playing, the sequencer will remember all the pitch bends, pressure, pedal movements, etc. These are called CONTROLLER EVENTS.

VOLUME EVENTS (what we'll be looking at) are a type of controller event (specifically, number 7), but since they are so important, these events usually occupy a separate spot in the user interface of most sequencers. NOTE: Don't confuse the foot pedal with volume. The pedal can be programmed to control volume, but it has a specific control number (4), so it really isn't part of our discussion (so go away).

Anyway, each brand sequencer deals with volume events differently. Let's take the ESQ-1, for example. Each track has its own volume mix parameter which you can move up and down to adjust the level of a track, even when the sequencer is playing. One sequence, one track, one volume. This is what I call a POST-MIX sequencer. These automatically (without you knowing it) record a volume event (which is a small packet of data containing the volume info) at the start of the track and allow you to adjust that data, even when the sequencer is playing back. They're called post-mix because the approach makes

it most natural to record the tracks first and mix the volume afterwards. The ESQ-1 provides you with a master mix page which displays all eight volumes at once. You can tweak and adjust stuff during playback, just like real studio engineers do. Now this is great, but post-mix sequencers can be restrictive. You're forced to put the volume event at the start of all the tracks. Want to stagger some events on separate tracks, or put an event in the middle of a sequence? No can do.

Our excellent EPS is powerful enough to do that, but trades off more complexity in its approach (a common technological occurrence.) It uses what I call PRE-MIX sequencing.

Pre-mix (no, not concrete) starts out like post-mix; it initially records one volume event at the beginning of a sequence when you first define a track, but the trackmix parameter does a different duty. In the EPS, it serves as an INDICATOR of volume rather than primarily as an adjuster. For the most part, it just responds to the volume events the sequencer feeds it while it's playing back. Ever try to adjust the mix level after you've defined a track? Seems like we all did. It'll always shoot back up to the same number (usually 99). Reason? When we defined the track, we (without knowing it) recorded a volume event.

I call it pre-mix because this approach makes it more natural to mix your parts before recording them in. Since most human beings are post-mix people (at least my friends and I are), the procedure becomes erasing the initial volume events and recording our own — all after the fact.

Are you a post-mix person? If you are, I'm sure you'll want to know how to erase and record volume events. This is noted in the AAG (not in the Musicians Manual) and has been mentioned in these pages, but they all left some critical details out. I'll repeat the procedure, with the additions:

1. CMD:TRACK-ERASE CONTROLLER (VOLUME)
(This erases previous volume events.)
2. SET MIX LEVEL
(Now the parameter is freed up; tweak it while the sequence is playing back to find a level you like.)
3. EDIT:SEQ/SONG-RECORD MODE=ADD
(so you can record the volume event without erasing the important note events)
4. RECORD, PLAY-WAIT, STOP, SELECT KEEP=YES
(This is the recording of the event.)

I should say we are dealing with sequence tracks at this point. (We'll look at song tracks later on.)

The above process describes recording an event at the start of a sequence, but let's take it further. What about recording them in the middle of a sequence? This would be valuable for sudden dynamic shifts and the like. Pre-mix sequencing has this versatility. How do ya do it?

1. GO TO THE VOLUME CHANGE POINT
(Use the GO TO locator or play and stop there.)

2. SET THE MIX LEVEL

3. RECORD, PLAY-WAIT, STOP, SELECT KEEP=YES

Now, this seems easy, but when you play the sequence back, you'll find any volume events that occurred before the point you started recording have been erased (in particular, the event that was at the beginning of the track!) Here's the Cardinal Rule: When the EPS records a volume event in the RECORD MODE=ADD, it will erase all volume events that came before it. (Don't ask me why, it just does.) Using that knowledge to our advantage, let's build a Grand Theory: In recording volume events during a sequence, work from BACK TO FRONT. If you record from front to back, you'll just erase what you previously did.

Now let's all participate in an example. (Get your EPS revved up and ready to go.) We'll build an 8-bar sequence that decreases in level by 10 on every measure. Working from back to front, we'll start with barline 8.

1. CREATE, DEFINE/PLAY 8 BAR SEQUENCE

2. ERASE CONTROLLERS (VOLUME)
(just to clear the air)

3. GO TO BAR 8

4. SET MIX LEVEL TO 29

5. RECORD, STOP/CONTINUE, STOP, SELECT KEEP=YES

6. GO TO BAR 7

7. SET MIX LEVEL TO 39
(an increase of 10--remember, we're working backwards)

8. RECORD, STOP/CONTINUE, STOP, SELECT KEEP=YES
(IMPORTANT: Don't record into bar 8; you'll erase the event of 29 that we just recorded.)

9. REPEAT PROCEDURE EACH BAR, INCREASING THE LEVELS BY 10

Now play back the sequence. Cool, huh? The level should decrease by 10 at each barline. You can even watch the mix level change automatically. Eight volume changes on one track!

So, in summary, we have covered the pre-mix and post-mix sequencer concepts, erasing and recording volume events the proper way, and recording mid-sequence volume changes. Now let's tackle the ever-alluring world of song track volume events. (Come now, you little pretty)

Two things come into play when using song track volume mixing: 1) Song track volume events override sequence track ones, and 2) song track volume changes can be performed in real-time, permitting fades and crescendos.

Once you've recorded ANY event on a song track, the EPS will ignore all sequence track volume events; so any work there will go naught. It's not too late, though. If you want to go back, you'll have to ERASE/UNDEFINE the song track.

Before we jump into fades and crescendos, I would strongly suggest that you, as much as possible, use song tracks only for volume events if you want the fade and crescendo bit. Here's why:

Remember that when recording mid-sequence volume events, the EPS automatically (without you knowing it) erases all the prior volume events? Now if you were to try and edit any of these real-time volume changes, you would lose everything that comes before (mostly). The EPS only does that in RECORD MODE=ADD. When it is on REPLACE, it doesn't do that. It performs as normal(!). We couldn't exercise that option on the sequence tracks. Otherwise, we would erase all the note data (sort of self-defeating). So, my point is, if you don't have any note data on the song track, you can set RECORD MODE=REPLACE and edit in true confidence that the EPS won't erase anything before the record/edit startpoint. If you are forced to have note data on your song track, that's all right, but just don't try to edit the volume changes! Simply do your mix from start to finish, and if you goof, do the whole thing over. If you insist on editing further, call me through Transoniq-Net. There are ways, but they get pretty meaningless and unnecessary. So try to use song tracks for controllers (especially volume) and the sequence tracks for the notes.

Song track volume event recording is pretty much like the sequence tracks, except that any changes you make to the mix level when the sequencer is running will be recorded into the track. Here's a typical procedure:

