TRANSONIQ HACKER

The Independent News Magazine for Ensoniq Users

The VFX

by Clark Salisbury

So Ensoniq has this new machine, see. It's called the VFX. What's VFX stand for? Well, I suppose that the FX stands for Effects, as in sound effects, as in digital reverb, chorusing, you know. And the V? Not so sure about that one. Vertical market? Voodoo? Veracity? Vini, vidi, vici? Very curious.

Anyway, this new machine, see, it's a synthesizer. They call it "Dynamic Component Synthesis". Rolls right off the tongue, ya know? DCS. What it means is that all the parts work together. Dynamically. To do synthesis, that is.

But the real question is, of course, is it cool, or what? And is it worth the $1995 sticker? Well, what say we have a bit of a look-see.

THE BASICS

The VFX comes equipped with 120 sounds and 40 presets (more on presets in a bit). 60 sounds and 20 presets are permanently stored in internal ROM, 60 sounds and 20 presets are loaded into internal RAM - these can be re-programmed by the user. A cartridge is included which contains a backup of the internal RAM presets, allowing the user to re-program internal memory as desired without having to give up any of the factory sounds. I like the factory sounds quite a lot, although I realize that this is a subjective view. The sounds supplied, though, do present a pretty balanced selection of meat and potatoes stuff (strings, brass, pianos) as well as a fair helping of the more exotic things, some of which are truly beautiful. There are a lot of things that are reminiscent of Roland's popular D-50 synthesizer - the big, breathy, chiffy, types of sounds - and there are things that sound more like a real good sampler, run through real good processing. The only things that seem to be at all a bit slim are the nylon stringed types of instruments (classical guitar, harp), and there aren't many drum sounds (the basic drum kit is provided, and there's a lot of exotic percussion, but Ensoniq doesn't seem to have dedicated a lot of waveform ROM to standard drum set types of samples).

Sounds can be split and layered in a mind-boggling variety of ways, and controlled in a number of ways - poly-key pressure, patch select buttons, a "timbre" control and a special "Performance parameters" section combine with all the normal performance controls (pitch and mod wheels, etc.) to make the VFX one of the hippest performance-oriented keyboards around. That's not to say that you MIDI studio types are going to feel left out - the VFX is completely multi-timbral, responding to up to 12 MIDI channels with dynamically allocated voices. A nice touch is the addition of a "priority" control, which allows you to assign one of three priority levels to your voices, in effect giving you a way to tell the VFX which voices it should and shouldn't steal if you should exceed its 21 voice limitation.

A pair of stereo outputs is included, and indeed, stereo plays a large part in the overall hugeness of the sound of the VFX. Not only can sounds be panned in a number of ways, and from a number of modulators, but the digital effects also work best in stereo. It would have been great, of course, to have multiple outputs, but Ensoniq maintains that this would have skyrocketed the price of the machine, considering the cost of the output stage of the VFX. And speaking of output stages, the VFX has a very healthy one, providing quite a bit more gain than the EPS, which should be welcome news to you studio types.

The VFX includes neither a sequencer nor disk drive - Ensoniq seems to be, (at least to some extent), addressing a vertical market here, as all of their other products already include sequencers. And indeed, a

In This Issue...

SAMPLERS:

Review: X Disk & DeMity Disk
Steven Fox 7

Review: Livewire EPS Sound Library
Kenn Lowy 9

Soundprocess - LFO Tuning Tables
Duane King 11

EPS Random Tips
Bryce Inman 14

SYNTHESIZERS:

The VFX
Clark Salisbury ..... Cover

Review: Q-Spectrum, Vols. 3 & 4
Chris Barth 12

Review: Symonds' Patches
Chris Barth 12

The ESQ-1 Transient Attack
Tim Edwards 17

Imitating Percussion Sounds
C. R. Fischer 18

Hackerpatch
Sam Mims & Contributors 20

GENERAL:

Random Notes 3

Hypersoniq 3

Current O.S. List 3

Review: MIDI Arpeggiator
Al West 15

Classifieds 22

The Interface 23

VFX and an EPS (or EPS-M) together can provide a truly awesome music making system. Storage for sounds is accomplished via RAM cartridges, or over MIDI.

THE "FX" IN VFX

The VFX is the first product from Ensoniq to feature built in digital effects. Utilizing a custom 24 bit VLSI (very large scale integration) chip dubbed the "ESP" (Ensoniq Signal Processing) chip, Ensoniq has created 15 effect algorithms for the VFX. Some of these algorithms are used for single effects that have been optimized for sound quality (such as the "Large Hall Reverb", "Dynamic Reverb" and amazing "8 Voice Chorus"), while other effect algorithms include two separate effects (such as the "Chorus and Reverb", "Flanger and Reverb" or "Delay and Reverb" algorithms). The user is given complete control over the mixing between the two effect amounts.

The built in effects are very good sounding - the reverbs are smooth and lush, with little noticeable hiss or trailing distortion, the chorusing and flanging programs are full and crisp. And a lot more control over the individual effects is available than many of us are used to seeing in this type of product - reverb decay times are continuously variable, as are controls for high frequency damping, early reflections level and pre-delay time. Most of the chorusing and flanging type programs allow for modulation input as well - this is a great feature that allows you to control not only the depth, but the rate of the effect from modulators such as pressure, mod wheel, envelopes, and so on. And the "Dynamic Reverb" is real fun, too, giving you a parameter that lets you increase or decrease the reverb decay time from a modulator - using "key-gate" as a modulator with a negative amount, for example, gives you reverb only when you let go of all the keys on the keyboard. Pretty strange.

NUTS 'N' BOLTS

The VFX is (surprise, surprise) a wavetable synthesizer. It has a whole bunch of waves in ROM (no, you can't input new waves) out of which you, uh, dynamically create new sounds. These waves, however, sound good. Very good. As a matter of fact, they, and the VFX in general, have the cleanest, quietest sound of any product Ensoniq has ever produced. Why is that, you may well wonder. Well, it's because (and this came as a real surprise to me), Ensoniq is using a totally new sound chip in the VFX. It's called DOC 3 (DOC for Digital Oscillator Chip). As you may know, DOC 1 is the chip that powers the Mirage, the ESQ-1, the original sampled piano, and the SQ-80. DOC 2 powers the new digital pianos, and the venerable EPS (still my favorite keyboard in the world). What surprised the oat bran out of me was that Ensoniq has so quickly developed and implemented a new sound chip. Especially when it seems as though these days a manufacturer generally tries to get as much mileage as possible out of any new technology before moving on to other things. And somehow I'd just expected to see more products based on the DOC 2 - but who knows what Ensoniq might have in store for later in the year?

Anyway, back to the VFX. The VFX has 109 waves built into 1.5 Megabytes of ROM. There are ten categories of waves, the first six of which are sampled sounds. These waves are grouped together by type - "String-sound" (which include piano and guitar waves, along with the expected violin section-type sounds), "Brass-Sound" (these include saxophone waves along with the trumpets, french horns, and so on), "Bass-Sound" (take a wild guess), "Breath-Sound" (flutes, ocarinas, and vocal sounds) "Tuned-Percussion" (these samples include marimba and kalimba, along with stuff like doorbell, potlid, flutedrum, and orchestra hit) and finally "Percussion" (the only sampled sounds that aren't looped, these are a mix of the expected, such as kick drum, snare drum, and woodblock, and the decidedly oddball such as duct-tape, spray-can, and anvil-hit). Any of these waves can be played forwards or backwards, although none of the waves will loop when played in reverse. In addition, you are allowed to change the start point for any of the waves, and you can also use velocity to control a wave's start point.

The next group of waves is called the "Transwave" group. These are a group of specially designed waves which are composed of a number of different single-cycle waves, each with a different harmonic spectrum. The most exciting thing about the "Transwaves" is that you can use any of the 15 modulators (such as an LFO or an envelope) to modulate the start point of the wave, in effect allowing you to sweep through the harmonics contained within that wave. The nearest description of this effect that I can think of is pulse width modulation, from the world of analog synthesis, although the VFX is capable of yielding far richer results, allowing one to produce highly animated sounds - sounds that are all too often lacking in many digital instruments.

The next group is comprised of "Waveforms". These will be instantly familiar to anyone who has worked with an ESQ-1 or SQ-80 - these are all single-cycle waves, some sampled, some synthetic. It is here you find the familiar sawtooth and pulse waves, as well as waves called "Organ", "Fretless", "Clav-wave", and so on. Neither these waves or the next group, the "Inharmonic" waves have modulatable start points.

Next is the "Inharmonic" group of waves. These are multi-cycle waves that contain a good deal of non-harmonic information. Their might be found useful particularly in synthesizing sound effects, or when trying to re-create the non-harmonic artifacts present in many acoustic instruments.

The last group of waves, the "Multi-wave", isn't really a group at all. It is a single wave comprised of all the other waves contained in the VFX, played back one after the other. These waves can be played in either forward or reverse, and a both a start point and loop length can be set, allowing for some truly bizarre sounds.

So there's a bunch of waves in there - many of which have modulatable start points, giving you a slew of possibilities (some enterprising soul has calculated there are over 1800 of these possibilities) when it comes time to start creating sounds.

CREATING SOUNDS

So just how do you create a sound? Well, the idea is this. You take a wave. You adjust it for pitch - over a 4 octave range, with fine tuning control and , if you want, you can apply a custom pitch table to it. Next, you run it through your 2 independent multi-mode filters. These filters are very similar to the EPS filters - you can use 2 lowpass filters, 2 high pass filters, or a combination of low pass and high pass filters to obtain band pass filter effects. The filters of course, can be controlled by their own 5 stage envelope generator, (the envelopes, and there are three of them for each VFX voice, have retained one of my favorite ideas from the EPS - that of envelope "templates" - preset envelopes that can be instantly recalled and modified or used as they are within any program). From here you run the whole ball of wax through your DCA (digitally controlled amplifier), which has its own 5 stage envelope. And you might also wish to apply a bit of LFO - again, similar to the EPS LFO's, but with modulatable rate - I love it! - so that you can control the speed of the LFO from some other modulator, such as an envelope, or the mod wheel.

Finally, you might want to tweak up the way your new program reacts to velocity and poly-key pressure. Yes, the keyboard is basically the same keyboard as is used on the SQ-80 and EPS. But somehow, Ensoniq has padded it underneath to give it a much more solid feel, and has greatly reduced the "clicking" noise that so many found objectionable on the other keyboards. Yeah, it's a lot better feeling keyboard.

Anyway, by the time you've done all this, you have a pretty

(Continued on page 6)

Front Panel

RND (♪♫♪)

Well, we kick off our VFX coverage this month with another one of Clark Salisbury's specials. (Clark always gives things a good start.)

* * *

Ensoniq is in the process of setting up separate distributors in most countries throughout Europe. They intend to achieve the same high level of sales and service support that they maintain here in the United States. The following is an up-to-date listing of new foreign distributors with more to be added in the upcoming months.

Alpha Audio, Cairo, Egypt, 202 243 7119
Ensoniq GB, Wickford, Essex, Great Britain, 44 268 561177
Finn Music UY, Finland, 358 53 20600
I.M.L. Villeurbanne, France, 33 48 40 14 04
Jacques Isler Ltd., Zurich, Switzerland, 41 1 432 1444
Jacques Isler GmbH, Frankfurt, Germany, 49 61 06 240 16
MPM - Music, Castelfidardo, Italy, 39 71 789393
Musical Raf, Barcelona, Spain, 34 3 301 15 86
Muskantor & Co., Molndal, Sweden, 46 31 87 8080
New Musik A/S, Aarhus, Denmark, 456 190899
Norsk Musikk, Oslo, Norway, 47 2 2356 80

* * *

Patch/Works (see review this issue) is going to be shutdown for the month of June and has asked us to let you know. They'll be back in July. Orders received during June will be filled on a First-In, First-Out basis as soon as they return.

* * *

We'd like to send out another call for some Mirage and SQ-80 articles. Give us a call. It's easier than you might think.

* * *

Remember M.U.G.? Gordon Gebert's ol' Mirage Users Group. Well, now it's the International MIDI Users Group (still M.U.G.), still going strong at over 1000 members, and is branching out to cover other instruments. (They now have a Korg M1 library for members.) For more info, contact Gordon at 914-793-2836.

* * *

In last month's *"Pulling Out A Sample"* by Jack Loesch, in the third paragraph "P61=DEF" should be "P61=OF." (And near the end, "How just set up..." should be "Now just set up..." - but you probably figured that out.)

* * *

Transoniq Hacker is typically on a 4-week, 4-week, 5-week schedule. You should receive the next issue (#49) in approximately 4 weeks.

* * *

TRANSONIQ-NET
HELP WITH QUESTIONS

ALL ENSONIQ GEAR - Ensoniq Customer Service. 9:30AM to 6:30PM EST Monday to Friday. 215-647-3930.

MIRAGE 24-HOUR HOTLINE: M.U.G. 914-963-1768.

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

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

EPS QUESTIONS - Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 242-9220.

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

ESQ-1 QUESTIONS - Jim Johnson, (602) 821-9266. 8 a.m. to 5 p.m. Mountain Time (AZ).

ESQ-1 QUESTIONS - International, Brendon Sidebottom, (03) 689-5731 Australia. No calls between 4 a.m. and 10 a.m. Australian ES Time.

SAMPLING & MOVING SAMPLES - "Mr. Wavesample" - Jack Loesch, (201) 264-3512. Eastern Time (N.J.). Call after 6:00 P.M.

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.

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

MIRAGE HARDWARE & FIRMWARE - Scott D. Willingham. Pacific Time (CA). Weekdays: 6-9 p.m., Weekends: 12-9 p.m. (213) 397-4612.

MIRAGE OPERATING SYSTEM - Mark Cecys. West-Coast Time. Days. (408) 253-8547.

MASOS - Pete Wacker. Whenever. (602) 937-1177.