1. SONG MODE
(Select that song; there's only one.)

2. RECORD MODE=REPLACE
(if you don't have any note data, per above)

3. SET INITIAL MIX LEVEL

4. RECORD, PLAY

5. SELECT MIX LEVEL AGAIN (WHILE IT'S PLAYING)

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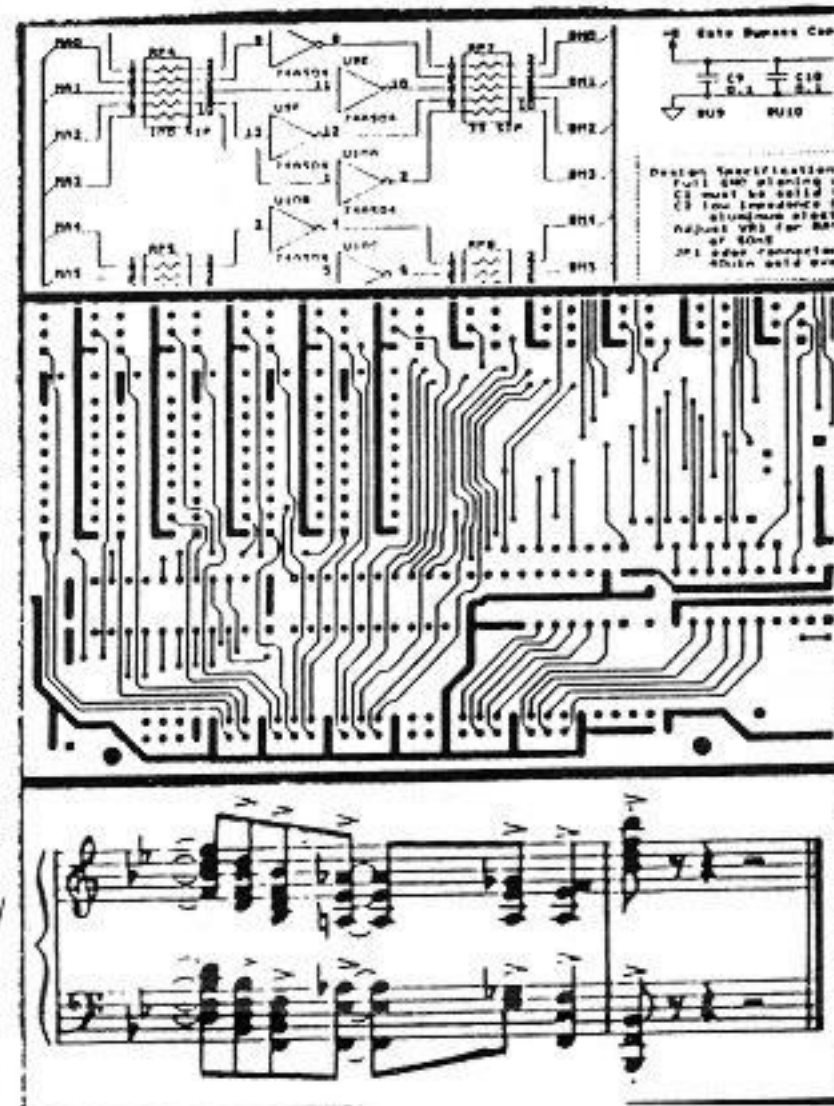
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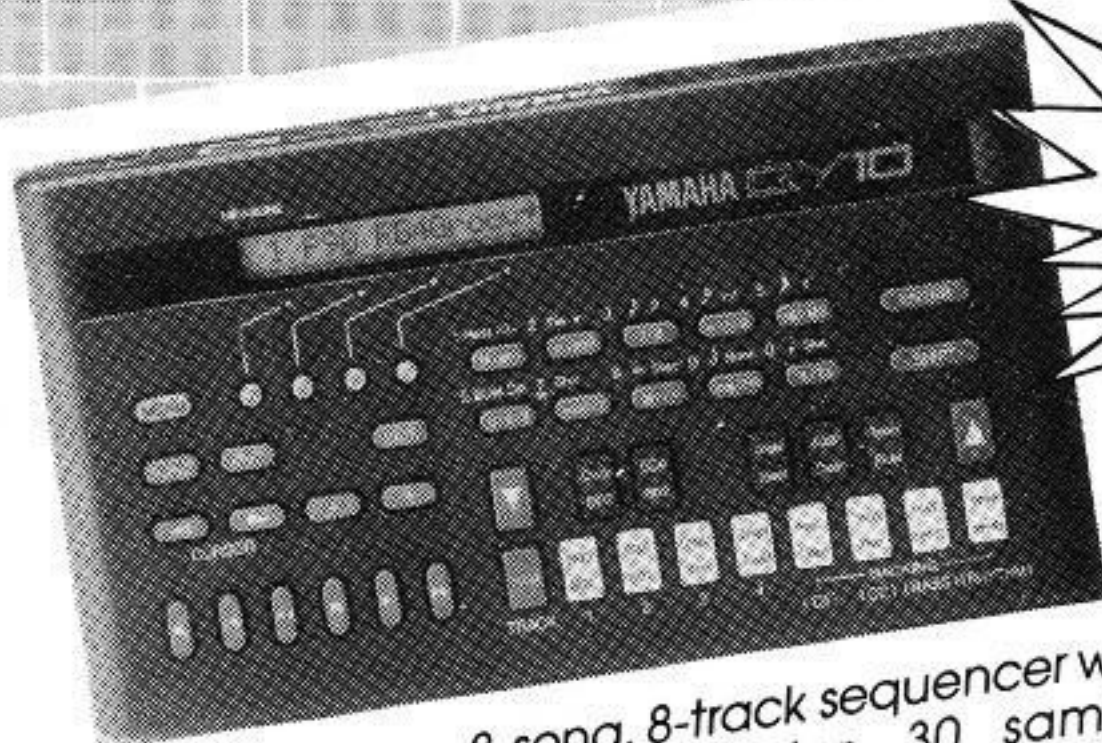
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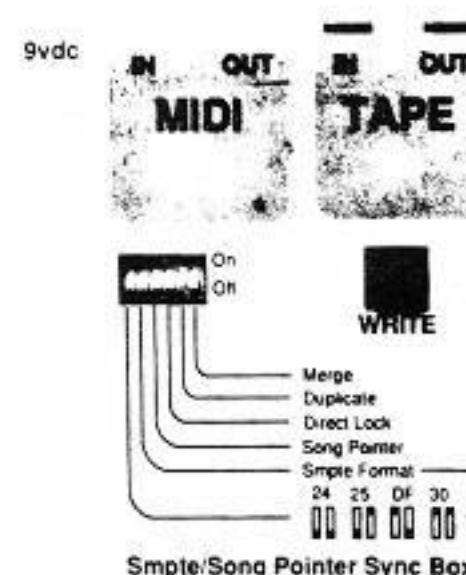
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6. ADJUST IN REAL TIME

(using the slider or the up-down buttons)

7. STOP, SELECT KEEP=YES

If you want to put a fade/crescendo deep in a song, or if you want to edit something that's already there, just GO TO the spot and start recording the volume events from there.

It's good advice to favor using the up-down buttons. They make it easier for the processor to understand the information. Volume events are low on the data-priority list of the micro-processor. So if you have a lot going on, that sudden slider movement is going to play back delayed and erratic. It really doesn't take much to get the EPS to do this. The up-down button adjustment of the mix level is more the EPS sequencer's type of lingo. If you want a sudden increase/decrease in volume, it's better to stop the song cold at the spot where the change is, change the volume mix level, and restart the recording at that point using RECORD, STOP/CONTINUE. I've gotten to where I don't use the slider at all.

Real-time volume control is great. You can introduce a part gradually, instead of having to build a special program in the sample for that, and realistic song fade-outs are now possible

— no more dead stops all the time.

So that's the mix control in a nutshell (pretty big nut). One more thing needs mentioning, though. The EPS can sometimes have "hidden" volume events within the tracks. If you transfer a sequence from another sequencer in the EPS's sequencer, the EPS will record the incoming volume events in the track, but the mix level won't indicate what is happening. You'll hear the volume fade out when you're watching the mix level sit at 99. ERASE CONTROLLERS will erase those volume events (if you want them erased), and then, you might want to remix them using the EPS's methods of volume editing. ■

Bio: Garth Hjelte is an EPS-user in Seattle, where he finds himself gradually melting as winter approaches.

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Sound Effects from Syntaur Productions

Bryce Inman

For: EPS family.

Product: Sound effects disks.

Price: \$5.95(1) per disk (\$5.45 each if buying 6 or more), 8 disks currently available and, according to Sam, about a squillion more 80% organized.

From: Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602 (818-769-4395).

For the uninitiated, post production is what happens after the primary filming and recording is done for an audio/video project. If, for example, you were producing a movie, you would begin by filming various scenes; then, the post production people would add the final touches, sound effects, music, titles, etc.

I don't know whether or not the geniuses who constructed the first samplers ever envisioned the impact their creations would have in this field, but those involved in the sound effects stage of post production have found these machines to be a real God-send. Just as compact discs have made the process of storing and playing back music a much simpler, cleaner process, samplers have made the job of adding sound effects to audio/video projects an easier, less time-consuming task.

Although they haven't eliminated all the drudgery of the post production process, samplers have certainly made things much simpler and, above all, more flexible. No more need for massive tape libraries that are susceptible to wear and tear, all of the information is stored on disks. Another advantage is that a sampler can be synchronized with the master tape through SMPTE and the effects can be added with unwavering precision. And there's more: Want those birds to chirp a little longer? No problem — loop the sample. Need that thunder a little more menacing? No prob — play the sample down a couple of keys. Even more amazing, with Alchemy (a sample editing program for the Mac) you can even transpose a sample up or down without changing the duration of the sample!

Now, Syntaur Productions, a production company headed by none other than our very own Mr. Hackerpatch, Sam Mims, is making its EPS sound effects library available to the public.

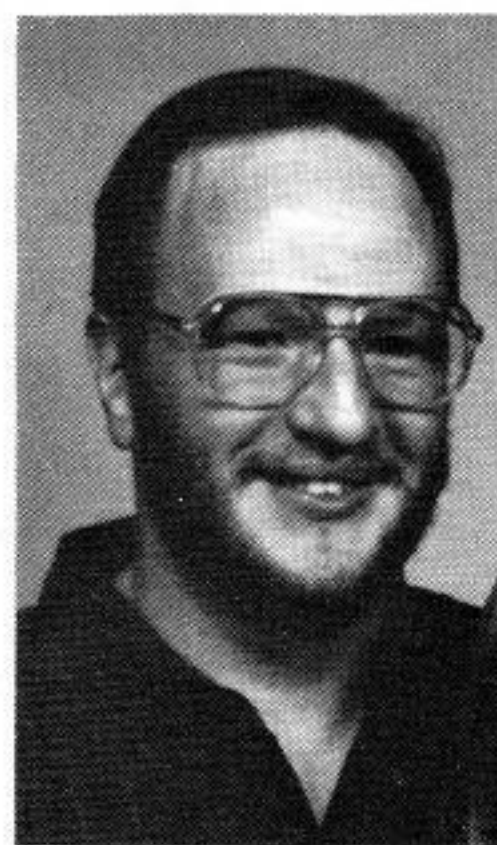
Syntaur has done *everything* possible to ensure that their samples display the best audio quality possible. According to their literature, the sounds were "...recorded directly to digital at a 48 kHz sampling rate, the sounds were then sampled into the EPS-16 Plus at 44.6 kHz (16 bit)." Although these samples sound wonderful on a standard EPS, they virtually come alive

when played back on the EPS-16 Plus.

Syntaur's catalog of sounds includes crickets, motorcycles, spooky effects, overhead doors, human sounds and various power tools and electrical appliances. Although their catalog isn't extensive at this point, it will continue to expand as Syntaur's own post production library expands.

For those sounds which benefit from looping (motors, crickets, etc.) the people at Syntaur have provided seamless loops. One especially nice touch is the use of key-up layers for many of the electrical sounds. For example, when you press a key down you might hear a motor that revs up and continues as long as the key is held down. Then, when you let the key up, the sound

of the motor slowing down kicks in for an absolutely realistic effect.



There's not much else to say about these samples except this: They sound great — send some more. ■

Bio: Bryce Inman is a free-lance music editor and arranger for Word, Inc. in Irving, TX. Although he has decided to make Texas his permanent home, he refuses to say "y'all" or "fixin'."

Review: Soundsource Patchwell

Chris Barth

For: ESQ-1, SQ-80.

Product: 40 patches.

Price: \$10 on data cassette.

From: Soundsource Patchwell, 17322 Stafford Circle, Yorba Linda, CA 92686 (714) 524-0597.

I was kinda surprised when Editor Jane called me for this patch review, as not many vendors are still creating new collections of sounds for six-year old synthesizers. Since my last review (sometime in the summer of '90) I had quit my day job as a corporate lawyer and opened my own 24-track recording studio (Silicon Chip Recording Company) to the public. Now I know that lots of readers here are making their livings as doctors, lawyers, indian chiefs, and a host of other occupations, while returning home each evening to their music. I did it myself for over thirteen years. And now, for the first time in my life, I start each day not for the money, but for the love of music and the adventure that running this studio gives me. And if *that's* not inspirational enough, let me recommend the book which singlehandedly turned me around: "*Do What You Love, the Money Will Follow*," by Marsha Sinetar. Just don't open your studio near mine.

Back to work! This month's selection comes courtesy of Travis Parker, who continues the stream of ESQ programmers coming from Southern California. Travis is offering 40 sounds on data cassette for the unheard of price of \$10. Considering the cost of the cassette and the postage to mail it, this has got to be the least expensive offering I've ever seen for the ESQ. And considering Barth's Law of Patch Buying ("I'd pay two dollars for a patch I'd keep"), you won't have to find much in here you like to make it worth your ten dollars.

The set is about evenly divided into three categories: key-

boards, strings and acoustic simulations, and special effects. There are over ten variations of electronic synth pianos, many of which are playable over the entire range of the keyboard. I especially like the two which open things up, NEEDIT and MOVIES. However, the synth pianos are pretty close to each other, and some are just too close to others to be offered as separate patches. A few are marked RHODES and KORGM1 and DX7, but only the latter is close to its namesake. All in all, not bad, but a little too much of the same.

There are two organs: HOLY, a distorted organ like Jon Lord's from Deep Purple, and CHEESY, which is clean and actually pretty good.

Four string sounds include ONEMOR, SFTSTR, TIME, and LOVE. The first one is the classic ESQ string patch; the others go off in slightly different directions, with SFTSTR offering a much darker sound than most string patches I've heard.

There are three special effects. I really liked DATA, which sounds like *Star Wars* computers on overload. RIP sounds like phht! not rip! and STREAM is kind of a gurgling brook that doesn't quite make it. BLAPPY is that ever popular flatulence imitation (well, popular in *my* crowd).

The flute and the sax and the harmonica are not really representative of what we usually expect from those names. The flute is interesting in that it has no chuff at all (that breathy sound) and as a result, it's good in the highest range. The others are Casio imitations and would be better if they didn't use those acoustic instruments as names.

Overall, there are at least five or ten patches here that would be welcome additions to any ESQ-SQ collection. At forty dollars, nah, but at ten, you're gonna easily get your money's worth. ■

Shifting Sounds in Soundprocess

Bob Spencer

Hi again from wet Greensboro, NC (not far from Level Cross!). Friends I've made with my library of sounds have asked me how to shift sounds around to make custom banks of their favorite sounds. Now, you should start this with a copy of your bank, not an original. Load in the bank you wish to load your special sound to and insert a fresh formatted disk. Use parameter 17, press value, change to ON, and press enter. This sets up your new disk for an SP bank of sounds.

Here's how sounds can be shifted around:

1) Hit par. then 00. This tells you keyboard mapping by Patch in location .01 (NOT Program). The mapped keyboard is the number of keys from the bottom of keyboard.

2) Hit par. 01, then VAL. This is the current number patch.

3) Press par. 54, then VAL. This tells the number of the patch you are editing. Change VAL to the number you wish to edit.

4) Change par. to 60, and VAL to see which oscillator pair you are currently working with. Press par. 73 or 74. This value will tell you the number of the OSC waveform. **WRITE THIS NUMBER DOWN!** Preferably on a waveform map (you know, the one SP had in the back of the manual?). If you don't have one, I'll be happy to send you a version I use if you'll send me an SASE.

5) Map out waveforms on your new map, using the above steps. Once you have this, you'll know which ones are unused or can be scrapped. Remember, wavesamples #1 – 8 are 16 pages long, #9 – 16 are 32 pages long, and waves #17 – 72 are 1 to 4 pages long, depending on the value in par. 20. This can be somewhat confusing.

6) Par. 13 is the key to moving your sounds around. From an SP disk you can save a patch in another patch number. Just be sure you are dumping it to a patch you want to use with VAL 2. You can dump a Mirage sound by using VAL 3, or an SP sound by using VAL 1.

7) Par. 14: Set VAL to the Bank number (1 – 3 for SP, 1 – 6 for Mirage.) This is for the source waveform (or patch) you wish to move.

8) Par. 15: Set VAL to the current waveform (patch) you wish to move (source).

9) Par. 16: Set VAL to the Waveform residence or address you wish it to go to (destination).

10) Put in the disk you wish to get it from and press Enter. It's now internal. Repeat steps 6 – 10 until you have all the waveforms you need (or have room for.)

11) Put in a blank formatted disk, press par. 17, VAL – ON – and Enter.

12) Press (Seq.) Save, Number of your new bank, and Enter. It gets easier from here on.

13) Make Program charts and Patch charts – pay attention to par. 00 through 11 as guides. Press par. 13 and set to VAL 2. We'll copy patches you wish to keep.

14) Par. 14: VAL bank number your patch is in.

15) Par. 15: VAL Patch number your patch is currently in.

16) Par. 16: VAL Patch you want it to be in internal memory, press Enter. Now Redo step 12 – **SAVE OFTEN!**

Repeat steps 13 – 16 for all patches, banks, etc. Keep your patch and program charts handy. Planning in advance can make all the difference between a fruitful session and frustration. But it's also nice sometimes when you have a few free moments to just fly blind! Some of my most creative patches began by just catching a Mirage wavesample a few pages after the beginning, trying different looping and cycling algorithms, and playing with the filter envelopes.

With a little sweat and a few good samples you can also come up with some really neat sounds. Some I have and have heard on SP I've never heard anyone come up with on one of those \$2000 to \$4000 machines out there. If you *really* want to get fancy, mix your coolest sounds with an EPS or SQ/VFX/SD natural sound. I used my SP on my latest recording behind my EPS sample of some VFX strings. When the engineer heard it, he looked up at me from his Yamaha SY77 and said, "Those are the greatest strings I've ever heard!" Nuff said. ■

Tested and Approved Hard Drives for the EPSs

Note: 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, 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
Frontera	All Models
PS Systems	All Models
Eltekon	All Models
Rodime	45plus, 60plus, 100plus, 140plus
Microtech	R45, N20, N40, N80, N100, N150
PL1	45 Meg Removable
Mass Micro	Datapack 45

Open It Up!

Exploring Ensoniq's Design Practices

Dave Camp

Finally — after an agonizingly long wait of over two years, I'm on my way home with Ensoniq's SQ-80! I'd decided way back then that the '80 would be "it" — and I was now caught up enough on the bills to come home from the music store with more than just another handful of brochures. There's still a small chance, though, of my finding that last pre-II VFX-SD left over from their blowout — but alas, no dice. The SQ-1 sounds tempting, but for the price of either one, I get the '80, an ESQ-M, and still have enough left over for a drum machine (the jury's still out on that one).

I clear off the kitchen table, grab some headphones, and play around for a couple of hours; now it's the 'M's turn. But there's something loose inside that I didn't notice in the store. As they say, "For want of a nail ..." and so on, I figured I'd better open it up (whence this article ...); I wasn't into losing the war even before the first shot was even fired. I dig out the right size allen wrench, remove the 12 screws, and behold — the guts of my "new" ESQ-M.

In a few minutes the inspection is complete: transformer (the ONLY major part I can see that's imported) mounted up-front, to minimize road shock to the rack-mount ears; power supply board mounted vertically, for convection cooling and longer component life; all other boards screwed to threaded metal studs, permanently swedged into the chassis (even if the screw DID rust in place, the stud wouldn't break loose!); all wires and cables with snap-on or locking connectors (no chance of jarring loose here); ribbon cable (to cartridge slot) covered with a ground-sheath to cut down on EMI; component access generally excellent. Overall, a very well-made little unit!

Further inspection shows the two-fold source of my rattle: the cart slot's ribbon cable is flopping around, due to its long run (deemed okay); the rest of the noise comes from a small screw not attached to anything (deemed NOT okay). From whence cometh said screw? I finally find one missing from the upper corner of the display board. His lockwasher is gone, too; since it's not spot-welded across the AC terminals or anything, it must have fallen out or otherwise disappeared. Before I go look for replacements, though, I check the other screws for tightness, etc.

Uh-oh — the cart slot is loose; I remembered reading about problems with him in old Hacker issues, so I take a closer look. He's plastic, but plenty rugged; still, a couple of loose screws would make the other screws' mounting ears take all the load when the cart's shoved in. Since the screws don't seat all that well in the ears, they probably couldn't be

tightened too much on the assembly line (my guess). Solution? 1): flat washers under the screw heads; 2): tighten screws more carefully; 3): check for tightness occasionally, every year or so. Loc-tite on the screws would eliminate 3), but make removal more difficult; if you choose this route, try to find hex-head screws to use instead, as the stock Philip's-heads would strip out quite easily (aaargh!!). While remounting the slot, I notice that two of the mounting ears are located such that the door's hinge pin is "trapped" between their mounting posts. If you've ever had the door hinge-pin come out on a cassette deck, you know what a pain it is to fix — so thanks, Ensoniq, for good design where it's needed!

Now the errant screw won't go back in, because it's stripped; the power supply board has to come out for access to re-tap the hole; HIS mounting screws are loose as well, etc; you know, one of those "easy, 5-minute" jobs! So to make a long story short, here's what else I did: re-tapped stripped hole, replaced screw; replaced power supply board screws (self-tappers into aluminum mounting bracket) with longer, non-tappers and nuts; blew out aluminum chips from self-tappers with compressed air (don't EVER use self-tapping screws on computer equipment!); checked fuses for correct sizes (all okay); added surge suppressor (I'm a little paranoid) to EMI choke on power line connector block; checked all connectors for correct seating and tightness; recorded battery type and size for future replacement; tried to determine software level from label on EPROM (I couldn't); finally, buttoned it all up again — and it still works!

Now on to the keyboard. After a couple more days of fooling around, I get a call from a buddy who brings over a Hacker back issue that tells how to change the battery in an SQ-80. Just the push I need to look inside! I line up the tools, ceremonially kiss my non-existent warranty good-bye, and — we're off!