CHANGE OF ADDRESS

Please let us know at least four weeks in advance to avoid missing any issues. The Post Office really will NOT reliably forward this type of mail. (Believe us, not them!) We need to know both your old and your new address. (Issues missed due to late or no change notification are your own dumb fault - we mailed them!)

BACK ISSUES

Back issues are $2.50 each. (Overseas: $3 each.) Issues 1-9, 11, 13-23, 27, 29, 30, 36, 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.) 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.

HYPERSONIQ
NEW PRODUCT RELEASES

Denny's Sound and Light announces the *Microtonal MIDI Terminal,* a real-time performance program that allows virtually any MIDI controllable musical instrument to be played in Just Intonation. The MMT is also a powerful tool for analyzing and constructing Microtonal scales. Completely menu driven and user friendly, the MMT runs on IBM-compatible PCs with Roland MPU-401 or compatible MIDI interfaces. Price: $149.00. For further information, contact; Denny's Sound and Light, PO Box 12231, Sarasota, FL 34278.

Current Ensoniq Operating Systems

INST	OS	DISK	EPROMS
EPS	2.35	X	
EPS-M	2.35	X	
MASOS	2.0	X	
MIRAGE	3.2	X	
ESQ	3.5		X
ESQ-M	1.2		X
SQ-80	1.8		X

COMPLETE YOUR WORKSTATION WITH OVERDRIVE-EX

CAPACITY	SPEED	1000 BLOCK LOAD TIME
20 MEG	40 MS	2.6 SEC
30 MEG	40 MS	2.6 SEC
40 MEG	40 MS	2.6 SEC
60 MEG	40 MS	2.6 SEC
80 MEG	28 MS	2.1 SEC
90 MEG	18 MS	.82 SEC
100 MEG	24 MS	2.1 SEC
120 MEG	24 MS	2.1 SEC

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

- CHOOSE FROM 20 MEG TO 120 MEGABYTES OF STORAGE
- EXPANDABLE UNITS -EX (HOLDS 1 DRIVE) EX2 (2 DRIVES)
- DOUBLE SHOCK MOUNTING FOR RUGGED ON ROAD USE
- COMES RACK MOUNTED
- COMES WITH SAMPLES ON DRIVES 60 MEG AND UP
- 6 FOOT EXTENSION CABLE
- OPTIONAL 12 FOOT CABLE
- DUAL SCSI CONNECTORS
- SCSI ADDRESS SELECTION SWITCH
- FULL ONE YEAR WARRANTY

ELTEKON TECHNOLOGIES, INC.

SEE YOUR LOCAL DEALER OR
CALL FOR MORE INFO
313-462-3155

37493 SCHOOLCRAFT RD LIVONIA, MICH. 48150

EPS IS TRADEMARK ENSONIQ CORP. . ELTEKON IS TRADEMARK ELTEKON TECHNOLOGIES.

HOW TO MAKE MONEY WITH YOUR MUSIC WITHOUT HAVING TO PLAY IN BARS. LET'S TALK: MUSICIAN-TO-MUSICIAN

"Once a musician always a musician." Ever heard that one? The problem with that statement is that **IT'S TRUE**.

We just can't get away from the music and entertainment business. That's why I wrote this exclusive insider's report "HOW TO MAKE MONEY WITH YOUR MUSIC WITHOUT HAVING TO PLAY IN BARS."

Let's face it, once you get bitten by the music bug, you are hooked for life. But what this special report gives you is over **20 different ways to make money with your music.**

WHAT MAKES US DIFFERENT?

One of the characteristics of people like us is that we get bored easily. We do not particularly like routine. Even though there are a lot of musicians who are doctors, lawyers and C.P.A.'s, after the routine of a regular business day they head for their MIDI studios, guitars and keyboards and relax. If you asked them which job would they rather be doing, the music would win hands down every time. As musicians we crave new ideas, learning new songs, learning about the new technology. Which by the way is very expensive if you don't have projects that help pay for this obsession for new toys and gadgets.

AN INSIDER'S MANUAL FOR MUSICIANS FROM A MUSICIAN

Hey, I've been there. Heck, I'm still there! I've been a musician for over 30 years. By the way, my name is La-Dair Guzman. Ten years of the last 30 were spent on the road, 6 nights a week, 52 weeks a year. The other 20 years I have made a good living with music. I can tell you from experience that there are a lot of projects and ideas musicians can do that the business world will pay good money for. That's the reason I wrote this exclusive report because...

EVERYONE KNOWS THAT A MUSICIAN CAN MAKE MONEY PLAYING IN CLUBS. I WILL SHOW YOU HOW TO MAKE MONEY WITHOUT HAVING TO PLAY IN CLUBS!!!

The key phrase is "having to play in clubs." If you want to play in clubs, of course you can. The point being that a lot of you fall into one of these categories:

1. Music is your hobby and you would like to make some extra money.

2. Some of you realize that playing in clubs does not take up a lot of your free time.

3. Some of you are simply burned out on clubs.

4. Some of you refuse to play in clubs.

AND MOST OF YOU REALIZE THAT BEING YOUR OWN PERSON AND MAKING A GOOD LIVING WITH THE TALENTS YOU HAVE IS THE HIGHEST POSSIBLE GOAL IN THE MUSIC BUSINESS, AND LIFE IN GENERAL.

SHOULD YOU ORDER THIS EXCLUSIVE INFORMATION?

Only if you want to make money with musical talents.

You will have over 20 detailed and exciting ways to make money with your musical talents.

Just a few of the subjects covered are.

CONCERT PROMOTIONS
JINGLES
FUNDRAISING TAPES
CUSTOM ON HOLD MUSIC FOR BUSINESS PHONES
CONTESTS
RECORDING AND MARKETING YOUR OWN TAPES
CLUB CONSULTING
CUSTOM SONGS
BOOKING AGENCY
CASSETTE COUPONS

AND YES, IT'S TRUE, "A WHOLE LOT MORE"

These aren't just ideas that popped into my head one day. These are projects and businesses that I have been involved in. You can take these plans and expand them to any degree that you want. If you just want to make some extra money for your next vacation or sequencer, it is all there. But if you want to make $50-100,000 a year, you can do that too. This is the most comprehensive information that you will find. By the time you get to the end of this manual, you will have so many do-able ideas running around in your head that the biggest problem you will have is which one to start on.

HOW MUCH?

$39.95! For only $39.95 you can make as much money as you want with your music. Let me ask you a question.

Within the last year, have you purchased anything for $39.95 that could make you as much money as you wanted, with the thing you really love...MUSIC?

So many of us invest in the equipment. So few of us invest in OURSELVES. This exclusive report joins the two together. With this book, your equipment and talent, you can make all the money you want. When you want! OK, so I could go on and on about how I feel about this information. But, in reality what I think doesn't count at this point. WHAT YOU THINK ABOUT YOUR TALENT, YOUR MUSIC, AND HAVING A BALL DOING WHAT YOU WANT—THAT'S WHAT COUNTS!

In fact I'm going to make a statement that is not intended in any way to insult anyone, but this is how much I believe in the information detailed in this report.

IT ISN'T A QUESTION OF WILL IT WORK, IT'S WILL YOU WORK?

I know that's a strong statement, but it is so true. You can have all the information in the world, and it won't do you a bit of good if you don't act on the information. So please act today and send
$39.95 to Richard Street Marketing
3353 South Main, #133
Salt Lake City, UT 84115

If you act on this within the next 10 days I will include two valuable extra special reports absolutely free.

REPORT 1: A listing of various government grants that are available to musicians, composers and other musical people. For example, there is a government grant up to $50,000 to encourage the recording and distribution of American music. There are government grants to provide musicians with funds for solo acts to play jazz, etc. This report gives you the requirements and guidelines so that you can get your fair share of any government grants that you are qualified for.

REPORT 2: "The ABC's of Syndication", is all about syndication. If you have ever travelled around the country, you might have noticed that the same commercial that you had seen or heard in your area was all over the country. This is syndication. This is where the big money is made. Think about this. Every morning when you get up and you read your favorite cartoon in the morning paper, that cartoonist might have only made $5.00 from you local paper for that cartoon. But, he has papers all over the country printing his cartoon for $5.00. That $5.00 cartoon could be making its creator up to $5-10,000 a day! Syndication is a big part of the Jingle business. This report covers the syndication business inside and out.

THERE YOU HAVE IT. ORDER WITHIN THE NEXT 10 DAYS AND YOU WILL RECEIVE THESE TWO VALUABLE REPORTS **ABSOLUTELY FREE!**

If you're having a problem making a decision on whether or not to order this exclusive insider's report, look at it this way: $39.95 for this information isn't really a tough decision. The last time you parted with $500 or $1000 for that electronic goody or instrument you just had to have...**NOW THAT WAS A DECISION!**

(By the way, is it my imagination or is it getting harder and harder to come up with reasons why she can't have the new wardrobe, so you can buy that new piece of equipment you can't live without? In fact, that's exactly how I got started in the Jingle business. I'll tell you about it sometime.)

If you still have some questions that are unanswered let me do something that I had no intention of doing when I started writing this ad. I'm going to give you my phone number so you can call me. If I'm not there when you call leave your name and number and I will give you a call back. Can you get any fairer than that? My number is 801/468-4128. Now, be patient. I have no idea how many people will call me, so if it is busy, call back. If I'm not in, leave a message. OK?

For those of you who would like to put this on their American Express, please send your card number, expiration date and signature. Everything is backed by a "No questions asked, money back guarantee", so order today and receive free the two extra reports. It's your future. Let me help you make it a whole lot more rewarding.

(**VFX** - Continued from page 2.)

dang happenin' sounding voice. Now to finish up your patch, you simply layer this sound with as many as five others that have been created in the same way. That's right - five others, giving you a total of six complete, no compromise, kick-pasta synthesizer voices, all layered, selectable via (what else) Ensoniq patented patch-select buttons, controllable via velocity, pressure, the harmonic convergence, what have you. And of course, don't forget to run the whole shebang through your stereo 24 bit effects processor. So what you have here, see, not to put too fine a point on it or anything, but I think it bears repeating, just let me stress this point, is you have what amounts to six complete and independent synthesizers, all layered up and ready to go, just like in any respectable MIDI system costing hundreds of galactic credits more than this one silly little 61 note keyboard. And some pretty nice digital effects, to boot.

PRESETS

Now you've got some sounds. Patches, Ensoniq calls them. But you're not through yet. No, sir. Now you have the option of stacking any three patches simply by double-clicking on the buttons for the patches you want to stack. Not only that, but you can store these patches for instant recall as presets, with 20 available in ROM, 20 in internal RAM, and 20 more on a cartridge. So you see, a preset can have as many as 18 total synthesizers associated with it. The catch, of course, is that since the VFX has a total of 21 dynamically allocated voices available, you may not be able to play more than 1 or two notes if you get all the voices going at once in a preset. But I guarantee you, they'll be really big notes.

Normally, of course, you won't be using all the voices in a patch at one time. You'd be more likely to layer two or three, and then call up variations on those using the patch selects, velocity, pressure, or some other controller.

Now you might think that having all these independent voices to program might be something of a chore - there are literally hundreds of parameters available. But Ensoniq has built in to the VFX the ability to copy and paste parameters - singly or in groups - quickly and easily between voices. This is a godsend for creating the kind of complex voices the VFX gives you access to. In a lot of ways, with all the copying and pasting and the double-clicking and so on, the VFX reminds me a bit of the Apple Macintosh - indeed, there's a Motorola 68000 processor inside there handling all the CPU chores.

PERFORMANCE PARAMETERS

But what do you do if you've got a patch with three or four voices, layered in a preset that has two other similarly complex patches, and you decide that the release time is too long? Do you have to go in and adjust the release for each voice in the patch? In a word, no. Once again, Ensoniq comes through.

Located directly to the left of the fluorescent display is a group of nine buttons Ensoniq calls "performance parameters". Pressing one of these buttons takes you to a page which allows you instant access to the most important controls within a preset. For example, press the button labeled "Volume", and you can instantly adjust the volume for any or all of the three patches that make up the current preset. Press "Transpose", and you can likewise adjust the octave and semi-tone for any or all of the presets. Performance parameters can also be used to adjust the panning, patch select status, key range, release time, MIDI channel and status, and effect settings for any of the patches in the preset. There is also a page for what is called the "Timbre" control, and this bears a bit of explanation.

Normally, the data slider and up/down buttons on the front panel of the VFX are used to input values when programming or editing a sound. In the preset mode, however, the these become what is called the "Timbre" control. The timbre control can be assigned into any of your patches as a standard modulator, like the mod wheel or velocity. By assigning different functions to this controller, you can use the single slider (or buttons) to change a number of parameters at one time while in preset mode. For example, you could use the slider to control volume, reverb amount, stereo panning, and waveform start points all at once from the timbre page. This control also sends as MIDI controller #71, so any moves you make here can be recorded into a sequencer.

CONCLUSIONS

The sound of the machine is excellent - apparently, DOC 3 is a true 16 bit chip, and Ensoniq claims that they have tried to get as close as possible to CD quality output stage for the VFX. As a matter of fact, it is the expense of this output stage that has precluded the possibility of multiple outputs for the VFX. With the complexity of the sounds involved, and the multi-timbral capabilities of the VFX, it might seem that multiple outputs might be an important feature for many people. I know I'd like to have them. But I also suspect that with the intense level of processing and control available within the VFX itself, multiple outputs may not prove as important as one might think. And how many of us have 12 spare channels on a mixing desk as it is?

The waves that have been chosen for the VFX seem to be pretty much the right ones - all the major acoustic instrument families are represented, and with the addition of the attack waves, the inharmonic loops, the trans waves, and the synthetic waves, I'd hazard a guess that there are literally hundreds of sounds that can be coaxed out of the VFX, quite apart from the excellent factory programs the machine comes with. Some might wish for a few more percussion samples, but it seems these days that every new machine has a couple dozen drum sounds built in already, so most of us shouldn't feel too slighted in that department.

The performance capabilities of the machine are truly staggering. With the patch select buttons, velocity, pressure, the "timbre" control, pedals, wheels, and the "performance programming*" section, you have way more control than you could ever hope to have using separate components in a performance MIDI setup. And, as has always been Ensoniq's aim, all of the critical functions of the machine are easily learned and controlled, even by the novice.

In a MIDI recording/composition system, the VFX also excels. All MIDI modes are supported - omni, poly, multi (with dynamic voice allocation), mono A and mono B. Setting up for multi-channel response, swapping voices in and out, controlling volume, transposition, layering, and splitting couldn't be easier. All controllers send MIDI data, including the patch select buttons and pedals, and any incoming MIDI controller can easily be assigned as a modulator within any VFX program. My only slight hesitation here is that the VFX has only stereo outputs, but as I've said, considering the level of control available, and the tradeoff in sound quality that putting multiple outs on an instrument in this price range would probably have engendered, this should be taken as a very small quibble indeed.

Obviously, I like the VFX a lot. It provides an extremely wide range of professional quality sounds, and is exceptionally quick and easy to use for a machine with so much raw sound producing potential. One of Ensoniq's strengths has always been in the area of designing friendly, intuitive user interfaces, and in this area the VFX excels. When you couple that with the sheer sound quality of the machine, as well as a potential for producing a vast range of sounds, I think you'd have to conclude the the boys from PA have another hit on their hands.

Bio: Clark Salisbury is a partner in the MIDI Connection, a Portland-based consulting firm. His favorite color is chrome.▬

The X Disk & The DeMity Disk

New Sounds for the Soundprocess Operating System for the Mirage

Reviewed by Steven Fox

FOR: Mirage and Soundprocess
PRODUCT: X Disk and DeMity Disk
PRICE: $25 each
FROM: Bagfed Music Works, 703 Weatherby Lane, Greensboro, NC 28630

The "X" Disk and the "DeMity" Disk are two new sound disks for the Mirage and the Soundprocess operating system. These "fourth party" sound disks were programmed by Bob Spencer and they are the second and third disks he has released, following his first sound disk, the Lush Disk.

Both disks contain three new banks of sounds. Each bank has all new waveforms in the form of samples and also small one, two, and four page waveforms. Soundprocess lets you organize these samples and waveforms into 48 patches which you can then map across the Mirage's keyboard in the form of a program, of which you have 32. Now that I've explained that, here is a bank by bank review:

The 'X' Disk

Bank 1: This has a good selection of your basic organ, pad, and bass sounds. Some of them you've probably heard before, but many of them are very unique. I liked programs 10 and 19 in particular, both having a sort of percussive sound at the beginning which sounds nothing like the sustaining sound.

Bank 2: This one has lots of long sustaining programs. A number of these programs remind me of the Roland D-50. My favorite is number 11. There are also some interesting sound effects in this bank which are quite unique. There is a lame drums/percussion program here which really should have been scrapped and the samples used for other sounds.

Bank 3: This bank is my favorite. There are a wide variety of sounds here, and nearly all of them use interesting combinations of waveforms and envelopes.

There are some neato sound effects which Bob should continue with in later sound disks. Program 8 has a cool repeating bass guitar effect. Program 11 is an unusual digital sound which sweeps up in pitch before it sustains. This was created in the sampling rather than in the software since SoundProcess has no pitch envelope. Good job.

The 'DeMity' Disk

Bank 1: This bank contains a good selection of pad sounds, nearly all of them of the wind/brass variety. There are also a couple nice percussive sounds. Using some sort of chorus or flanger on your Mirage really helps these sounds.

Bank 2: There are supposed to be several D-50 and other hybrid waveforms used in this bank, but I wouldn't sell your D-50 just yet. Some of these programs are quite good sounding, while others just don't cut it at all. Again, a chorus or flange helps, and a reverb makes these sounds even more D-50ish.

Bank 3: This bank of percussion and effects clearly demonstrates one of the major limitations of Soundprocess. Soundprocess limits you to very short sample lengths, and when it comes to percussion sounds or long loops you really can't pull it off. So to compromise you end up with poor sample quality percussion and some really clicky loops. This bank might have sounded pretty good otherwise. Still some of these programs have left me guessing as to how he did it.

My overall impressions are that these two disks were much better than the Lush disk, Bob's first one. The samples are of much higher quality, and the envelopes are well thought out and much more complex. Of much use was the waveform sheets included with both disks. These are immensely useful should you want to get in and tweak any of the patches. One thing which could be improved on both of these disks was the mod wheel settings. Nearly all the programs either had no modulation built in or else the modulation was set way too fast to be of any use.

In conclusion I feel that the 'X' disk is a somewhat better value than the 'DeMity' disk. It is less specialized and so contains a wider variety of usable sounds. I would recommend both of these disks however as they really expand the variety of sounds available for Soundprocess.

Bio: Steven Fox used to be the guy at Leaping Lizards. Right now, he's either relaxing on a beach in Bali, or he's off hawking his latest invention. ▬

Losing Your (EPS) Memory? Forget it.

Forget sounds that eat up all of your precious EPS memory! Our collection of public domain sounds use on the average 100-500 blocks, freeing your EPS for other things. Sound quality isn't compromised, and price is kept to a minimum. We've collected over 1000 sounds from around the world and made them available to you.

What's the best value?

2X Expanders $350
4X Expanders.....$900
Mythical 8x Expanders.....$900,000
Synclavier....ask Michael Jackson
Rubber Chicken Public Domain Samples.....$2.95 (per disk)
Public Domain Demo Tape.....$5.00

Write/call for list.

P.O. Box 428
Renton, WA 98057

ORDER TODAY!

Also available...

"Original Chicken" Samples
$10.95 per disk
(call for catalog)
"Original Chicken" Demo Tape - $5.00

Hot Line (206) 242-9220

Flock to:

Rubber Chicken Software

Cesium Sound

The Complete SQ-80 Library

40 Voice Volumes on disk
cartridge prices see ESQ-1 Library

1. Keyboards
2. Guitars and Basses
3. Lead Synths
4. Synth Pads
5. Analog
6. Techno
7. Modern Rock
8. Metallic
9. Drums
10. Pitched Percussion
11. New Age
12. Crystalline
13. Space
14. Bells and Voices
15. Harps and Strings
16. Brass and Woodwinds

one	two	four	eight
$12.00	$20.00	$30.00	$50.00

All 640 SQ-80 sounds $90.00
All 1600 ESQ-1 and SQ-80 sounds $150.00
SQ-80 demo cassette $5.00, list with descriptions $1.50

D-50 Sounds on ROMs, RAMs, and data disks

1. Top 40
2. Analog
3. New Age, Space
4. Orchestral

	one	two	four
ROM cards	$60.00	$100.00	$180.00

RAM cards $80.00 each, with any volume
Your RAM card filled $25.00
All four volumes on data disk for these librarians: $80.00
Dr. T's ST, Dr. T's PC, Opcode, Prolib, Patchmaster+, MC 500 disk, and generic ST data driver. Other librarians call or write for assistance.

Demo casette $5.00, sound list with descriptions, $1.00

TX81Z Sounds on Cassette

8 volumes (256 sounds) $40.00
Demo cassette $5.00 sound list $1.00

The Ultimate ESQ-1 Library

expanded, upgraded, also compatible with SQ-80

80 Voice Cartridges	40 Voice Volumes
A	1. Acoustic Keyboards 2. Electric Keyboards
B	3. Electric Guitars and Basses 4. Plucked Stings
C	5. Drums and Percussion 6. Pitched Percussion
D	7. Lead Synths 8. Synths Pads
E	9. Analog 10. Metallic
F	11. Techno 12. Modern Rock
G	13. New Age 1 14. New Age 2
H	15. Bells 16. Gongs, Jars, and Glass
I	17. Spectral 18. Space
J	19. Abstract Effects 20. Imitative Effects
K	21. Singing Voices 22. Strings
L	23. Woodwinds 24. Brass

160 voice programmable cartridges with any four volumes $90. blank $75
80 voice programmable cartridges with any two volumes $55 blank $45

80 voice non-erasable cartridges A-L	each	four	eight	twelve
	$25	$90	$160	$220

40 voice volumes on data cassette, Mirage diskette, or SQ-80 diskette $10 each

Half Price Special! All 960 Sounds $120
on data cassette, Mirage diskette, SQ-80 diskette, or data disk for the following librarians: ESQ-apade, Blank, Opcode, Prolib, Patchmaster+, ESQ-1 Manager™, MC-500 disk, generic ST data driver, and generic C-64 librarian. Other librarians call or write for assistance.

Demo cassette $5.00, sound list with descriptions $1.50.
Manual explaining the options in this ad, $1.50.

Please include $3.00 for shipping, CA residents add sales tax. Send check, MO, or call.

Cesium Sound, 1442A Walnut St. Suite 300, Berkeley, CA 94709 (415) 548-6193

VISA MasterCard

ESQ-apade is a trademark of Dr. T's Music Software. Opcode is a trademark of Opcode Systems. Blank is a trademark of Blank Software. D-50 and MC500 are trademarks of RolandCorp. TX81Z is a trademark of Yamaha International Corp. ESQ-1, Mirage, SQ-80, and Ensoniq are trademarks of Ensoniq Corp. Prolib is a trademark of Club MIDI Software. Patchmaster is a trademark of Voyetra Technologies. C-64 is a trademark of Commodore Computer Corp.

Livewire EPS Sound Library

Reviewed by Kenn Lowy

For: EPS
Product: EPS Disks
Price: 5 Disks for $69 plus shipping, 10 for $129, all 51 for $399. Demo tape $6.
From: Livewire Audio, P O Box 561, Oceanport, NJ 07757

Livewire Audio has released a 51 disk library of EPS samples. After being sent the entire catalog, I slowly started listening to each sample which, obviously, took a bit of time. What I discovered was that there are some excellent sounds, but the set contains some pretty weak material as well. Overall, Livewire has produced an inconsistent set of EPS samples. Below is a review of 12 of the 51 disks. I have picked out the 12 that I feel are a good mix of what Livewire is selling.

The samples are broken into distinct categories such as, "D-50 samples", "Brass #1", "Drums #1", "Analog Dinosaurs", "The Unusual", etc...

Disk #9 - Guitar #1

1) Mick's Strat (276 blocks)
I don't know who Mick is, but his strat doesn't sound like mine. This sample has too much bass in it to sound like a strat. The stratocastor has quite a unique sound to it and that's why I own one. But really, this doesn't sound like a strat to me (not even when I play it on a guitar using my guitar-MIDI converter).

2) Lead Guitar (105 blocks)
This is a nice fat lead guitar sound. Very usable, with a decent amount of distortion. Aftertouch adds vibrato, but it doesn't sound anything like a guitar vibrato. The patches add a bit of chorus and a bass overtone. A pretty decent sample. Oddly, this sample is much (MUCH) louder though than the previous strat sample.

3) Heavy Metal 5ths (980 blocks)
A good heavy metal sounding sample. Unfortunately, it's only on the bottom octave and a half of the keyboard. Hey, I know heavy metal guitarists use more than an octave and half worth of notes, even if they are in 6ths. The patches are ok, adding more treble and some chorusing.

Disk #10 - The Unusual #1

1) Airy Swell (462 blocks)
Airy swell is one of my favorites of the 51 disk set. It's a slow swell to what could easily be described as an "airy" sound. Sounds best in the lower to mid range of the keyboard. Very good for those scary dark sounds that you hear in horror movies. In fact, this sounds very similar to the sound heard at the very end of "Two Tribes" by Frankie Goes to Hollywood (the CD version). Very ominous.

2) Orch Hits (696 blocks)
Well, you've heard one hit, you've heard 'em all? Not really. This one is pretty poor. It seemed like a good idea, I guess, with several different hits over the range of the keyboard. Some are better than others. The lower octaves are usable, but the mid-upper octave is ... not so good. The patches are just plain weird and unusable.

3) Bad Acid (390 blocks)
I have no idea why this sound is called "Bad Acid".. it's actually a BEAUTIFUL sound. Don't know exactly what it is that was sampled, but it's very musical - a cross between a piano and a light synth with sort of an airy quality to it. Hard to describe, but this is also one of my favorites. Very usable. The kind of thing you can play for a while just because it sounds so smooth and gentle. Maybe I'm getting a little carried away here. Anyway, this is a good disk. The "Orch Hits" are poor, but the other sounds are worth the price.

Disk #11 - Analog Dinosaurs #2

1) Jupiter 6 Buzz (423 blocks)
I guess I have to admit that I really don't know what the Jupiter 6 sounds like. But that doesn't stop me from liking this sound. It sounds best in the bass range, and is a nice synth bass sound. Not one of those punchy DX7 type sounds, but more of a smooth sounding bass. Good use of patches on this one, too.

2) Jupiter 5 Vibes (363 blocks)
I guess this is what the Jupiter sounds like when it's doing its imitation of the vibes. Sounds ok, but not great. The sample is good enough, very clear and usable.

3) Shazam (713 blocks)
Shazam reminds me a little of a "airy swell" because they both have a similar attack, then sort of fade in slow and then make their point. Where "airy swell" has more of a breathy/airy sound, this sound is more synthesized. Very effective for those late night movie sound tracks. Unfortunately, the higher you go on the keyboard, the more noticeable the loop (which has a sort of wavy vibrato sound to it). This effect happens when you don't do enough multi-sampling along the range of the keyboard. It takes more time and memory, but if you want a very clean sample, playable along the whole keyboard, this is what you've gotta do. I can't complain too much though, because this sound is most effective in the mid to lower range anyway. The patches are ok, but the main sound is good enough to stand on its own.