With the four cover screws removed, I gently lift up — but no luck. Why? In his article, the "Masked Hacker" cautioned that the cover may bind until the mounting ears are filed. Unable to envision what he's describing, I play it safe and remove the 87 (not that many, really) screws along the cover hinge as well. Like an archaeologist about to peer into King Tut's tomb for the first time, I lift off the cover and look inside ...

I am amazed at what seems (to me) to be an almost total absence of electronics inside! This is the entrails of one of the

world's finest synths? With one of the best on-board sequencers in the industry? Where's the controller board for the disk drive? Where's the row after endless row of RAM and ROM chips? How can this thing do so much and sound so great if there's nothing inside??? I eventually find the motherboard (it's half-hiding under the keys) and regain my composure. My respect for Ensoniq engineers is growing in leaps and bounds as I begin poking, prying, exploring.

Board mounting is different than in the '80's, due to the '80's plastic case; access is not as great (but still very good) due to the presence of the keyboard mechanism (guess the keys hafta go somewhere, duhhh ...). Even without metal, the plastic case is thick enough to withstand more abuse than I'd ever give it. Mounting posts for the boards are well flared into the case, so there's little chance of them shearing off if the screw is over-tightened. The bosses in the cover for the hinge screws are deeply cast, too (guess someone at Ensoniq didn't want them to break, either). After removing four more screws, the end panel with the wheels and disk drive comes out for inspection as well. I notice patch-select button recesses cast into the underside (it's the same panel as the one in the EPS!). Within microseconds, my mind goes into overdrive thinking of ways to add patch-select capabilities to early SQ-type gear. (But that's another article...)

But hey, nothing's perfect — and my '80 is no exception; I find three problems. One is a loose cartridge slot (I'm not surprised); shaving one of the mounting posts (where the door hinge-pin sits) with my trusty Swiss Army knife lets the slot sit snugly against the cover, and four more washers under the screw heads take care of one more accident waiting to happen. Number two is cart-related, also; the 90-degree fold in the ribbon cable seems misplaced and has allowed one edge to get caught between a connector screw-head and the tin shield over the motherboard. The insulation is squashed so thin I can see the conductors inside; the screw head could short across them with just a bit more squashing. I wonder what patch parameters I'd see then? Not really wanting to find out, I relocate the fold so the two screws straddle the cable; another potential "bug" squashed before he has a chance to do any damage!

The third problem is more serious, though; I find over a dozen clipped ends of components, leads, etc. stuck in what seems to be a rosin residue on the bottom of the button/display board (the one mounted on the cover). Is this related to Ensoniq's changeover of PC-board rinsing techniques, as mentioned in a previous Hacker letter? Using a hacker-certified lint-free rag (worn-out dishtowel), I wipe off the loose ends and most of the "rosin"; rather than flushing it off completely with a freon spray, I figure it would be better to leave a thin film behind ...

Well, let's make this one short, too: I finish up my "tour";

tighten up on all screws; note disk-drive make and model; note battery make/model as well; also gleefully note generous space under drive (and blank "areas" on rear apron) for future hacker projects; install spike suppressor, as on my '80 above; re-mount cover to hinge, aligning carefully to eliminate binding at the edges; shave the cover-nut mounting ears with my knife to allow cover to open without binding; install sticky-back foam seal to front edge of cover (it sits above the rear of the keys); blow out all hair, dust, belly-button lint, etc. with the compressed air again; and, finally, button him up. Guess what? He still plays, too!

Conclusion? I'm impressed! The problems I found either were not Ensoniq design defects (except the self-tapping screws — a real no-no), or were easily fixed because of the excellent layout and quality of construction. If the insides of Japanese IBM-PC clones give me any indication of the quality of their musical gear, then these SQ's should outlast 'em all!

Should I have done this myself? Was opening perfectly functional units just to "explore" worth the possible risk of screwing something up? Should you try this at home? What is the terminal velocity of a falling sparrow? In every case (well, three out of four) — YES! "Exploring" aside, preventative maintenance is almost always worth the small risk attached. And besides helping me to know more about my equipment, it gives me a better appreciation for it as well. As for Ensoniq, many kudos for a job well done — and sorry about those warranties! ■

Bio: Dave Camp is a computer nerd and closet musician who is about to come out of the closet. Having slept soundly through the MIDI revolution, he has been busy doing double-time to catch up.

BACK ISSUES

Back issues are \$2.50 each. (Overseas: \$3 each.) Issues 1-9, 11, 13-23, 27, 29, 30, 35, 36, 37, and 38 are no longer available. Subscriptions will be extended an equal number of issues for any issues ordered that are not available at the time we receive your order. ESQ-1 coverage started with Issue Number 13. SQ-80 coverage started with Number 29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage started with Number 30. (But didn't really get going till Number 35.) VFX coverage got started in Number 48. Permission has been given to photocopy issues that we no longer have available - check the classifieds for people offering them. Reprints in our "Quick and Dirty Reprint Series" are available: MIRAGE OPERATIONS, for \$5, and MIRAGE SAMPLE REVIEWS for \$4. Each contains material from the first 17 issues.

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ESQ & SQ-80 Hackerpatch

By Sam Mims

Hackerpatch is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Patches designated "ESQ-1" will also work on the SQ-80. The reverse is not always true. Once something's published here, it's free for all. Please don't submit patches that you know to be minor tweaks on 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—our resident patch analyst. If you send in a patch, *please* include your phone number. Requests for particular patches are also very welcome.

ESQ Patch: MONO2B

by Craig Roth, Skokie, IL

This is the polyphonic half of a lead sound I created, which also consists of a monophonic sound as well. The mono part contains a low sine wave to add weight to the sound. MONO2B is good for doing lead guitar-type parts. Both chords and single-note lines work well. It sounds even better when run through a reverb and chorus.

The Hack

I love the fatness of this sound; it is reminiscent of the analog patch use in Prince's "1999," and it does indeed sound good through a reverb and chorus. Craig submitted this as an SQ-80 patch, with T4 of ENV 4 set to 0R; this adds a nice ambience, if you have an SQ-80. If you're using this patch for chording, rather than soloing, you might want to add a bit of stereo motion to it. Set up LFO 1 with FREQ=5, WAV=TRI, L1 and L2=63, other parameters=00 or OFF. Then use LFO 1 as the PAN MOD on the DCA 4 page, with a depth of +55.

SQ-80 Patch: *"-+*

by Kirk Slinkard, Lakewood, CO

To make this entire patch more organ-like, turn off the AM on the MODES page.

The Hack

Here I was, about to jog off to the store and spend my hard-earned dollars on a *"-+*, when a synthesized version arrives in the mail from Kirk Slinkard! What fortuitous timing!

With the AM turned off, this does act like a voicey organ patch, until you apply key pressure to sustained notes, thus summoning alien creatures from the planet Skyron. But it is with the AM on that things are really wacky. Oscillators 1 and 2 interact in such a way that the lower two octaves play a rhythmic pulsing, the next octave or so plays normally, and the upper octaves have alien overtones. Key pressure speeds up the pulsing on the bottom, has no effect in

the middle, and summons the aliens as before on top. Very bizarre. Add in the wiggling from the mod wheel and the filter squeeze from the CV pedal, and you end up with the perfect *"-+*!



Bio: Sam Mims is a studio session player and programmer in Los Angeles, and is keyboardist for Richard Elliot. He owns Syntaur Productions, a company that produces music for film and TV and markets sounds for Ensoniq keyboards.

ESQ-1 PROG: MONO2B

BY: Craig Roth

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	1	SINE	*OFF*	-	*OFF*	-
OSC 2	0	0	3	SAW	*OFF*	-	*OFF*	-
OSC 3	-1	11	30	SAW	*OFF*	-	*OFF*	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	59	ON	*OFF*	-	*OFF*	-
DCA 2	58	ON	*OFF*	-	*OFF*	-
DCA 3	59	ON	*OFF*	-	*OFF*	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	97	3	63	VEL	+37	*OFF*	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	*OFF*	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	-	-	-	-	-	-	-	-
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	+63	+63	+63	0	0	0	0	0	21	0

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	1	OFF	OFF	OFF	OFF

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

SQ-80 PROG: *"-+*

BY: Kirk Slinkard

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	ORGAN	*OFF*	-	*OFF*	-
OSC 2	+1	0	0	VOICE3	PRESS	+63	*OFF*	-
OSC 3	-1	0	3	VOICE1	LFO1	+63	*OFF*	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	*OFF*	-	*OFF*	-
DCA 2	63	ON	*OFF*	-	*OFF*	-
DCA 3	63	ON	KYBD2	+63	KYBD2	+63

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	70	31	63	PEDAL	-55	PEDAL	-63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	KYBD2	-63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	26	ON	OFF	TRI	0	0	0	LFO2
LFO 2	26	ON	OFF	TRI	0	0	0	LFO3
LFO 3	26	ON	OFF	TRI	0	0	0	WHEEL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	+63	+63	+63	0L	0	13	0	0	13R	0

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

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

SD & VFX Hackerpatch

SD & VFX Prog: MONKEYORG* By: Brad Kaufman

NOTES: This organ sound has a good low frequency response and a roto-speaker effect activated by pressure.

THE HACK: This is a beautiful "airy" organ sound that would work well for simulations of old-time merry-go-rounds and that sort of thing. But I think it could work nicely in contemporary tunes as well — it has sort of a "something old, something new" feel to it. It's interesting that the Leslie effect is done not with the ROTO-SPKR algorithm, but with a CHORUS+REVERB setting in which pressure

controls the chorus depth, combined with a pressure-controlled LFO vibrato.

I like the organ sound as is, but you may want to convert it into more of a pad-type patch. To do this, set the VEL-LEV parameter on the last ENV 3 page (for all voices) to 25 or so; this gives velocity control over the loudness of the sound. Then, set the ENV 3 RELEASE times to about 42 to smooth out the end of the sound.

— Sam Mims

WAVES	1	2	3	4	5	6
Wave	OrganV.4	DPnoTine	Marimba	Ocarina	ChifFlute	OrganV.2
Wave Class	Waveform	Waveform	TunedPerc	BreathSnd	BreathSnd	Waveform
Delay	0	0	0	0	0	0
Start	-	-	0	0	0	-
Direction	-	-	Forward	Forward	Forward	-
Vel Start Mod	-	-	0	0	0	-

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

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

PITCH MODS	1	2	3	4	5	6
MODSRC	*Off*	*Off*	LFO	*Off*	*Off*	*Off*
MODAMT	-68	-68	0	-68	-68	-68
Glide	None	None	None	None	None	None
ENV1	0	0	0	0	0	0
LFO1	+4	+4	0	+4	+4	+4

FILTER 1	1	2	3	4	5	6
Mode	2LP	2LP	2LP	2LP	2LP	2LP
Cutoff	127	81	33	127	127	127
KBD	+99	0	0	+99	+99	+99
MODSCR	*Off*	*Off*	Timbr	*Off*	*Off*	*Off*
MODAMT	0	0	+86	0	0	0
ENV2	0	0	+99	0	0	0

FILTER 2	1	2	3	4	5	6
Mode	2LP	2LP	2HP	2LP	2LP	2LP
Cutoff	127	127	0	127	127	127
KBD	0	0	0	0	0	0
MODSCR	*Off*	*Off*	Timbr	*Off*	*Off*	*Off*
MODAMT	0	0	+70	0	0	0
ENV2	0	0	0	0	0	0

OUTPUT	1	2	3	4	5	6
VOL	99	73	75	99	85	99
MODSRC	*Off*	*Off*	LFO	*Off*	*Off*	*Off*
MODAMT	0	0	0	0	0	0
KBD Scale	0	0	0	0	0	0
LO/Hi Key	C6/G5	C6/G5	D6/G5	C6/G5	C6/G5	C6/G5
Dest Bus	FX1	FX1	FX1	FX1	FX1	FX1
Pan	50	50	50	50	50	50
MODSRC	Keybd	Keybd	Keybd	Keybd	Keybd	Keybd
MODAMT	0	0	0	0	0	0
Pre-Gain	Off	Off	Off	Off	Off	Off
Voice Prior	Medium	Medium	Medium	Medium	Medium	Medium
Vel Thresh	0	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	0	0		0	0	0
Level	0	0		0	0	0
MODSRC	W1+Pr	W1+Pr		W1+Pr	W1+Pr	W1+Pr
Delay	0	0		0	0	0
Waveshape	Triangle	Triangle		Triangle	Triangle	Triangle
Restart	Off	Off		Off	Off	Off
Noise SRC RT	-	-		-	-	-

SELECT VOICE

00	1	2	3	4	5	6
0*	1	2	3	4	5	6
*0	1	2	3	4	5	6
**	1	2	3	4	5	6

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

ENV2	1	2	3	4	5	6
Initial			99			
Peak			99			
Break 1			99			
Break 2			99			
Sustain			99			
Attack			99			
Decay 1			99			
Decay 2			99			
Decay 3			99			
Release			99			
KBD Track			0			
Vel Curve			Convex3			
Mode			Normal			
Vel-Level			34			
Vel-Attack			99			

ENV3	1	2	3	4	5	6
Initial	0	99	99	99	99	99
Peak	50	99	57	99	99	99
Break 1	99	99	0	0	99	99
Break 2	99	99	0	0	99	99
Sustain	99	99	0	0	99	99
Attack	0	0	36	10	0	0
Decay 1	3	37	0	40	37	37
Decay 2	40	30	0	20	30	30
Decay 3	40	52	0	20	52	52
Release	0	4*	0	16	0*	0*
KBD Track	0	0	0	0	0	0
Vel Curve	Cncv1	Cncv2	Cncv2	Qikrise	Cncv2	Cncv2
Mode	Normal	Normal	Normal	Normal	Normal	Normal
Vel-Level	0	0	0	0	0	0
Vel-Attack	0	0	0	0	0	0

PGM CONTROL

Pitch Table	Off
Bend Range	2
Delay	X1
Restrike	0
Glide Time	0

EFFECTS (1)

Effect	Chorus & Reverb 1
Decay	78
FX1	11
FX2	0

EFFECTS (2)

Rate	17
Depth	22
Delay	81
Rate Mod	-15
Depth Mod	0
Mix	17

EFFECTS (3)

Waveshape	Sine
Mod Source	Pressure
HF Cut	Off

PERFORMANCE

Timbre	0
Release	0
Pressure	Chan

Prog: EXODUS

By: Mark Clifton, Woodbridge, VA

Notes: This is a gradually swelling ethereal choir/string pad with a sparkling "breaking glass" effect that fades in and out (the ALLWAVES waveform modulated by the amp

envelope). The mod wheel takes away the sparkles and the mod pedal adds reverb.

WAVE	1	2	3
Select Voice	On	On	On
Wave Class	String	Breath	Multi-Wave
Wave	String Ens	Voc Ens	All Waves
Delay Time	000	000	000
Wave Direction	Forward	Forward	Forward
Start Index	00	00	00
MODSCR	Off	Off	Off
MODAMT	-	-	-
Restrk Decay	41	41	000

PITCH	1	2	3
Octave	-1	-1	+2
Semitone	00	00	00
Fine	+06	-03	00
ENV1	00	00	00
LFO	00	00	00
MODSCR	Off	Off	Off
MODAMT	-	-	-
KBD Pch Track	On	On	On
Glide	Off	Off	Off
Glide Time	00	00	00

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

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

FILTER	1	2	3
Filter 1	3Lo	3Lo	3Lo
Filter 2	1Lo	1Lo	1Hi
FC1 Cutoff	127	127	127
ENV 2	+99	+60	+49
FC1 KBD	00	00	00
MODSCR	Off	Off	Off
MODAMT	-	-	-
FC2 Cutoff	040	026	000
ENV2	00	00	00
FC2 KBD	00	00	00
FC1MOD-FC2	On	On	On

ENV2	1	2	3
Initial	66	99	00
Peak	79	86	58
Break	74	80	74
Sustain	32	00	26
Attack	28	00	45
Decay 1	55	43	49
Decay 2	44	33	00
Release	00	22	48
Vel-Level	46	13	00
Vel-Attack	00	00	00
Vel Curve	Linear	Linear	Linear
Mode	Norm	Norm	Norm
KBD Track	00	00	00

AMP	1	2	3
Initial	79	99	00
Peak	84	77	62
Break	90	72	81
Sustain	87	90	69
Attack	57	55	44
Decay 1	48	44	42
Decay 2	81	49	54
Release	51	60	50
Vel-Level	13	06	00
Vel-Attack	00	00	00
Vel Curve	Quick	Quick	Linear
Mode	Norm	Norm	Repeat
KBD Track	00	00	00

OUTPUT	1	2	3
VOL	99	90	30
Boost	Off	Off	Off
MODSRC	Off	Off	Wheel
MODAMT	-	-	-75
KBD Scale	00	00	00
Key Range	C2-C7	C2-C7	C2-C7
Output Bus	FX-1	FX-1	FX-1
Priority	MED	MED	MED
Pan	-70	+56	+98
Vel window	000	000	000

**Standard
Sound
Programming**

Effects Programming

(To save space, only those effects utilized are listed. A complete blank form was published in Issue #68.)

CONCERT REVERB

FX-1	60
FX-2	25
Decay Time	67
Diffusion	62
Detune Rate	22
Detune Depth	10
HF Damping	40
HF Bandwidth	99
LF Decay	+14
MOD (Dest)	Fx1-Mix
BY (MODSRC)	Mod Pedal
MODAMT	+54

The Hack: Yet another SQ patch from the prolific Mark Clifton — and this one is very different from his past offerings. "Exodus" finally defines that pad that probably works best when applied at very low volume and again provides an interesting alternative to the "normal" string patch. However, the program volume is a little *too* soft. Adjust Voice 2 in the Output Section by raising VOL to 99. Also for Voice 2, in the Pitch Section, use MODSCR=VELOC and MODAMT=-21 for a Zawinul-like detune applied with velocity. To give "Exodus" more dimension use Voice 1's LFO Section: (LFO) LEVEL=30, SPEED=23, WAVE=POS/TRI. For this voice's Pitch Section, LFO=-10, MODSCR=LFO, MODAMT=23. Good one, Mark.



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.

SQ-1 & 2 Hackerpatches are published with the same constraints and understandings as the ESQ, SQ-80, and VFX patches. The hacking and mutilating part is being handled by Jeffrey Rhoads.

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, PAN: TRANSONIQ, 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 TH,

This question regards copying wavesamples between instruments on my EPS-16 PLUS.

Suppose I want to copy some sounds out of one instrument into another that I have just created. First I create a new instrument then create a layer to put the wavesamples in. When I copy the wavesamples across using COPY WAVESAMPLE the pitch of the wavesample in the new instrument usually ends up several octaves out of tune even though the wavesample range and position on the keyboard remain the same in the new instrument and layer as they were in the original. So what have I missed/failed to understand?

Oh, the other thing, at this point I usually rave about how great TH is, well, that is still true. However, how about starting up a competition to re-design the TH cover art? I thought the old design looked much better. Whadda-ya-recon, hackers?

Thanks in advance,
Scott Fisher [scott@wapsy.uwa.oz]
Department of Psychology
University of Western Australia.
Nedlands, 6009. PERTH, W.A.

[CS - Scott, try checking the status of the "Pitch Table" setting in the EDIT/LAYER menu. Some factory sounds (particularly drum and percussion sounds) use layers that are set for "No Pitch" - in other words, the sound will play back at its original sampled pitch no matter where on the keyboard you put it. A newly created layer, however, uses the "standard" pitch table as its default. When you copy a sample from a layer using no pitch to a layer using standard pitch, the sample will be tuned differently - unless it happens to be assigned to the same note on the keyboard that it uses for its root key. To get around this, either turn the pitch table for your new layer off (hit EDIT, then LAYER, then 4, and set the parameter to "No Pitch"), or else make sure that the root key used for the sample (EDIT/PITCH/1) is the same as the note that the sample is currently assigned to on the keyboard.