Disk #20 - The Unusual #2

1) Live * Wild
This sound is very hard to describe - as are most of the sounds on this disk. It's a very science fiction type of sound. The kind of thing you'd hear when astronauts are walking along a strange surface with electronic lightning in the distance. A very nice sound. If you're into doing science fiction type backdrops this one will come in very handy.

2) Wot? (333 blocks)
Another good one. Ok, you're in the Enterprise, and all of the sudden, out of nowhere comes this Klingon ship doing a blazing flyby, just missing you. That's what this sounds like.

3) U Name it (466 blocks)
You're walking in a chamber. There are ice crystals all around you. They make this sound!

4) Big Noise (120 blocks)
You're standing on the surface of Mars. In the distance you can see some meteors hitting the surface, but they're hundreds of miles away. Still, they make a faint sound. And you guessed it - this is the sound they make, sort of.

5) Bell/Bass (377 blocks)
Finally a musical sound I can actually describe. Sort of a distorted bell sound, with a buzz in it. An ok sound.

6) Star Pad (197 blocks)
I can hear a faint sitar sound in this - also the sound of a cave. Somewhat musical in nature, probably usable as a single voice in the background of yet another science fiction sound track. I know the descriptions on this disk are sort of silly, but they really are hard to describe. This is one of my favorite disks, because the sounds are unusual and different, and I think they can be very useful as background sounds. After all, it's a sampler, it doesn't have to be musical all of the time!

Disk #23 - Vocals 2

1) Vocal Section 1 (934 blocks)
This is a very quiet vocal section. It doesn't really do anything for me, and I really like good vocal sounds. I guess I've been spoiled listening to what the Art of Noise has done to voices on the Fairlight.

2) Do it! (91 blocks)
Here's a fun sample. The word "DO" on the bottom half of the keyboard. Actually, I quite like this one - but can't imagine anyone actually using it for anything more than a goof. It sounds good, but it's the kind of thing that could get boring real fast if used in a song.

3) "Aah" Sixths (406 blocks)
This is a really nice try, and I mean that in a good way. It's a very good airy vocal sound saying "aaah" and it is in 6ths. But there's a noticeable click in the sample which is very (VERY) disappointing because this one shows the most promise of all the vocal sounds in the set. It also shows a bit of laziness on the part of Livewire not only in not fixing the click, but also because the sound only shows up in one octave. Sorry, but if you're going to sell your sounds, and have a non-refundable sales clause, then you really should to take the time to do it right!!

Disk #28 - D-50 #1

1) D-Dreams (933 blocks)
An excellent D-50 sample. This is a typical D50 type of sound, sort of airy and clear. The patches are not very impressive, but the basic sample really shines through.

2) Bass Marimba (233 blocks)
Another good sample of the D50 playing a marimba. A clear sample, but again the patch work is almost nonexistent.

3) D-Pickett (381 blocks)
A nice plucky sound. I have to assume that the D-50 samples very well, because just about every D-50 sample on this disk (and the other D-50 disks) sounds great. The patches are a little better here with some chorusing added.

Disk #36 - Bass #2

1) Slap Bass
A pretty decent slap bass sound. The slap part is good, but there's a bit too much treble in the sample for my taste. Also - the lower octave is only slap bass when using patch 0X. Otherwise anything under middle C is sort of a bass piano sound.

2) Pop Bass
Not worth commenting on.

3) D-50 Bass
Another good D-50 sound! It's got a slight breathy quality to it, but this is one sound that can come in very handy.

4) TX Bass
A slightly distorted TX bass sound. Another good one.

5) Metal Bass
Another moderately decent sample. I guess they called it metal bass because it has a slight metallic ring to it.

6) Moog Bass 1
Yes, this sounds exactly like the Moog bass sound that was made very popular in the 70's. Sounds great, but of course, a little dated.

7) Moog Bass 2
Another good Moog sample, this one has more of a sawtooth sound to it.

8) Moog Bass 3
Too many bass overtones on this one. And sort of flat. That may sound like a contradiction, but let's just say it's probably not going to be very useful.

Disk #40 - Additive Synth #1

1) Chemesyn 1
This is a nice sound. Holding the keys down gives a wind chime type sound with a sustained note behind it. It only sounds good in the lower registers where it was originally sampled and programmed. The higher up the keyboard you move, the worse it sounds. By the time you get to the upper octaves the chimes sound pitifully bad.

2) Vibe Organ
A really nice vibe attach organ sound. The vibes start the sound out with the organ continuing. Sounds good across the whole keyboard!

3) Gone Mad
This is a special effects sound and the title fits it - can easily be used in a movie while the main character walks down the street in a drunken haze thinking the world is ABOUT TO END. The kind of thing they must have used in a Twilight Zone episode. Sort of a bunch of notes raising and falling. A good effect.

4) Syn Brass
Another nice sound. It's a sort of brass sound that fades in a bit. This one also sounds best in the lower half of the keyboard though it's still usable as background fodder in the upper octaves.

5) Piano Syn
This is an additive synth try at the piano. "Try" is the key word.

6) Warble
Sort of a warble effect as the sound comes in. A sine wave type of sustained note backs it up. Not quite sure where this one could be used, but it's ok.

7) Syn Drop
This is the sound that was used on the "hot buttered popcorn" back in the 70's. A little dated, but I think this is the sound they used.

8) Guitar Syn
Sounds a little like a guitar or at least like a plucked instrument. Nothing really new in this sound.

Disk #44 - Alesis HR-16

1) HR16 Drums/Hi Hats (774)
2) Cymbals (379)
3) Percussion (345)
If you've had the chance to play with the Alesis HR-16 you know the sounds on this machine are excellent. The drum sounds were sampled and the machine (the HR-16) is velocity/touch sensitive which makes it somewhat amusing to find these sounds on an EPS. (Drum sounds sampled and then re-sampled). Unfortunately, something was lost in the translation. These sounds are good, but the big problem here is that you have to really crank the volume to hear anything. I was a little confused as to why this was a problem. I tried normalizing the samples but that didn't help at all. The "drum" sounds are the worst offenders. The cymbals are clear and very well sampled, as are the percussion sounds. But the snare and bass drum sounds (and toms) really have to be cranked a lot!! I even compared these drum sounds to other sounds I had transferred over from my old Mirage disks. The difference was absurd. I can only assume that these samples were done at a very low volume. Too bad, because the samples are good, but I'm not sure they're very usable in their present form. There are no patches used on this disk either. I own the HR-16, and can't for the life of me figure out why these EPS samples are

so low in volume. Too bad.

Disk #47 - DX7II Dual Sounds

1) Bell/Flute (637)
A good sample that sounds like a bell/flute. It has a bell sound with the blowing sound of a flute. Aftertouch provides vibrato. The patches are boring and poorly thought out, which seems to be kind of a consistent problem. Once again, the volume is a little low on this sound. But not when using patch X0, where the speakers/headphones explode.

2) Tine/Organ (571)
The best sound on this disk. The volume is good, and there are patches that have a reason to live. The name is description enough. The patches emphasize one sound over the other, and as usual aftertouch provides a bit of vibrato. This sound is best used in the middle to upper registers.

3) Fat Rhodes (373)
An almost decent Rhodes sound. I've heard better. Not sure where the problem is with this sample. Could be the DX7II, where the sample was taken. Then again . . .

Disk #48/49 - Yamaha C3 Grand Piano (Parts 1 and 2)

C3 Piano
This sample comes on two (count 'em) disks. According to the instructions you have to load this sound using O/S 2.1or higher. Unfortunately, disks 38 and 39 clearly state that O/S 1.9 is on the disk. The instructions further state that you should boot off disk one (either 38 or 48) and then load part one from disk one, then insert disk two - press load - cancel and then load the second part into instrument #1. Then the entire sound will be loaded into sound 1 (this is what the instructions say to do). It didn't work the time(s!) I tried it (I tried it with O/S 2.1 as well, with equally disappointing results). Loading sound one into instrument #1, then loading sound 2 (from Disk #2) into instrument #2 works fine. Of course, you must have the 2X expander to do any of this but I can't complain about that because a good, clear grand piano sample takes up a good bit of memory. Both of the sounds (the Grand & C3) are good, but I really don't think it's the best grand piano sample ever.

(Extra bonus review - the baker's dozen special)
Disk #46 Led Zep

This disk gets honorable mention as the most amusing disk of the year (so far). Basically, it contains a "Heavy Metal" Drum sample and a sample called "Led Zep" and a sequence. Playing the sequence gets you a pretty decent version of *"Whole Lotta Love"* by Led Zep. I was damned amused at it, and a little impressed at the effort that must have gone into this. But unfortunately I can't imagine why anyone would want to shell out hard cash for it.

Which brings me to another small point. These disks are not returnable (unless the disk is damaged and you want it replaced). So if you buy a disk and don't like it, too bad! Not all of the sounds are worth the money. In fact, I found the 51 disk set to be very inconsistent in quality. And the patch work, one of the nice things about the EPS, is sloppy throughout. Also, while Livewire describes their piano samples as the "best" ever made, I disagree with that assertion. If you can't listen to the samples at your local music shop, then you're pretty much on your own. I can recommend all of the unusual and D50 disks.

Bio: Kenn Lowy is an e-bowist/guitarist/stick player who uses various synthesizers. His first album is due out in the fall on the October label. For pure relaxation he runs road races and competes in triathlons. ▬

Soundprocess - LFO and Tuning Tables

by Duane King

The envelope time and slope table are the most complicated of the tables that Soundprocess allows you to program via MIDI system exclusive messages. The other two tables - LFO and keyboard tuning - are much simpler to explain and much easier to understand.

The LFO table is a one page waveform that describes the low frequency oscillator waveform. Its format is slightly different from that of waves or wavesamples. If you recall (TH #47), the numbers representing waves and wavesamples range from 0 thru 255 with 128 representing the zero-crossing point. LFO waves are represented by signed numbers in the range -128 thru +127 with zero representing the zero-crossing point.

The LFO's maximum frequency is 23 cycles per second. This can be doubled by simply downloading a LFO table that contains a 2 cycle waveform. Theoretically, you could download an 8 cycle waveform and boost the maximum LFO frequency to 184 cycles per second. This isn't practical, however, because Soundprocess only reads an entry from the LFO table every 2.5 milliseconds (one millisecond is 1/1000th of a second). The variable frequency of the LFO is achieved by sample skipping (that's every 15th entry). So if you plan to place multi-cycle waveforms in the LFO waveforms; triangle, pulse, square, sawtooth, random, etc., test your candidate waveform over its entire range of intended operation and over the entire keyboard.

The keyboard tuning table is 264 bytes long even though only the first 122 bytes are used. This is a historical relic that is too complicated to explain (everybody forgot why...). Each entry in the table is two bytes long, so there are 61 entries - one for ever key on the keyboard. The first byte of each entry of the pair is the coarse tuning (octave) for the key. The second byte of each pair is the fine tuning for the key. This allows you to place any key on the keyboard anywhere within the tuning range of the oscillators. Or to put all this in English, you can make inverted keyboards, move particular keys up or down by octaves, or create any kind of tuning you want.

Soundprocess first accesses the tuning table, loads the values for the key into the oscillators and then looks at the oscillator tuning parameters ([69] thru [72]). The coarse tune is simply added to the value read from the tuning table. The fine tuning is handled a little differently but the result is that the oscillator fine tuning is relative to the fine tuning for each key instead of being relative to zero.

If you didn't understand that last sentence, don't let it bother you. You will probably get the results you wanted without knowing exactly how it works. Just don't forget to write or read the entire 264 byte table.

The Patch Bay

Patch reviews by Chris Barth

Patch/Works Q-Spectrum Volume 3, 4

For: ESQ-1, ESQ-M, SQ-80
Product: Q-Spectrum Sounds, Volume 3,4.
Price: 160-voice ROM Cartridge $69.95, 160-voice RAM $109.95, Data Cassette or Disk $44.95.
From: Patch/Works Music Software, Box 450, NY, NY 10024 Orders: (800) 77-SYNTH, info (212) 873-2390.

By the time this review reaches your eyes, all attention will probably be focused upon the newfangled Ensoniq synthesizer which I saw for the first time last week. While auditioning the sounds which came with the store demonstration unit, I was asked my opinion, specifically a comparison to the ESQ and SQ-80. While some of the new sounds were impressive, others were not, and what this machine does not have (at least for a year or so) is the incredible library of patches which are currently available for the older Ensoniq synths. Before you lose faith and interest in your ESQ or SQ-80, remember that the bottom line is what your audience hears on your demo tape, or at your live performances, and not one of you out there is being kept from stardom (or even recognition as a musical talent) because of the synth you're using.

However, if you'd like a boost in your chances, I can't think of a better or more cost-effective shot than purchasing the new Q-Spectrum sounds from Patch/Works Music Software. Jed Weaver is a New York synthesizer programmer and studio musician who has assembled a nearly perfect collection of sounds for the ESQ and SQ-80. I didn't write the first Q-Spectrum review, which appeared way back in Hacker Issue #28 and has been quoted ad infinitum in ads and reviews for the last year or so; but if I had, I would have been just as complimentary as the original reviewer. Now that I've got my turn with the new stuff, let me start by saying that this collection is absolutely mandatory if you've got the synths to play it.

What strikes me immediately is the complete lack of filler. Almost every patch has a finished polish to it, making each one sound like the best one in somebody else's collection. Emphasizing keyboards, this collection offers a tremendous variety of instantly usable solo keyboard sounds. The usual assortment of acoustic pianos are well crafted. What I really like is Jed's generous use of waveforms, particularly synth and prime waveforms, to create loads of bright new electronic keyboard sounds. Most importantly, on these patches the usable range is usually the entire keyboard, giving you maximum performance flexibility.