It is also possible that the sound you're trying to copy comes from a layer that uses a custom pitch table. If you wish, you can copy pitch tables between instruments - just hit COMMAND/PITCH/1, then ENTER, and respond to the prompts from the EPS-16 PLUS. Otherwise, simply re-tune the sample so that its root key matches the key it is as-

signed to.]

[TH - Actually, the ONLY comments (other than yours) which we've about the redesign have been (very) favorable. We expected to get the usual mix of messages you get whenever you make a change - but that didn't happen. Of course, maybe the people who didn't like it chose not to say anything and maybe your letter will bring them out. (Or maybe you're alone on this one?)]

Dear Hacker,

This is an open letter to Ensoniq and the other readers of this magazine. I have a suggestion for the R and D guys at Ensoniq to look into.

I currently own and love my EPS. I've developed a large sample library and the EPS is the heart of my system. However I'm at a crossroads as to what I want to get next to improve my sound. I really like that Ensoniq thinks ahead when it comes making synths and samplers that can be improved over the years. It's rare when an instrument like the Mirage still has people developing new software for an instrument that's over 5 years old.

But what do you do when you already have two sequencers (in my case an Atari ST and the EPS), and you don't want or need another one? I suggest a new EPS format sampler. This guy is fully 16 bit digital, has 4meg RAM internally (let's hope you can get a hardware installation for up to 16 or even 32meg), built in SCSI output, or has an option for a built in hard disk, and doesn't have a built in sequencer because I already have two.

Don't get me wrong. The EPS or EPS-16+ is a great first step into sampling, however what do you have for the next step? Let's just keep that nice operating system, after all if it ain't broke why fix it. And let's think OPEN-ENDED. Let's think of ways the third party programmers can make this an even better instrument long after it leaves the factory. And hey, use those more expensive parts. I'll pay it. Believe me I'd rather pay it now than during that annoying downtime I have to wait when the thing is being fixed.

Is there anyone else out there who wants more?

Jim Norman
Canoga Park, CA

[CS - As far as I can tell, Jim, everyone out here wants more. But keep those cards and letters coming, folks - Ensoniq really does pay attention to these "wish lists."]

[Ensoniq - Thanks for the comments Jim. Keep in mind that now that we have developed the sequencer software it doesn't cost you much to have it included. Actually, only the cost of the three buttons (Record, Stop, and Play). We think most users are glad to have it for "free" even if it's not their main sequencer.]

Dear Transoniq Hacker,

I see quite a few ads in the Hacker for 3rd party companies selling samples for the EPS, and sounds for the VFX, ESQ, SQ-80, etc. Aren't there any companies that sell sounds (RAM/ROM cards) for the SQ1+/SQ2? I recently purchased an SQ2 (I love it, by the way) and I would like to start working on a sound library. My compliments on the very informative Transoniq Hacker.

Thanks for your help,
Jennifer Joseph
Villa Park, IL
Compuserve: 70541,206

[CS - Yes, there are third party sounds for the SQ series available. Both Sound Source Unlimited (reviewed in this issue) and Eye and I Productions (930 Jungfrau Court, Milpitas, CA. 95035) are currently advertising SQ-series sounds, and there are probably other companies as well. Not to mention the four cards Ensoniq currently produces for the machine (SC-1, 2, 3, and 4, retailing at \$99.95 each), as well as a number of cards due for release over the next few months.]

[Ensoniq - We actually have a fifth card currently available, the ISC-1 International Collection. This card includes SQ versions of the sounds from the German, Japanese, and Australian collections for the SD-1/VFX synths as well as some all-new programs.

Each ROM card for the SQs holds 160 sounds, so our current library has over 800 sounds for you to try. Be sure to listen to the other companies' cards as well. They're excellent.]

Dear Transoniq Hacker,

I am still working with an ESQ-1 and a Mirage. Speaking of the Mirage, is there any way that I can loop just a few of the 8 sounds

in a multisample? In fact, how do I even get an 8 wavesample sound to loop? I have tried and have had problems. Perhaps I missed something. (I am using MASOS.)

Very truly yours,
Sally Daley, QM
Evanston, IL

[CS – Actually, you have no choice but to loop the sounds in a multi-sample independently – there is no way to loop all eight wavesamples in a multisample at once. And even if you could, the results would almost certainly be disappointing.]

You will need to select and loop each wavesample separately. Unfortunately, (or maybe fortunately, who can say?) we don't really have the space to go into all that here. However, everything you need to know has been covered in back issues of the Hacker, and neatly collected into a modest volume called "Ensoniq Mirage Operations" – catchy, no?

Anyway, this handy little collection of reprints from the first 17 issues is indispensable for those trying to navigate the horror of the Mirage Advanced Sampling guide, with nothing more than a hexadecimal conversion chart to point the way. Besides, a bunch of my old articles are in it. And cheap? Would you believe a measly 5 bucks and this aging beauty can be laying on your coffee table in only a week or so.

Our operators are standing by.]

Dear Hacker,

How do you top an already great publication for Ensoniq users? You already have! Daniel Mandel's column on the **Hacker Basement Tapes** is a wonderful addition to the Hacker. Dan's review of The Sponge Awareness Foundation's tape was accurate and informative, and based on his review I purchased it. It is interesting to hear what other musicians are doing and Dan's column gives us readers the chance to review before buying. In this age of high technology, it is unfortunate that we as musicians are limited to listening to "uncreative" music which predominates in society today. With Dan's column, as well as "Aftertouch," I can now enjoy the creativeness of you other musicians.

I believe that there is a new market out there for us underground artists. I would gladly fork out ten dollars on a tape that contains something creative and inspirational. One thing though; Dan if you review somebody's tape/CD, I think it would be a good idea to review only those recordings that could also be made available to us Hackers – like the Sponge Awareness Foundation. Reviews of recordings made without us Hackers having

any way of listening to them is pointless and a waste of space in the *Hacker*. My point is, if you submit something to be reviewed, not only include your name and address, but also the price for a copy, and who the check should be made out to.

So come on fellow musicians – I'm a reader and a buyer! Get your recordings copyrighted. Send in those tapes that you spent countless hours working on. I want to hear them and who knows, maybe Dan will get one from me. Dan, thanks for being a critic for us creative musicians.

P.S. When sending tapes through the mail, be sure to mark the mailing container with the words "WARNING: PROGRAMMED MAGNETIC MEDIA – AVOID CONTACT WITH OTHER MAGNETIC MATERIAL." Tape damage in the form of erased program material has been known to happen.

Sincerely,
Louis Emerson Kaplan
Downingtown, PA

Dear TH,

This was to be my swansong letter!

It has been four years since I purchased my ESQ-1 and Mirage. In that period of time I have bought an SQ-80, sold the ESQ, bought and sold an additional Mirage, plus acquired a DK Synergy Plus and a Roland U-220. All of this hardware, in conjunction with a four track deck, had brought me to the conclusion that I HAD ARRIVED. I no longer needed another piece of equipment. I could now create music for pleasure, profit and church choir. Coming to this conclusion also made me evaluate the merit of the *Hacker* in the scheme of things. SQ-80s and Mirages are old stuff and SQs are in. So why do I need the *Hacker*?

Just as I arrived at this conclusion, that old demon (read performing in public) reared its familiar head. I now am eyeing an SQ-2 to control my boxes (need that 8 way zoning) and, so too, need the *Hacker* to keep me abreast of the Ensoniq inside track.

While I'm at it, I would like to address a few issues that have been of concern to me. I have an IVM Megabank that is not working correctly. I wrote about a year ago to ask for assistance, but got no response. I again am asking for help in locating any information about the design and operation of the module. It is a great piece when it works, But?

I also use Soundprocess and would like to tell those that need copies of the software that they can make backups with an Atari loaded with Pro Copy. A friend of mine made backups for me and they appear to operate

perfectly.

Another Soundprocess issue. When I use the LFO, the rate varies with the number of notes held. I have looked for a mention of this bug, but have never seen anything about it.

So I end this letter and enclose a check. And if Ensoniq continues to create products that fit the general needs of people like me, the Hacker and I will have a long relationship.

Sincerely,
Dennis Hoffer
Edwardsburg, MI

[CS – the LFO-slowness problem is probably not a bug. The Mirage, like any computer, needs to prioritize tasks, so that when it's asked to do a lot of things at once, it can get the most important stuff (like turning on notes when you play them) done first. If it's asked to do a lot at once, something with a lower priority (such as updating the LFO) may suffer a bit. It is possible that, since Soundprocess is a re-write of the Mirage operating system, this effect may become more pronounced when using it. Still, it may be unavoidable.]

As you know, IVM has long been out of business, and we have no way of getting in touch with them. Perhaps one of our legion of readers might be able to help. Readers?]

Dear T.H.:

I am a newcomer to keyboards, am even newer to Ensoniq. I now own an EPS-16 Plus and would like to ask what might be a very elementary question.

I have a Casio keyboard which I would like to use as a controller for the 16 plus. Right now, the Casio can play a single selected instrument on the 16 plus, but I would like to do more. For instance, I would like to use an 88 note piano and have the Ensoniq play the highest 61 notes, while the Casio would play the bottom 27 notes.

I would also like to be able to do keyboard splits using both keyboards. For example, the Ensoniq keyboard might be split using piano and strings and the Casio could be split with a bass and drums.

Please tell me how this can be done.

Thanks for your time,
Jim Veligdan
Manorville, NY

[CS – Jim, I'm afraid I can't give you any tips on the Casio. I'm not that familiar with those machines, and besides, you don't say what model you have. So let's talk about splitting and zoning sounds on the EPS-

PLUS for a moment. As you may know, if the EPS is in MIDI Omni or Poly mode, all this stuff will work whether you use the EPS keyboard or your Casio keyboard as the controller.

Let's say you want to play a string sound with your left hand and a piano with your right. The first thing you'll need to do is restrict at least one of the instruments to a specific range of keys – this is what will determine your split point. Let's use the string sound for this.

Select the string sound using the 'INSTRUMENT/TRACK' buttons and hit 'Edit', then 'Inst', then scroll using the left/right cursor buttons until the screen shows "RANGE LO=XX HI=XX." To set the range, simply play the lowest key you want the strings to play, perhaps C2, and the highest key, maybe C4. Now the strings will be on the low two octaves of the EPS keyboard. Now scroll once to the right, and the transpose screen will come up – this allows you to transpose the instrument into the range you would like it to play. Use the right and left arrow keys to select either octave or semi (depending on whether you want to transpose the sound in increments of an octave at a time or a semi-tone at a time) and use the up and down arrow keys to perform the transpose. You can use this method to put any sound into any area and pitch range, whether the sound is being controlled by the EPS keyboard or by the Casio. Now return to 'load mode' (which can also be thought of as 'performance mode') by pressing the 'Load' button.

To split this sound with the piano, first select the piano instrument, then the string instrument. Notice that both instrument's 'Selected' LEDs are lit, and that the string is playing on the lower range of the keyboard, with the piano on the upper. The reason this works is that when an instrument that does not cover the entire keyboard (such as our string instrument) is selected, it will only replace the range of selected instruments that it actually covers. In other words, since the piano was selected and covering the entire keyboard, the string simply replaced the area of the piano that it actually occupied on the keyboard, rather than the entire piano sound. Note that the order in which instruments are selected is critical – if the string had been selected first, and then the piano, the piano would have replaced the string completely, and the string instrument's 'select LED' would have gone out. Of course, you can also set a key range and transpose amount for the piano sound – simply repeat the steps described for the string sound.

To un-split these sounds, simply 'de-select' the sound that you wish to turn off by hitting its 'instrument/track' button. To layer instruments so that they sound simultaneously, simply double-click the instrument/track but-

tons for the sounds that you want to layer. 'Un-layering' is accomplished the same way as 'un-splitting' – simply by pressing the instrument/track button a second time.

These settings can be stored along with other information – including mix volume, stereo panning, patch select status, and so on – by creating and storing performance presets. Refer to pages 3-5 to 3-6 of your manual if you need more information on performance presets.]

Dear Hackers,

First of all, I guess it's become an Interface requirement to rave about TH, so here goes: You guys are great. Seriously though, you put other users "magazines" to shame. Keep up the good work.

The one thing I'd like to see changed a little bit, is more articles about using Ensoniq stuff in alternative music like techno-dance or industrial music. I'm sure I'm not the only one who is getting a little tired of seeing more articles on imitating Hammond organs. What'd we buy these things for anyway? Let's see some real creativity! And if you don't think that there are enough Ensoniq users out there who use it for this purpose maybe you should ask Ajax, MC 900 Ft. Jesus, The Cure, Vomito Negro, Skinny Puppy, Hilt, Cyberactif, or Fishbone, all famous (well, in alternative circles at least) users of Ensoniq equipment. I've seen many up and coming bands, such as Syracuse's excellent Clay, making use of these machines, too. So how about it? I'll work on some articles, but I know that there are plenty of other TH readers out there who ought to as well. So come on, I want to see articles not just on industrial and dance music, but rap, gothic, heavy metal, reggae, everything! I think if people could keep an open mind they would realize that every genre of music offers something that they can incorporate into their own music.

Any people who use Ensoniq equipment for this kind of purpose and would like to chat can write me at Tom Shear, PO Box 271, Lyme, NH, 03768.

One more question: is it legal to sell samples of sounds taken from albums of established artists? In other words, could I market a drum set with sounds taken from various artists CDs?

As a note to Ensoniq: Several years ago I bought an SQ-80, and continue to be blown away by it. Too many people panic when their synth isn't the latest thing and sell it, and as a result never really learn to use it. I feel that only right now have I come to grips with what this thing can really do. I've never seen a more versatile synth, ever. Although

there are some pretty useless waveforms on it, there are plenty of other great ones that have given me the capability to imitate just about any kind of sound I need. I even had an M1 owner tell me, "God, I like that thing better than mine." (He was talking about the synthesizer not a – oh, never mind...)

And now I've purchased the incredible EPS-16+. What can I possibly say but WOW. You guys have put together a killer here. And after using the Mirage for about a year, you can imagine that it was appreciated even more. Anyone who thinks the EPS is hard to program should stop whining and try using a Mirage for a while! I'm really blown away by the sound quality and programmability of this thing. Great job, guys. I've become so spoiled on the sound quality now that I can't even bear to use my old Mirage anymore! Further kudos are in order for your excellent selection of samples included in the box. All the drums are perfect (I especially liked Choice Drums and the Jazz Drums), the Steel String Guitar is incredible, the pianos are great, and what a brilliant strategy to include the TR-808 and Moog Bass, two of the most sought after sounds in pop music. The selection was wide enough that it has something to offer to everyone, no matter what their style. But, no letter would be complete without a greedy little wish list so, here's mine:

1. How about a Signature Series from Jam & Lewis? I'm not a real fan of their music, but they are very creative producers (who else could turn a Mirage sample of a car horn into a bass?)
2. A second to one reader's opinion a couple months back: a pitch-shifting effect on the EPS 16+ would be very cool. It would be a great help to those of us who like to use rhythm loops. While we're at it, how about EQ and an exciter? This would help salvage dull-sounding samples. And certain other companies have these effects...
3. Multiple loop points might be cool...
4. For future samplers, I think you ought to try using a display and interface more like the SQ-80. It's much easier to get around with and is faster to program.
5. Now that you've sampled the 808, the MOOG, and the Oberheim, how about a new special series of samples that instead of featuring a certain artist's samples, feature different synth sounds. In other words, you could have a D-50 Signature Series, A Fairlight Signature Series, etc. This is probably in poor ethics, but I would sure buy it!
6. How about an Emax SE-style synthesis function? This would double its value to me!
7. While we're talking about E-mu, how about a new type of pan modulation like on



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the Emulator that responds to keydowns? In
other words, when you play one note the
sound is panned hard left, with the next note
it bounces hard right, with the next note hard
left, etc.

Again, thanks for making such great afford-
able products. Keep up the good work.

Tom Shear
Lyne, NH

[CS - While I'm not a lawyer, I do watch
L.A. LAW pretty regularly, so I feel qualified
to address your question about the legality of
selling samples from CDs.

As far as I (and my contacts at Ensoniq) can
determine, this is a grey area. Very grey. At
this point in time, individual sounds are not
copyrightable, (or so it seems), so you could
probably do what you'd like. On the other
hand, you could end up as a test case for
those same copyright laws. Not my idea of a
fun way to spend a vacation, but you never
know.

[TH - Raves most certainly are NOT a re-
quirement. More of a guideline... Regarding
copyrights, you may also want to check out
"A Guide to Patch and Sample Copyrights"
by Tom McCaffrey in Issue #69.]

[CS - A strong guideline.]

[Ensoniq - Thanks for the compliments. We
couldn't have written ourselves a better letter
if we'd tried!

1) Messrs. Jam and Lewis are good friends of
Ensoniq and we have spoken to them about
doing such a collection. They haven't said
yes but they haven't said no either so we'll
just have to wait and see. Their use of En-
soniq instruments on Janet Jackson and
Johnny Gill records are wonderfully creative
efforts. O.K. Hackers, trivia time - where did
the countoff for the Rhythm Nation album
come from (winner gets a free Ensoniq
T-shirt)?

2-7) These are all great ideas, thanks for
sharing them.]

Dear TH:

Regarding the EPS and the new OS 2.49,
three compliments, two problems, five sug-
gestions, and a combo problem/suggestion/
question, as follows:

1. Compliments for OS 2.49

a. The "last note pushed to last clock" during
quantization problem is completely fixed



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b. The new "Note Range" Quantize parameter is absolutely wonderful (and worth a mention in the update specs)

c. The Event Edit display which sometimes used to read 1:00:00 and sometimes 1:01:00 for the first beat of a bar seems to be corrected (to 1:01:00)

2. Problems with OS 2.49

a. A problem with 2.4 that was serious but pretty rare seems to be happening more frequently with 2.49. This is a strange and awful condition called "add bars to end of sequence, move notes around, and completely wig out mental as anything" problem. It happens sometimes when you try to move notes in Event Edit. You move a note and suddenly your four-bar sequence has a fifth bar added, with notes from the fourth bar pushed into this phantom bar. (Sixth and seventh bars were seen with 2.4 but haven't been encountered yet with 2.49). You try to delete and insert the notes back where they belong, and all the notes in the sequence start shifting around. You move backward through the notes and they show one set of positions, you move forward through them and they show another. In another variation new to 2.49 it cuts off bars 3 and 4 of a four-bar sequence, and you can only move through 1 and 2. IF you try to keep the changes, you crash. If you

hit cancel everything's fine, but try and try again, save and reboot, whatever and you will never get that particular sequence to let you move notes. Though perhaps you won't need to, because the notes move by themselves, in the Twilight Zone.

b. A minor sequencer problem has been improved but not completely eliminated. This is also in Event Edit, when you try to move a note to a ---:00 clock, and sometimes all you can get is a ---:47 or ---:01.

3. Suggestions for Future Updates

a. "Note Range" parameter for Shift Track By Clocks

b. "Copy Track" to other sequences (dare I ask for Merge with other sequences?)

c. Sequencer Info that shows the number of blocks for a song (with the 4x memory expander, it currently always says ***SONG*** = 1 BLKS)

d. "Copy Note" in Event Edit (theoretically you can do it now by putting the cursor on the note and hitting Enter, but in fact that always produces the note G2+, which you can then try to change, but you're asking for trouble [related to item 2. a.]



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4. Combo Problem/Suggestion/Question

D. Cloud of Newark N.J. commented in the July '91 Interface about volume problems using the new EPS/EPS 16-Plus signature series ESS-14 on a classic EPS. Clark Salisbury recommended checking filters and WS volume levels. In fact many of the samples are just recorded too low for use (we assume) without the EPS 16-PLUS gain and effects abilities. Without external resampling of voice-munching layer doubling (tripling!), many of the sounds are frustrating if not useless.