Jed includes lots of my favorite synth effects in his programming. There are filter sweeps galore, velocity is used to mix waveforms, holding notes introduces motion into the sound, and so on. I do a lot of demo work using short instrumental synth/drum machine pieces (like what you hear underneath department store television commercials), and this stuff is just what the doctor ordered for this type of music.

There are more good MOOG synthesizer imitation patches than in any other patch collection except the ones offered through the VOICE CRYSTAL. It's amazing how well the Ensoniq synths can mimic the famous MOOG sounds, at least when a competent programmer makes the attempt. The bass sounds are ok but don't have quite the thunder of those in the TECHNOSIS collection. Some do have lots of power and bottom, but others offer a fine high end for tone but no bottom for bass. No apologies at all for the orchestral synth pads, which are as fine as any I've ever heard. Pads like JUNO and OBHRN give you many of the great classic sounds from those other synths. For my money, you can save most of the goofy stuff and make my day with power pads like these.

It's hard to get decent percussion from the ESQ, but PHIL is the exception that proves the rule: this is one noisy, deep tom sound. Lots of fun bashing this one about! I also enjoyed SEGOVIA, a fine acoustic guitar patch. There's also a good banjo, but the bulk of the collection remains keyboard-oriented.

Even if you were deaf, the Q-Spectrum collection would stand out from the rest: most of the patch names use the non-Arabic, non-English characters available on the display, which is why I've gone easy naming individual patches for this review. Then again, I usually identify specific patches to highlight the best in a set, and in this bunch, I'd have to highlight them all.

There are only a few special effects, and nothing that strikes me as a waste. On the contrary, Jed has produced another excellent package which belongs in every ESQ and SQ-80 out there. If you've listened only to the factory patches and cartridges, you simply are missing out on one of the best deals out there. I haven't even mentioned how good this stuff is when processed through reverbs, delays, and the like. No risk here!

Jim Symonds' Patches

For: ESQ-1, ESQ-M, SQ-80
Product: Top-40 Voices
Price: $14.95 Data Cassette + $2.50 S&H.
From: Jim Symonds, 4 Kenwood St, Portland, ME 04102.

Am I the only one who's curious about the use of Ensoniq products by the more famous among us? I don't think I've ever seen any Ensoniq gear on stage or in music videos. But last Saturday, on the new USA cable version of *American Bandstand*, appearing as the only keyboard that day with the rock group *Animotion*, an ESQ! Couldn't quite identify the patch, though. And the *Skinny Puppy* interview in the recent *Keyboard* - they use an ESQ! I wonder if they know about the Technosis PSYCHE SHRIEK patches which were so clearly inspired by them (and would be perfect for them).

I still come across ESQ and SQ-80 owners who have never gone beyond the factory patches. Having heard almost all the commercially available patches, let me tell you one thing: if you're only using the factory patches, you're missing more than half the value of your instrument. These patches are not going to be offered for sale forever, so now is the time to look over the reviews and ads in some back issues and place an order or two. I look at my personal favorites cartridge, and I see that only three or four (out of 160) come from the factory. My interest in the ESQ remains as high as ever, and if yours hasn't, YOU NEED SOME NEW SOUNDS!

Which brings me to one of the more pleasant surprises of 1989. If you've glanced at the classifieds recently, you've seen the not-so-modest ad for Jim Symonds' patches and probably wondered if there was anything substantial underneath all the puffery. After all, this is a one-man, home-brewed concoction, and aren't they inherently worse than collections you can buy from the pros? Well, this assortment is the exception that proves the rule - there are many more keepers than weepers in this set. Just don't pay any attention to the ad.

Since the ad emphasizes the sax patch, let me start off by saying that it is one of the few disappointments here. The sax has consistently proven to be beyond the reach of most ESQ programmers; there's a decent baritone on one of the Ensoniq cartridges, but that's about it. This one just doesn't do it for me, and while it might have had a chance as something else, it's not going to please anyone looking for an imitative sax sound. Likewise for the alleged harmonica patch, which sounds like the cheap CZ-101 version and fools no one. I'm also at a loss to take proper advantage of the "real tremelo and distortion guitars," and these kinds of patches tend to sit unused on my data cassettes (at least until someone gets better at explaining

imitative guitar technique on a synthesizer to me.)

So forget the sax and harmonica and guitars and listen to the rest, because some of these sounds will instantly take up residence in your permanent collection. HIGH is named after "High on You" by Survivor and this is a dynamite, powerhouse top 40 electric piano. It's loud, the range is good, and I can't recall ever hearing this variation before. I can't get over how much I like this patch, and I'm even more surprised that this is the first time I've heard it on my ESQ.

There are four or five other pianos, each with a special flavor. STEELY has that muffled Rhodes sound which you hear buried in Steely Dan mixes; the level is so low that it will require some special mixing to get the volume right on your demo tapes. IMAGIN works for the song of the same name by John Lennon; DULPNO is for the intro to "Let It Be"; ROCKPN is inspired by Journey. Overall, these are different piano variations than I'm used to hearing; if you need some variety in your acoustic piano patch collection, this is definitely one place to look.

There are two organs. 96TEARS is absolutely great, the perfect ESQ organ sound. If I had one suggestion, it would be to slightly reduce the volume of the right half of the keyboard, which tends to overwhelm the bass notes somewhat. This is easily done by editing each DCA to be modulated by KBD at a negative depth of 5 or so. With this edit, this is one of my all-time favorite organ patches. The other organ patch is also very good, although with its overdone vibrato effect, it's much more suited to soap opera climaxes than the church environment for which it was named.

The next major category has sounds which feature delay effects. DELAY 1, BOUNCE, and RUNNING, among others, all feature user-adjustable delays, and the sketchy instructions will show you how to make the adjustments. If you don't have any outboard delay effects at all, this will give you something to play with instead.

The percussion sounds are a mixed bag, featuring TOMTOM, with hi tom, middle tom, and low tom on the same patch. They're too thin to be useful by themselves, though, and they would benefit from being layered with something else to give them some more convincing bottom end. BAD and SWAY produce that noisy, crashing sound used for the backbeat on Michael Jackson albums. These patches are not a substitute for a drum machine or a real drummer; but they would add some new color to whatever you're using now.

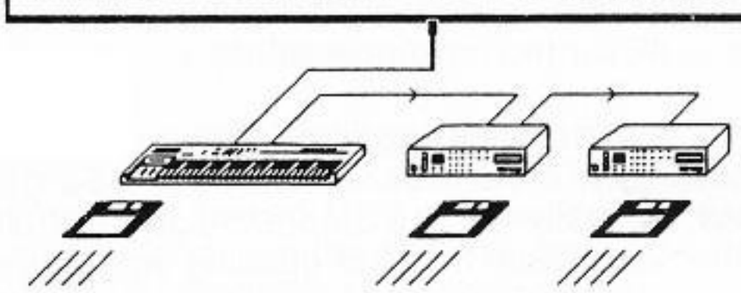
The CHOPPR is a lot of fun because it includes a mod wheel effect which lets you vary the perceived distance of the helicopter; it wasn't hard to produce a convincing Doppler effect, and as suggested in the edit notes, a flanger really adds a lot to this sound.

The surprise is called FINGERS, an acoustic guitar simulation (I think it's closer to a 12-string myself) that includes the noise of the guitarist's fingers sliding up and down the strings. If you use the sustain pedal, the noise disappears. If you let up on the sustain, you get the fingers back again. This is a clever idea and an interesting patch.

ACRDN1 works better than other accordians which I've heard on the ESQ; the secret here is the use of the mod wheel to raise and lower the overall volume of the patch in time with the music. The BAGPIP is close to useless. If you really need this sound, the killer is on the second Voice Crystal cartridge. This one pales by comparison to the deadly accuracy of the Voice Crystal version.

I tried but was unable to convince Jim to offer a demo tape of these sounds; failing that, he is offering a money back guarantee. Out of forty sounds, I was unimpressed with maybe five or ten of them, and tremendously pleased with about half of them. At Jim's selling price, this works out to about one dollar per keeper and that rates a thumbs up from me! ■

Turbo-Charge Your MIRAGE™



The Powerful New

MIRAGE™ Super-MIDI Disk

MIDI volume controllers for upper and lower
Assignable for each sound program and saved on disk
Use with the new MIDI wind instruments
Sostenuto pedal - MIDI or using sustain pedal
All controller inputs and outputs assignable
Separate MIDI transmit / receive channels
Single button program stepping "All notes off" PANIC button
Optional MIDI controllers to Local ±2 Octave pitch transpose
MIDI Overflow mode for 16 note polyphony

--- all this and more ---

SM-1 Super-MIDI Disk $39.95 + $2.50 Shpg.

The Mirage Disk that Electronic Musician rated five-star in their review

The Mirage Multi-Temperament Disk
14 Historic 12-tone Temperaments
24 Note Transpose

"I've never had so much fun with a single Mirage disk ever"
- Don Slepian, TRANSONIQ HACKER, March '87 #21

MT-1 Multi-Temperament Disk $29.95 + 2.50 shpg

Micro-Tonal Scales

Wendy Carlos' Alpha, Beta, Gamma
Create your own - Save them on disk
UD-1 for Mirage™ $39.95 +2.50 shpg.

Hack Your Own OS
Use your computer to make your own version
OS-1 Monitor Disk $39.95 +2.50 shpg

NEW versions of Ensoniq's 3.2 operating system from Dick Lord - UPWARD CONCEPTS

VISA (603) 659-2721 MC Bennett Rd., Durham, NH 03824

EPS Random Tips

by Bryce Inman

The old saying "You learn something new every day" is probably the most accurate statement I can find to describe my experience with the EPS. It's easy for me to see why it took so long for Ensoniq to finish the *EPS Advanced Applications Guide*. With all the things the EPS is capable of doing, they could have written volumes. Instead the AAG is a clear, concise manual that allows the user to easily figure out how to apply the various functions to his individual needs.

What follows are some very unsophisticated things I've learned while fooling around with the keyboard. First some performance stuff:

1. When I'm on stage, loading information into my EPS, every second counts. Since I almost always load Banks rather than individual Instruments, I like the Bank to be the first thing on the disk so all I have to do is press "Load" then "Yes" - no scrolling to find the Bank before I load it.

Since a Bank will only work correctly with Instruments and Songs that have been saved to disk first, there are a couple of steps to follow to have the Bank be the first file on a disk.

When preparing a disk for a new song, the first thing I do is save a Bank. It doesn't matter that the Bank doesn't have the correct information or name - it has to be updated later anyway. The main thing I'm doing is reserving a place for what will be the final, correct Bank.

Now that the first file is reserved, I save the appropriate Instruments (and Song, if applicable) to the disk. After that's done, I go back and either delete the first Bank and save the correct Bank in its place or just update the first Bank. Even if the information in the Bank was correct when it was first saved to disk, you MUST save it again after the other things are on the disk or it won't load the information correctly.

2. In TH #42 Tom Jordan wrote an article on creating a Bank to quickly "Wipe Out" all the Instrument in the EPS when encountering the "Delete More" message in the middle of a performance. I've devised a bit of a variation on his idea that works well for me.

In my performances I almost always load a completely new Bank with a whole new set of Instruments for each song. When I'm putting the final touches on a Bank for a new song, if there are any empty Instruments on the EPS, I fill them using the "Copy Instrument" function (it doesn't matter which Instrument I copy - I'm just filling all the spaces) before I save the final Bank. This takes very little extra memory and insures that everything in the EPS from a previous song will be deleted. If the song I'm loading requires two Banks, I only do this to the first Bank (which means I must be careful to load the current Bank first).

3. I had already written this next item when I saw it in the *In. rface* in response to somebody's question. However, I think it's so important I'm going to include it anyway in case you missed it.

When playing an Instrument while in the LOAD mode (which is what you are usually doing while performing) make sure the Data Entry slider is not in the bottom-most position. While in the LOAD mode, the Data Entry slider controls the volume of the currently selected Instrument. If the slider is at the bottom, and you "jiggle" the keyboard just right, the EPS is fooled into thinking you have moved the slider to set the volume to zero.

This happened to me so infrequently and randomly that I couldn't pinpoint the cause and assumed it must be some sort of software bug. I finally called Ensoniq (which I should have done in the first place) and they told me about the Data Slider problem. Setting the Data Entry slider to the middle is now part of my pre-concert checklist and I haven't experienced the problem since.

Now for some sample editing stuff (nothing sophisticated here either):

4. As soon as I got my EPS I wanted to try out the nifty pseudo-reverb using the "2nd Release" function. I loaded an Instrument and went to the "2nd Release" on Envelope 3 (the envelope that controls the Amp) and fiddled with the parameters for a while - nothing happened. I went to the Envelope presets and selected "Reverb" - nothing happened.

What I had forgotten was the interaction between the amp and the filter. If the Amp is open and the Filter is closed (and vice versa) no sound will be heard. In other words, for the "2nd Release" to work, you must adjust both the filter and the amp.

Keep this in mind when setting up the parameters for the "2nd Release." For example, if the time of one is set to 25 and the time of the other is set to 60, the reverb effect will only last as long as the shorter of the two (25 in this case). The same is true of the settings for the levels.

5. Speaking of filters, I decided to try out the various envelope presets Ensoniq so graciously supplied. I began with the presets on the Amp envelope. Yup, they worked wonderfully. Next I went to Envelope 2 to work on the Filter. I tried the presets - nothing happened.

Unlike the Amp, the filter needs a couple of adjustments before the envelope will take effect. First, go to the Filter Cutoff Frequency page and set both values to zero; this closes the filters. Now scroll to the next page (Envelope 2 Amount) and set both values to 99 for the maximum effect.

Now Envelope 2 is controlling the filter and you'll be able to hear the effects of the various envelopes. (To get the maximum effect, I usually set the amp envelope to Full On - this allows me to clearly hear the filter opening and closing.)

6. Page 60 of the EPS Advanced Applications guide discusses a couple of functions: Wave Mod type and Wave Mod Amount. Well, isn't that special? I understand what they do, but what are their applications?

I figured out one application (which I'll discuss in a minute) but I'd like to invite one of you writers out there to write an article about these functions. It seems to me that there might be some interesting applications - I just can't figure out what they are.

Now here's what I did figure out...

Let's suppose you have a sample that sounds good across the entire keyboard except that the attack becomes too long in the lower octaves. One method of dealing with this problem - the one we learned on the Mirage) is to assign copies of the wavesample to play in the lower octaves - the further down the keyboard the sample plays, the further in you move the sample start - thereby shortening the attack. The only problem with this method is that the change in attack can be rather abrupt as you play along the keyboard and hit the various wavesamples.

The Wave Mod functions on the EPS provide a much more efficient means of dealing with this situation, providing a

seamless attack across the entire keyboard.

To illustrate this, let's try a little experiment. Choose a sample such as I discussed earlier - one that sounds good across the keyboard except the attack becomes too long in the lower octaves (perhaps a mallet or some type of wind instrument with tongued attack). Make sure that only this sample is playing across the entire keyboard. Press EDIT then Wave and scroll to the Wave Mod page. Set the parameters as follows: MOD = START, SOURCE = KYBD.

What this means is that the position of the key played will determine the start point of the wavesample.

Now scroll to the next page - Wave Mod Amount. There are two adjustments on this page: Amount and Range. Begin by setting the Amount to +99. Play across the keyboard and you should hear the effect. This is probably too much modulation (the attack may be completely cut off in the lower octaves) so we'll adjust it. While playing up and down the keyboard, use the Data Entry slider to gradually move the Mod Amount closer to zero until you find the point where the attack is just right across the entire keyboard.

If you get to Zero and you haven't found an acceptable setting, you'll need to adjust the Range. This tells the EPS how much data it's dealing with when doing the modulation. Change the value (either higher or lower) and repeat the above process.

It may take a little time and tinkering to find the best parameters, but when you're done you should have a single wave with an attack that adjusts smoothly across the entire keyboard.

Well, I've got to go. It's a new day and that means I need to go learn something new about my EPS.

Bio: For eight years Bryce Inman traveled with a gospel music team called Sound Investment *and taught music in Indiana (where the winters are too cold). Now he works as a free-lance music editor for Word, Inc. in Irving, TX (where the summers are too hot).* ▬

MIDI Arpeggiator

Review by Al West

For: Commodore-64 (with MIDI Interface) and any MIDI Synth.
Product: MIDI Arpeggiator.
Price: $40.
From: Triangle Audio, P O Box 1108 Sterling, VA 22170 (301) 526-6224.

A while ago, I wrote a patch called RTRWHP for the ESQ (which the Hacker published in Issue #26). The effect I was looking for was the sound used frequently by Eddie Van Halen on his Oberheim OB-8 on several songs like *"Feels So Good"* (OU812); *"Mine All Mine"* (OU812); and "Why Can't This Be Love" (5150). At that time, I thought the OB08 (which is an analog synth very similar to the ESQ) was using an LFO for the effect. However, I discovered that the effect was not produced by an LFO but by an arpeggiator (a built-in function for the OB-8).

Hence, the quest began for a decent arpeggiator. In the course of my search, I found that there are several hardware arpeggiators available in the $250-up range but I could not find a software MIDI arpeggiator anywhere (for any computer).

Enter Triangle Audio, Inc. Having exhausted several resources, I had almost given up until a conversation I had with a large retailer on the East coast. He suggested I give Triangle Audio a call because he heard that they had an arpeggiator for the C-64 and that Jan Hammer used it with his Fairlight to record the "Miami Vice" theme song. "Surely not," I thought. Why would Jan Hammer, a million-dollar musician be using a Commodore-64 on his $100,000+ Fairlight?

Having dug through several back issues of *Keyboard,* I found a small ad in the back for Triangle Audio. Right up front, I learned that in fact Jan Hammer did use their product on the *"Miami Vice"* theme song. So I'm thinking, "Why aren't you guys up there with Dr. T (who didn't have anything close to an arpeggiator), Passport (same thing), or other so-called big name MIDI software vendors." Triangle's modest reply was, "Aw shucks, this is just our hobby... We have day-time jobs."

My next thought was, "So, how much is this going to cost me?" Sounding like he hoped it wasn't too much, Triangle replied, "Forty bucks." This was extremely hard to believe. I had purchased a lot of MIDI software for the C-64, and none of it was less than a hundred bucks, so I asked him to send me some literature on his products so I could get this in writing. Sure enough, Triangle could deliver at the price they said they could. I also found out that they have several additional MIDi products in the same price range.

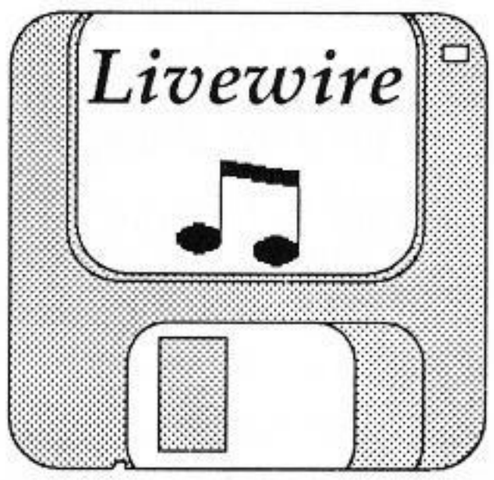
After my purchase, I had two problems: I had waited four weeks after sending a money order, and hadn't received by software. The sales person apologized, and asked if there was anything else on their menu I would like. You've got to be kidding!, thought I. I told the sales person that the MIDI Data Analyzer looked pretty good (never expecting to receive it) and in a week I had that program as well.

Second, I wanted the arpeggiator to arpeggiate only half of the keyboard (using splits on the ESQ) and it arpeggiated the whole thing. I gave the good people at Triangle a call, and the sales person put me in touch with the original programmer. I dabble somewhat in the bits myself, so after ten minutes or so, the programmer and I had come up with a solution for handling splits on the arpeggiator. He told me he would have it to me in a week or so. "Sure, that's what I tell my customers, too," I thought. However, much to my surprise, I had my new copy with split capability in six days (including a weekend).

The icing on my cake was that over all of this, the software was not copy protected. At that price, it takes a lot of guts to make your software that available. Overall, I would have to rate this company an A+. It is my understanding that they are working on an ESQ Editor/Librarian for the Commodore-64. I am completely satisfied with their arpeggiator (give it a try for $40) and highly recommend them for any MIDI software application you would like to see come to life (their programmer, Jim McConkey, seems up to the challenge). Triangle Audio is really a diamond in the ruff.

Bio: Al West is a computer programmer (by day) and musician by night. He can be called for any MIDI software problems related to the Commodore-64 or ESQ questions in general. For those with a C-64, he has a Public Domain Library of well over 1,000 patches for the ESQ-1. Send a blank diskette, the name of your Librarian (or if you don't have one, he has a Public Domain bank exchange program), and a SASE for free copy of his complete PD Library to: Al West, 1004D Quail Creek Rd., Shreveport, LA. 71105. ▬

Why sample when you could be



PLAYING??

Treat yourself to the BEST quality sounds!

Only Livewire offers true 16-bit samples created in our own studio. We use the finest mic's & digital processing for the ultimate sound quality (NO 8-bit Mirage sounds in our EPS library!). Each instrument comes with 4 great patches, and you can call toll-free ANYTIME to order at ***1-800-835-2246, Ext. 159*** *and charge your disks to MasterCard or VISA ($15 minimum). EPS disks are $16.95 each, any 5 for $69, ten for $129, or all 61 for only $499, plus shipping.* ***Choose from:***

( ) E1 - Analog Dinosaurs1 [Mini-Moog & ARP Strings] ( ) E2 - Real Drums1 ( ) E3 - Elec. Piano & Organs ( ) E4 - Tenor Sax

( ) E5 - Concert Harp ( ) E6 - Indian, Jamaican, Latin Percussion ( ) E7 - Strings1 [violin sections] ( ) E8 - Brass1 [sections and hits]

( ) E9 - Electric Guitar1 ( ) E10 - The Unusual1 [Airy swell, orch hits] ( ) E11 - Analog Dinosaur2 [Jupiter6] ( ) E12 - Drums3 - 8 kits

( ) E13 - Orchestra Hits ( ) E14 - Soprano & Alto Saxophones ( ) E15 - Mandolin & Accordian ( ) E16 - African percussion, gong, more

( ) E17 - Vocals 1 [Ooh, aah, choir] ( ) E18 - Trumpet [muted too] ( ) E19 - Hi-End Digital Synth ( ) E20 - Unusual 2 [wild & crazy noises]

( ) E21 - Trumpet2 [wah-wah] ( ) E22 - Harmonica ( ) E23 - Vocals2 [mellow choir] ( ) E24 - Strings 2 (solo & dual violins)

( ) E25 - Drums3 [8 sets] ( ) E26 - Bass 1 [Kramer, Rick, CZ] ( ) E27 - Grand Piano1 [1000 blocks] ( ) E28 - Roland D-50 #1

( ) E29 - Roland D-50 #2 ( ) E30 - The Unusual3 [windchimes] ( ) E31 - Acoustic guitars ( ) E32 - Drums4 ( ) E35 - E. Piano/Bells

( ) E36 - Bass 2 [DX & slap bass] ( ) E37 - Roland D-50 #3 ( ) E40 - Additive Synth1 ( ) E41 - Misc. Brass [French Horn, Hits]

( ) E42 - SynthStacks #1 [MONDO synths!] ( ) E43 - SynthStacks #2 ( ) E44 - Alesis HR16 Drums ( ) E45 - Bass3 [Jazzbass, more]

( ) E46 - Heavy Metal Drums ( ) E47 - DX7II DualSounds ( ) E50 - The Unusual4 [Phasers, Glass, Snap] ( ) E51 - Roland D-50 #4

( ) E52 - Korg M1-1 [piano, organ, more] ( ) E53 - M1-2 [vocal/strings] ( ) E54 - M1-3 [drum/bass] ( ) E55 - M1-4 [combinations]

( ) E56 - M1 #5 [HonkyTonk, Pizzi. strings] ( ) E57 - Analog Dinosaurs3 [Analog Brass, B3] ( ) E58 - Bass 4 [5-string & fuzzbass]

( ) E59 - Drums5 [brush snare, 5 sets] ( ) E60 - The Unusual 5 [scary effects] ( ) E61 - Reeds (oboe, bassoon, clarinet, more]

2-DISK EPS SETS - (2X or 4X expanded memory required to load - each set counts as two disks)

( ) Disk E33/34 - Live Performance set. Piano, organ, brass, sax, strings all fit in 2X or 4X expanded memory.

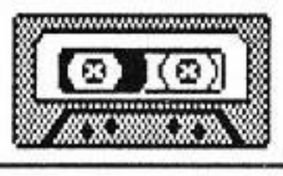
( ) Disk E38/39 - Grand Piano #2. A mellower "jazz" piano. ( ) Disk E48/39 - Yamaha C3 Conservatory Grand Piano.

SHIPPING & HANDLING - In USA, add $4 for 1-4 disks, $6 for 5-9 disks, $8 for ten disks or more. Add $3 more for second-day air. Canada & Mexico add $6 for 1-4 disks, $12 for 5 or more. Overseas add $8 for 1-4 disks, $14 for 5-9 disks, $20 for ten or more. Express service (overnight air) add $20 (Canada & USA), overseas add $50. Please furnish us with a street address for UPS delivery.

TERMS - Credit cards are 5% extra ($15 minimum). Call 1-800-835-2246 Ext. 159 to order ONLY. Write our PO Box or call 201-389-2197 for more details. NJ residents add 6% tax. All disk sales are final - defective disks replaced with same disk only. Allow 1-2 weeks for delivery. Overseas: send US bank draft or use credit card. All personal checks are held 6 weeks to check bank clearance.

NEW!

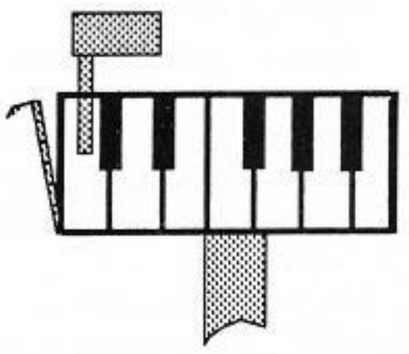
Yes, only Livewire has NEW disks for **Ensoniq's Mirage** sampler, as well as disks for the **Casio FZ**, and sounds for all popular synths. Our complete 26-disk Mirage library is only $239 plus shipping! Call **toll-free** to order, or send a stamped, self-addressed envelope for more details.



THE PROOF!

Order our sample demo tape ($8) to hear the actual samples on EPS Disks 1-30 or Mirage Disks 1-19 (please specify your sampler). Send money order for fast results. All personal checks are held 6 weeks to check bank clearance. Demo cassettes are postage-paid in the US. Canada and Mexico add $3 for demo shipping, overseas add $5 for air mail.

MasterCard VISA



Livewire Audio

- PO Box 561 - Dept. TH
- Oceanport NJ 07757 USA

1-800-835-2246 (Ext. 159) for orders only

Announcing: The ESQ-1 Transient Attack

by Tim Edwards

When one looks at the advertising hype for the SQ-80, one comes across phrases like "transient attack" and "cross-wave synthesis" that never appeared on those ESQ-1 advertisements. "Cross-wave synthesis" is nothing new. As far as I can make out, it is merely a novel way of saying what we knew all along about the ESQ-1. Nothing new there.