I've considered trying to return the disks to Ensoniq, but since they are partly usable I'll just ask Ensoniq to please make sure that future sound sets, if sold for use with the original EPS, are in fact compatible with the original EPS (and if they're going to require tweaking, to definitely include tweak instructions.)

Now my question is whether this volume problem, and volume problems with my own samples, can be corrected using Scale Data. Thorough multi-readings of the Advanced Applications Guide and numerous experiments have left me convinced that that Command's sole function is to turn a sample into explosive static. So I will ask you for the actual exact settings to achieve, if possible, the following results: 1) make the entire length of a sample twice as loud (200%); 2) make the entire length of a sample one-half again (150%), and one-third again (133%), as loud; 3) fade in from no volume to 150% of volume from beginning to end of sample; 4) fade from 100% at beginning of sample to 50% at middle, to 85% at end.

Douglas Alemanne
W. Hollywood, CA

[CS - Before attempting to use the scale data functions to make a sample louder, you should always normalize the gain of the sample in question first. Normalizing ensures that the sample will be increased to its maximum amplitude before clipping (distortion) occurs. Increasing the amplitude of the sample after normalizing will guarantee that clipping will occur, although it may not be noticeable if the loudest part of the sample is a sufficiently brief transient, as might be the case with some percussive sounds.

To perform the scaling operations you ask about, try the following:

1) You can make the amplitude of an entire sample twice as great by setting the scale data start and end addresses to the start and end points for your sample, and "Scale Start" and "Scale End" each to a value of 2.00. This multiplies all the data values by a factor of two. 2) To increase the amplitude of data throughout the entire length of the

sample by 150%, use scale start and end values of 1.50. To increase amplitude values by 1.33%, set scale start and end values of 1.33. 3) Still using wavesample start and end addresses for scale start and end addresses, set scale start to 0.00, and scale end to 1.50. 4) Set scale start address to (00), and scale end address to (49). Use a value of 1.00 for scale start, a value of 0.50 for scale end, and perform the scaling operation. This will fade the data to 50% by the middle of the wave-sample, but will not affect the second half of the wavesample. Next, set scale start address to (49) and end address to (99). Set scale start to .50, and scale end to .85, and perform the operation. Then click your heels together three times and repeat the phrase, "There's no place like home" until you achieve the desired results.

Be aware that increasing the amplitude of a wavesample too far will result in distortion - loud distortion. This probably accounts for the "explosive static" effect you've encountered.]

[Ensoniq - 4) What you are experiencing is not samples that are recorded too low, but samples that have their Gain boosted. This is a new parameter to the EPS-16 PLUS, and is not found on the original EPS. When a sample seems too low in a newer library played on the EPS you should attempt to raise its volume to 99 if it is not already there. If it is at 99 you may have to reduce the volume of the other samples until they all seem to balance.

The two parameters that are different between the original EPS and the EPS-16 PLUS are volume boost (found under Edit, Amp) and the newer extended range for the Filter Cutoff frequency (the EPS went to 127, the EPS-16 PLUS goes to 150).]

Dear Transoniq Hacker,

I have one of the old EPSs. I've noticed that when I use the 8-output expander, it's a much cleaner sound. Is that common or is it just my machine? Also, since the EPS-16 Plus has come on the market, many of the old EPSs will be dumped cheap! Is there any information on MIDI-ing two EPSs and a digital effects box, i.e., 16 separate channels, 42-note polyphony, extended sound processing and so on...is that feasible?

Thank you,
Michael Sweeney
Saugatuck, MI

[CS - The sound of your EPS should generally be about the same through the output expander as it is using the normal stereo outs. The only thing that comes to mind is that later EPSs have a modification to their output circuitry which boosts the overall gain of

the machine. This raises the signal farther above the noise floor, making the machine somewhat quieter (as well as louder). If you're not sure if this modification has been performed on your EPS, you can call Ensoniq at (215) 647-3930, and give them your serial number. They'll tell you if you're machine has been modified.

As far as MIDI-ing two EPSs, there is no specific material that I know of pertaining to what you want to do (although it'd make a great Hacker article - hint, hint). The two machines would, of course, be very compatible, and if you synchronize the sequencers (via MIDI), you would have 16 sequencer tracks/instruments available, 42-note polyphony, and so on. And of course, it could all be processed through the effects device(s) of your choice - although you'd probably want to connect the effects to the effects buss of whatever mixer you're using. Still, it would be a pretty nice system, it seems to me.]

[Ensoniq - The EPS has 20 note polyphony, so the combination would actually yield 40 notes, not 42. Not a bad set-up...]

TH,

I own a second-hand SQ-1 and I was wondering if warranties are transferable. If so, how do I go about transferal? Have any companies started to produce SQ-1 patches? Are they available on sound card and disk format (for external disk drive)?

I was programming the patch for Mark Clifton's "Vector Journey" and I couldn't make the vel-level for voices 2 and 3 the required values. My SQ would come close (52 and 93 I believe) but it would skip down to a lower number instead of 50 and 90. This happened even when using the up-down buttons. Am I doing something wrong? Is my SQ just trying to spite me? I'm not even sure it makes any difference.

Was there any SQ-1 coverage before Issue #67? Any general notices that affect SQ-1s? Does anyone publish a "How To" book on programming the SQ-1 like I have seen for other synths?

Thank you for a useful user magazine.

Samm Mason
Trout Creek, MT

[CS - Unfortunately, warranties are not transferable. Oh well. As to your problem with velocity levels, our apologies. There's nothing wrong with your SQ-1 - it increments envelope velocity levels a few digits at a time - the mistake was in our patch chart. (Just get as close as you can.)

There was SQ-1 coverage starting with Issues

#58, #63, and #64 but coverage didn't really get consistently going until Issue #67. The only big news regarding SQ-1 hardware or software is the availability of an upgrade that turns your SQ-1 into an SQ-1 PLUS. The only real difference is the addition of some real nice 16-bit acoustic piano waves. The upgrade costs \$399.00, installed - check with your service center or local dealer.

I'm afraid I know of no "How To" books out on the SQ-1, but that doesn't mean there aren't any. If anyone out there knows of such a thing, maybe you'd care to let us in on it, too. It'd be much appreciated. As for third party sounds, see Jennifer Joseph's letter above.]

Dear Hacker,

BASEMENT TAPES!! Great idea!! Now you will be totally and completely bombarded with cassettes and assorted music and noise.....And be the way, thanks for reviewing my tape, "Aperture."

Idea For the Future: Every major electronic musical instrument equipment company will begin a similar program and incorporate

some type of recording/distribution label for independent artists who are using and buying their equipment. By distributing CDs and cassettes of music being produced by these "users" the equipment companies could accomplish several positive things: Promote themselves and products while seeing profits from CDs; promote the struggling, desperate, can't-buy-a-break talented independent artists around the world; and help create some "musical" income for independent artists, who could then justify buying "Brand-X's" newest and coolest equipment... "What goes around, comes around"ya know?

Major Whine Time: ENSONIQ!!! I know that these are some really busy people who are wrapped up to their asses in great and innovative things, BUT please tell me (& the World) why it's going to cost me over \$700 MORE to get the high fidelity sound I was told I'd get from my VFXsd when I bought it. I've written, called and FAXED those important people, but still no response. The VFXsd listed for \$25-2600.00 - the SD-1 list for \$25-2600.00 (?), so what's the catch. I basically don't give a crap about the M-M-M-M-MEGA 16 bit piano samples. I just want crystal clear and clean output without hiss, scrunge, rattle and sometimes

buzz. Somebody please wake 'em up over there and help find some alternative solution or I'm going to recommend that everybody should go in hock and buy a Fairlight or Synclavier or anything but a soon-to-be-out-of-date-and-production-ENSONIQ product. Software bugs are one thing...hardware bugs are just bad business....ya know?

Yours for awhile,
David Bell
Morehead City, NC

[Ensoniq - The SD-1 analog section is a complete re-design of the VFX-SD. Over one-third of the circuit board is different, using higher fidelity components which weren't available when the VFX-SD was designed. Remember that it takes at least two years to bring a product to market, and the VFX-SD design actually happened in 1988-1989. As better technologies become available we want to bring them to you, and that creates new products and new designs.

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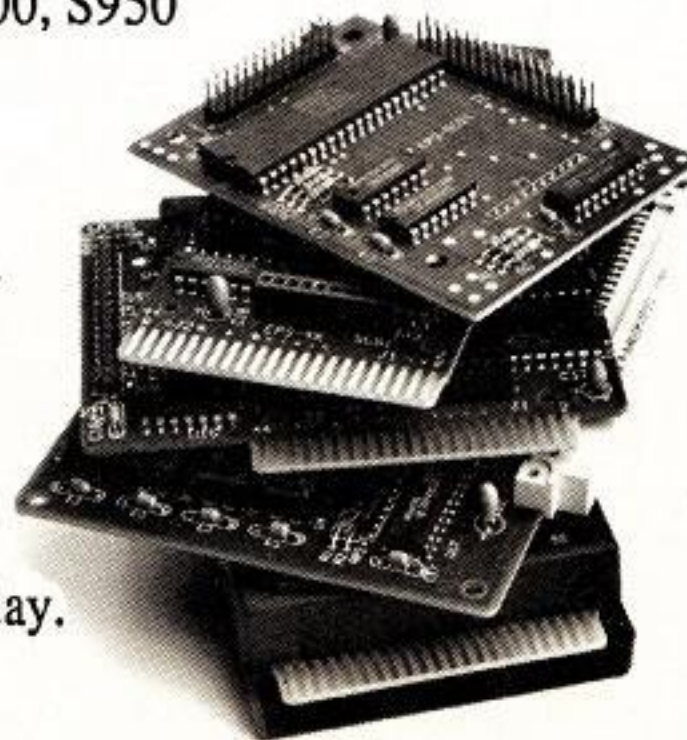
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