A "transient attack" is a waveform wherein all the action occurs at the beginning, making plinks and pops and rasps and so forth. This is nothing new, either. It is a simple procedure to modulate an oscillator with an envelope that starts at an extreme value (such as +63) and immediately whips down to zero. This creates such a fast change in pitch that one cannot hear the "slide" from the high pitch to the low. It simply blends into a sharp popping noise. The SQ-80 comes with a number of built-in transient attack waveforms, which create the same sort of attack that I mentioned, only the effect is sharper, cleaner, and much more adaptable to any given situation. Most of these can be reproduced on an ESQ-1, and I'll show you how.

There is a trick in using transient attacks on the ESQ-1. It is simple, easy to implement, and opens up a vast category of sounds which are very un-ESQ-1-like; crisp, sharp, and occasionally clean. A patch is worth a thousand words, so I'll stop trying to describe it and instead just tell you what it is, and let you hear for yourself.

I'll take you through this trick step by step. First, choose some fairly basic sound, preferably something like OB BRS or SINPAD, which has the same waveform on OSC1 and OSC 3 (this isn't a requirement; it just lets you hear the effect better). As I am writing this, I am fiddling with SINPAD.

First, go to the OSC2 page. Change the wave to NOISE2 and set OCT=+4, SEMIL=8, FINE=0. Remove all modulation sources (MODS=*OFF*). These are the requirements for this trick. If your octave setting won't go past three, then set it to three and don't worry about it too much. Only very recent firmware revisions allow octave numbers in the 4 to 5 range.

Now play a note... uggh, that sounds horrible! Oh, of course. I forgot to mention the most important thing. Go to the MODES page and set SYNC to ON, if it hasn't rusted from disuse in the "OFF" position. Now play a note: what a difference! Set T1=0 on the ENV4 page to hear the attack better. There's a component of the sound now that's very guitar-like. The SYNC has transformed a dull noise into a plucked wire! This occurs because the NOISE wave doesn't have time to get very far into its pattern of random frequencies before it is forced to return to the beginning to SYNC with OSC1.

A few words about the SYNCing the NOISE wave: first, it is extremely sensitive to pitch adjustment. This has several consequences. If you try to modulate OSC2 with anything except velocity or keyboard scaling, you are most likely to get a garbled mess. For the same reason, the pitch-bend wheel does not produce a very pretty sound. But on the positive side, by changing OCT, SEMI, and FINE values, you get a huge range of timbres. Try playing a note over and over again while changing the FINE tuning up or down one step at a time. I found the effect rather startling. The final consequence of the pitch problem is that once you have found the timbre you are looking for, you cannot change the MASTER TUNE at all or else you will lose the correct timbre.

For variation, try NOISE3 on OSC2. Each has a distinctive and pretty sound. Change the waveforms on OSC1 and OSC3. It probably won't be long before you've found several patches that you want to keep.

I'll leave you with the best sound I've created so far for the ESQ-1 using this technique... the killer alto saxophone that you always had the sneaking suspicion must be somewhere down inside the ESQ-1, but which you couldn't ever find (for me, it has been two years in the making). Of course, SQ-80 owners are welcome to have this sax sound, too. They're just not allowed to enjoy it as much.

ESQ-1 PROG: *SAX* BY: TIM EDWARDS

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	REED	ENV1	17	LFO1	1
OSC 2	4	0	0	NOISE2	LFO2	0	KBD2	0
OSC 3	-1	0	0	E PNO2	LFO1	1	LFO2	4

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV2	63	LFO1	63
DCA 2	56	ON	ENV2	63	OFF	-
DCA 3	63	ON	LFO2	0	KBD2	6

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	15	2	22	ENV3	63	KBD2	6

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	OFF	OFF	TRI	0	5	21	WHEEL
LFO 2	63	OFF	ON	NOI	0	9	10	OFF
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-38	2	0	33	0	5	12	24	0	0
ENV 2	-63	5	0	0	0	0	15	19	0	0
ENV 3	49	26	27	49	0	15	25	23	16	0
ENV 4	52	63	63	15	15	23	29	63	24	0

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	ON	OFF	OFF	9	OFF	OFF	OFF	OFF

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	-	OFF	-	OFF	PIANO2	60

★RAM★
5-year guarantee
ESQ/SQ80
80-Voice $42.95
160-Voice $74.95
KAWAI K1
64-Voice $49.95
D10/D20/D50
64-Voice $69.95

Computer Supplies
3.5" Diskettes
Black ..... 10/$14.95
Five Colors ..... 10/$19.95
40-Disk Case $7.95
5.25" Diskettes
Black ..... 10/$14.95
Five Colors ..... 10/$19.95
High Density (AT) ..... 10/$9.90
70-Disk Case $8.95

619/789-6558 7AM TO 9PM PST

FOR CATALOG OR TO ORDER
SOUND LOGIC
1125 Eleventh Street
Ramona, CA 92065
FREE FIRST CLASS SHIPPING
MONEY BACK GUARANTEE

SOUND LOGIC™

The Pedal Organizer
Only $19.95
(4" X 15")

22" Model $29.95
VELCRO FASTENING SYSTEM
1/8" ANODIZED BASE
RUBBER FEET
LOW PROFILE

"GIG BAG"
24" x 11". Black canvas duffle bag. Ideal for loaded Pedal Organizer, cables and all your other accessories. $24.95

Imitating Percussion Sounds With The (E)SQ

by C.R. Fischer

Let's face it. Drum and percussion sounds are the toughest to imitate satisfactorily with synthesis. Even highly capable and sophisticated synthesizers like our ESQ-1's and SQ-80's fall short of the realism of a cheap sampled drum box.

There's nothing wrong with our synths -- it's just that the attack transients in drum sounds are so complex as to defy duplication with a few oscillators and envelopes. And since you can pick up a used TR-505 or RX-15 these days for under $200, why even bother to try?

Well, I can think of a couple of good reasons:

1) Instant demos. If your beat box is down at the rehearsal hall, it wouldn't hurt to have a drum sound or two in memory so you can demo your latest tune without having to run all over town. In this case, we don't need a full kit or terrific realism -- just something to get the basic idea across.

2) Doubling drum sounds. You've already got a decent beat box, but you wish it had a few sounds. For example, your snare just doesn't have enough 'oomph' to stand out on a particular song. Call up a synth snare, and double it at a little lower level in the mix. Presto! You now have a bigger snare sound without the need of buying a new box or effects unit.

3) Special effects. With drum sounds being SO important in today's pop and dance music, it always helps to have as many tools at your disposal as possible. While our synths can't do a perfect acoustic drum, they can do a fine job at synthesized drums, flanged or echoed sounds (see "Recreating Outboard Effects With The ESQ-1," - TH #37). Our synths are great at those funny little sounds that can be used as is or MIDI'd with other sounds.

There is no easy "paint by numbers" method for drum sounds. We're going to limit ourselves to brief descriptions and suggestions, and finish off with a couple of demo patches. Start out with the somewhat vague descriptions, and tweak them to satisfy YOUR ears. Since the SQ-80 already includes a number of drum waveforms, we'll concentrate on waveforms shared by the ESQ-1 and SQ.

Snare drum. The snare consists of 3 separate sounds: the drum stick striking the drum head, the rattle of the snares, and the drums (shell) resonance. The stick can be created by using a square wave frequency modulated by an envelope over a multi-octave range. The envelope should control the DCOs pitch and amplitude, and its decay should be kept extremely short.

The snares are simulated by one of the noise waveforms, FM'd by a LFO noise waveform to randomize the pitch. Use a sine wave for the shell resonance. Adjust this DCOs frequency to 'tune' the drum as needed. Be sure to use KBD2 at a depth of -63 on all 3 DCOs to produce a consistent sound across the keyboard. In addition, modulate the sine wave DCO with an envelope at a very small depth to imitate the drum falling in pitch. Change the levels of the noise and sine DCOs to vary the snare/ shell mix.

Toms. Similar to our snare, minus the snares, of course (turn off DCO2). Change the KBD2 depth from -63 to -40 or so; this limits the range of the keyboard to an octave, with microtonal intervals (nothing sounds phonier than drums in perfect tune). Increase the depth of the envelope on the sine wave DCO for a 'syndrum' effect. For a double head tom effect, turn on DCO2, and set it to match the sine wave DCO (detune slightly for realism). Increase the TK parameter on your envelopes, as higher pitched toms die away sooner than their lower kin.

Hi Hat. I have yet to hear anyone come close to a hi hat on the SQ-80, much less the ESQ-1. Maybe I'm overly picky, but there's how you might go about doing it. Keep the square wave stick sound from our snare, and change the other DCOs to noise 1 or 3. Make sure that KBD 2 is back at -63. Now tune the noise DCO to an appropriate pitch. Add slight FM from an envelope from realism. One problem with hi hats is that they have several different amplitude envelopes, depending on whether the pedal is open, closed, or in motion. If you have the memory space, you could do several versions, each with a custom envelope. Or you can try a stunt that I first saw used on an ARP Odyssey a decade ago. Set up ENV 4 with an extremely short decay and a longer release time. If done right, quickly tapping a note produces a long release (because the envelope goes directly into the release stage), while holding a note causes it to decay right away. This takes a little work to get it right, so don't be discouraged if it doesn't happen right away. (By the way, this trick also works with muted/sustained instruments like vibes and acoustic guitar, as well.)

As you might imagine, cymbals use the same basic waveforms, except that the envelopes are modified for very long release times. However, cymbals are not actually white noise as often believed; instead, they are similar to a number of fixed frequency oscillators (a dozen or more) tuned to a particular frequency band. It's enough tones to defy reproduction with traditional synthesizers, but not quite enough frequencies to be duplicated by random noise.

Kick drum. Use the kick waveform from only 1 DCO. Set KBD2 to -63 to assure constant pitch across the keyboard. Tune the DCO down to the -3 octave; if this isn't low enough, create an envelope with zero attack and release and levels of -63. Use this to lower the kick even further. The amplitude envelope must be kept very short, or the waveform's loop will show up in the output. Because of this, it tends to limit the ESQ/SQ kick drum to staccato kicks for use in dance tunes.

More unusual kicks can be produced by using sine or square waves as in our toms above, tuned to some subsonic pitch. Try modulating the DCOs with envelopes at a slight depth; also try using a noise waveform mixed in at a lower level. A lot of kicks heard on the radio these days seem to be using samples mixed with synth waveforms for presence and punch, so try MIDI'ing up a drum box if the results sound lame.

I know that these directions are a bit ambiguous, but my intentions are to offer this as a guide. If you can find a copy, check out Roger Powell's column on page 51 of the April 1981 *Keyboard* magazine. It's a great single page article on imitating drum sounds using modular analog synths, and it's still valid information. With that, I'd like to leave you with two of my patches:

ESQ-1 PROG: SNARE2

BY: C. R. FISCHER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	0	0	SYNTH3	KBD2	-63	ENV1	29
OSC 2	-3	11	5	NOISE2	KBD2	-63	LFO2	63
OSC 3	-1	2*	17	SINE	KBD2	-62	ENV2	1

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV1	55	OFF	-
DCA 2	63	ON	OFF	-	OFF	-
DCA 3	60	ON	OFF	-	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	100	4	0	OFF	-	OFF	-

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	-	-	-	-	-	-	-	-
LFO 2	63	OFF	ON	NOI	63	0	0	OFF
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	0	0	15	0	0	6	63	0	9
ENV 2	63	0	0	0	0	4	9	63	20	9
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	52	0	20	0	0	1	16	21	0

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

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	-	OFF	-	LOWER	KICK3	38

ESQ-1 PROG: KICK 3

BY: C. R. FISCHER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-3	0	0	KICK	KBD2	-63	ENV1	-60
OSC 2	-3	0	0	KICK	KBD2	-63	ENV1	-63
OSC 3	-3	0	0	KICK	KBD2	-63	ENV1	-63

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

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	65	0	0	ENV4	32	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	50	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	63	63	63	0	0	0	50	63	20	9
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	0	0	20	0	0	14	0	13	30

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

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

EYE AND I PRESENTS— Voice Crystal™

PREVEIW THEM AT YOUR LOCAL DEALER!

NOW SUPPORTING: ENSONIQ® ROLAND® KAWAI®

ENSONIQ® EPS — NEW! — **ROLAND® S50·S550·S330**

★ **SAMPLER SERIES** ★
EACH SERIES CONTAINS 3 DISKS WITH UP TO 3 VOICES EACH

VC1 EPS, VC2 EPS, VC3 EPS, VC4 EPS — NEW! SYNTH SAMPLES — **35.80**/Series

VC1 S50, VC2 S50, VC3 S50, VC4 S50 — NEW! SYNTH SAMPLES — **35.80**/Series

SQ 80
3½ disk w/80 voices plus demo sequences
VC1 SQ8, VC2 SQ8 — **32.00** each

D10·D20·D110
128 voice RAM card with 64 voices
VC1 D20, VC2 D20 — NEW! **85.00** each

ESQ-1·ESQ-M·SQ 80
80 voice E²PROM cartridges fully loaded with voices
VC1 ESQ, VC2 ESQ, VC3 ESQ — **62.95** each
VCX ESQ blank E²PROM **49.95**

D50·D550
64 voice RAM card with 32 voices
VC1 D50, VC5 D50, VC2 D50, VC6 D50 — NEW! **85.00** each
VC3 D50 (Keith Emerson card)
VC4 D50 (Jonathan Cain card)
VCX D5O blank RAM also works in D10•D20•D110

★ **KAWAI® K1** ★
64 voice RAM card w/32 voices & 16 multi-patches
VCI K1, VC2 K1, VC3 K1, VC4 K1 — NEW! **55.00** each

EYE AND I PRODUCTIONS, INC.
Phone (408) 945-0139
930 Jungfrau Court
Milpitas, CA 95035

PRO-LEVEL PATCHES FOR YOU!!

❒ The ESQ PROSELECTS:

"...this is one of the best sets yet...the fattest set of bass patches I've come across...from now on, the Proselect basses are my first choice...these pads could be all you ever need...the ultimate in synth brass patches...I've learned more about editing patches from Mike's liner notes than just about anything else...exquisite taste in vibrato...some of the best (keyboard patches) available...no filler to speak of, talent oozing from every parameter setting, and some REALLY BIG sounds." Chris Barth, January 1989 Hacker

❒ The SQ-80 MASTERPATCHES:

"There is a wealth of really good stuff...oustanding features...nicely playable patches...I was mightily impressed...monstrous percussion sounds and effects...There is true programming genius here...a lot of different kinds of sounds with some great, educational documentation and some defintely killer percussion...Sounds like a deal to me!" Rick Hall, September Hacker

❒ The PSYCHE SHRIEK ESQ Patches:

"...the most professional package I've seen yet...it should set a standard for all other patch programmers...fresh and very authoritative (analog patches)...the liner notes are an educational bonanza...it's refreshing to hear something different." Chris Barth, February. 1988 Hacker

"...patches that sound virtually unlike any that I've heard from the instrument...very nice bass patches and some nice fat analog sounds...impressive effects...a number of effective drum sounds." Bob O'Donnell, Dec. 1987 Music Technology

AND NOW, K-1 AND M-1 PATCHES!!

ESQ PROSELECTS: Cassette: $25., ROM: $35., E2: $55., 160 V RAM: $90.
PROSELECTS + SHRIEKS: Cassette: $35., 160 V RAM: $100.
SQ-80 MASTERPATCHES: Diskette: $25. OR, on Diskette:
MASTERPATCHES + PROSELECTS + SHRIEKS: $60. {BEST BUY}
K-1 RAM CARD: 64 Voices + Multis: $70.
M-1 ROM CARD: 100 Voices: $60.
Send your RAM CARD for a dump: ESQ PROS: $25. K-1: $25. M-1: $35.

Send check/money order with $2.50 S/H (CAL RES add tax) to:
TECHNOSIS- 3960 Laurel Cyn. Blvd. #353-TH, Studio City, CA, 91604-3791. COD's: (213) 656-3515

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.

The Patch: BASOON

by Jim Grote, Cincinnati, OH

Here is a surprisingly real imitation of the bassoon. This sound has a natural tight and wood tone characteristic of the wood double-reed instrument. This sound is essentially based on the first and fifth formants with some spit in the attack. All you fans of Stravinsky's "The Rite of Spring" can have fun playing the bassoon introduction.

It is not an accident that this patch is layered with itself. In this way, a richer, more natural sound is produced. Also, each individual program is not always in phase with the identical layered sound, thus causing the cancellation of certain harmonics in the sound. Therefore, the same note on the keyboard will not always sound the same each time it is played - a characteristic of real instruments.

The Hack

In addition to a bassoon on the bottom octave, you can coax a reasonable oboe out of this patch a couple of octaves higher. I can't decide whether to layer the patch with itself or not; while a sustained note certainly sounds better that way, the attack of the sound takes on an electronic flanged quality that makes it less realistic. But it's a nice Tomita-like sound and I like it quite a bit. The mod wheel vibrato is right on the money.

I toned the buzziness down a bit by changing the WAVE of OSC2 to FORMT4 and the OCT to -1. As always, an imitation of a solo acoustic instrument will sound a squillion percent better when run through a good reverb. Try it!

The Patch: BASWEH

by John Ludbrook, Boronia, Australia

The mod wheel removes oscillator 2 from this sound thus creating a darker bell tone. Try switching the amplitude modulation on for an unusual sound. I have trouble with this patch (the notes change) from the top Ab upward. What can I do?

The Hack

This is a fabulous mellow bell sound, very reminiscent of a D-50. EVERYONE with an ESQ-1 or an SQ-80 should punch in this patch. The digital "tinkle" is created by the filter resonance on full blast (Q = 31). I only changed the sound very slightly - by adding a bit more release time. This was done on ENV4 by increasing T4 to about 40.

John's problem with the high notes is easy to solve, but quite complicated to explain; I'm devoting a whole article to the technique it addresses (see next month's Hacker). Suffice it to say that the problem lies in the fact that OSC1 is first tuned very low (OCT=3), and then is tuned back up again by setting SEMI=8 and MOD2 to LFO3. This LFO is tuning the oscillator because it is static - WAV=SQR, FREQ=0; it starts out high and never changes. With this particular sound, there is no reason to do this. So, set OCT, SEMI, and FINE of OSC1 all to 0 and turn MOD2 OFF. This takes care of the problem without changing the sound in any way.

The Patch: FLBSTR

by John Ludbrook, Boronia, Australia

FLBSTR stands for FLute, Bell, STRings, using BASWEH as a layer to add the bell sound. The amplitude modulation can be turned on to change the flute sound into strings.

The Hack

Ethereal is the name of the game here. FLBSTR stands well on its own, but it is truly beautiful when layered with BASWEH. I can't think of a darned thing I would want to alter here.

The Patch: FLUME

by Charles R Fischer, Mescal Music

FLUME is a nice sort of atmospheric sound for new agers and other cosmic folk. Aftertouch adds vibrato. Adjusting T1 of the envelopes produces a number of variations.

The Hack

This is a fabulous sound. Don't neglect it thinking it's only applicable to new age music. FLUME employs the PICK2 waveform for a woody, percussive attack, layered over a breathy sustain. The bottom octave of PICK2 starts sounding too much like a bass, though, so you night try a few different waveforms here. MALLET, PLINK, and LOGDRM work very well; for some weird variations try TOMTOM and DRUMS3. Switching on the amplitude modulation creates another interesting variation of FLUME, though not nearly as good as Charles' original.

Unfortunately, as this sound depends heavily on the BREATH waveform, it is impossible to reproduce on the ESQ-1.

* * *

Note: Special thanks go out to Dave Shymatta and the Guitar Center in Sherman Oaks, California. They kindly let me pound on their SQ-80 when I was stuck without one.

Bio: Sam Mims is a studio session player in Los Angeles, and a member of the band THE NEWKS. *He is a Contributing Editor for* GIG *magazine, and owns Syntaur Productions - a company that produces music for television, radio, and film. In addition, Syntaur markets synth patches for the ESQ-1 and SQ-80.*

ESQ-1 PROG: BASOON

BY: JIM GROTE

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	FORMT1	ENV1	5	LFO1	2
OSC 2	0	0	3	NOISE2	OFF	-	OFF	-
OSC 3	0	0	1	FORMT5	ENV1	5	LFO1	2

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	-	OFF	-
DCA 2	14	ON	ENV2	44	OFF	-
DCA 3	16	ON	ENV3	37	KBD2	8

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	33	1	10	ENV3	44	ENV2	17

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	OFF	OFF	TRI	0	1	1	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-20	3	0	27	7	0	13	3	0	9
ENV 2	-28	63	17	32	9	8	9	16	38	0
ENV 3	0	43	63	42	0	6	11	11	32	22
ENV 4	46	63	56	12	11	11	12	54	13	21

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	ON	OFF	OFF	2	OFF	OFF	OFF	OFF

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

ESQ-1 PROG: BASWEH

BY: JOHN LUDBROOK

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-3	8	24	OCT	OFF	-	LFO3	63
OSC 2	1	7	0	BELL	OFF	-	OFF	-
OSC 3	-1	11	31	SINE	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV2	63	OFF	-
DCA 2	55	ON	ENV2	63	WHEEL	-63
DCA 3	50	ON	ENV2	23	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	40	31	47	VEL	20	OFF	-

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	55	8	LFO2	28

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	-	-	-	-	-	-	-	-
LFO 2	21	OFF	OFF	TRI	32	44	63	KBD
LFO 3	0	ON	OFF	SQR	63	0	20	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	63	43	0	0	0	0	30	63	38	33
ENV 3	-	-	-	-	-	-	-	-	-	-
ENV 4	63	53	-31	0	0	0	12	51	35	0

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

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

ESQ-1 PROG: FLBSTR

BY: JOHN LUDBROOK

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	6	SYNTH3	LFO1	1	OFF	-
OSC 2	0	0	4	SQUARE	ENV3	1	OFF	-
OSC 3	-1	0	4	SAW	LFO1	1	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	52	ON	OFF	-	OFF	-
DCA 2	63	ON	VEL	63	OFF	-
DCA 3	63	ON	VEL	63	OFF	-

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	18	0	35	ENV3	30	ENV2	63

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	45	8	LFO1	30

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	ON	TRI	63	0	12	OFF
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-	-	-	-	-	-	-	-	-	-
ENV 2	63	50	45	0	0	53	50	63	20	9
ENV 3	63	10	41	8	0	8	19	63	44	9
ENV 4	63	63	36	8	0	16	45	45	43	9

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

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

SQ-80 PROG: FLUME

BY: CHARLES FISCHER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	BREATH	LFO1	1	ENV1	8
OSC 2	0	0	3	BREATH	LFO1	-1	ENV1	20
OSC 3	1	7	2	PICK2	OFF	-	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	LFO2	24	ENV2	56
DCA 2	0	ON	LFO3	-17	ENV2	57
DCA 3	46	ON	VEL	26	KBD	7

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	66	4	9	ENV3	28	VEL-X	8

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	54	9	LFO2	-45

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	0	0	0	PRESS
LFO 2	12	OFF	ON	TRI	10	1	63	OFF
LFO 3	16	OFF	ON	TRI	15	1	63	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	0	0	0	0	0	6	63	10	9
ENV 2	63	50	50	2L	0	12	50	63	41	9
ENV 3	63	0	0	26L	0	0	18	0	32	0
ENV 4	63	63	63	4L	0	0	32	32	40	0

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

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

Classifieds

USER GROUPS

Anyone interested in forming a Puget Sound EPS user's group please contact Terry Tippie, 2123 4th Ave. N., Apt. #3, Seattle, WA 98109 or call (206) 282-7949. Swap sounds and sequences and learn about the EPS from experienced users.

Any EPS owners in the U.K. interested in sample / sequence swaps, etc., please contact David Howard, Wolfson House, 4 Stephenson Way, London NW1 2HE.

SAMPLES

EPS and Mirage samples - over 700 different sounds! Only $9 per disk - even less in quantity. Also, my Soundprocess library - Lush, X, DeMity, and Addy - only $25 each, or all 4 for $80. Bob Spencer, 703 Weatherby Lane, Greensboro, NC 27406.

EPS samples for trade in New York City Area. Contact Anthony Sicuso at 212-689-6810.

I am a professional accompanist and only use quality ancient and modern accoustic instrument sounds on my EPS. Will buy, sell, or trade sounds, Brad Slocum, 1059 West Hill Ct., Cupertino, CA 95014. 408-446-9067.

Rare acoustic instrument samples for the Ensoniq Mirage: Harpsichords, Rebec, Vielle, Handbells, Harmonium, Organs, Harp, Flutes, Brass, many more. $20.00 each. $110.00 for a set of eight. Barry Carson, Minotaur Studios, 52 State St., Canton, NY 13617.

Free Public Domain Samples for the EPS ($2.75 - disk cost). Over 500 sounds available. Send SASE for list & order form. Also - High Quality Samples For Sale. Perfect for unique applications. Free catalog. $5 for demo tape. Rubber Chicken Software, Box 428, Renton, WA 98057. 206-242-9220.

Mirage samples: created with input sampling filter - yielding 50 kHz. Also custom services. 400 sounds. Listings: $1.00. Demo tape: $6.00 (includes listings). Mr. Wavesample, 162 Maple Place, Keyport, NJ 07735. 201-264-3512. Make checks payable to Jack C. Loesch.

EQUIPMENT

Mirage. Excellent condition. New disk drive installed by factory 2/89. MASOS, manuals, 30 disks including formatting disk and super-MIDI OS. $600. Bruce Gerow, Oneida, NY 315-363-8570 after 5 pm EST.

Mirage keyboard w/over 100 sound disks, 2 monitor disks, VDS, sampling CD, Hacker library and softcase. $995. 201-736-7160 evenings EST.

ROLAND JUPITER-6 keyboard. Classic analog synthesizer with upgraded MIDI, separate outputs, sync-able arpeggiator, split keyboard. Sounds great! $800. ENSONIQ MIRAGE rackmount sampler with rare Turbo MME 5X memory expansion. Holds 5 disks of stuff simultaneously - great for live performance. Complete with operating system, MASOS, manual, disks. $800. Call (201) 389-2197.

Mirage rackmount with sounds, super MIDI OS, and MASOS. $750.00. Pete Profilet, 214-388-1713.

SOFTWARE

"Apple 2 + ESQ-1 + Passport": Complete software package. Load, save, print, and rearrange patches and banks. Includes free set of 120 patches. $20.00. "Apple 2 + ESQ-M": Tape loader - you can now buy tapes of patches and load them to the ESQ-M through an Apple. Full software support. $20.00. Specify type of computer and DOS 3.3 or ProDos version. Tim Edwards, PO Box 56, Smithfield, VA 23430. (804) 357-3054.

Yamaha CX5M software: system-exclusive librarian program for ESQ-1. Computer requires disk drive. Easy to customize to use with other synthesizers. Can store ALLSEQ files on disk. Get organized! $10.00 to: Bill Seath, 5324 142nd Lane NW, Ramsey, MN 55303.

Just Intonation Calculator, by Robert Rich. Macintosh Hypercard stack makes JI easy: shows scales to 48 notes/octave; calculates transpositions; reduces fractions; converts between ratios, cents, DX711, TX81Z units; internal sound. Only $10.00. Soundscape Productions, Box 8891, Stanford, CA 94309.

PASSPORT (Master Tracks) 16-track Sequencer Pro, C-64, $49.95. ELTEKON PRODUCTIONS ESQ-1 640 Voice Cassette, regularly $77.95, only $20.00. SQ-80/ESQ-1 HEAVEN 80 voice cassette, regularly $17.95, only $4.95. P/H $2.50. ORBITAL ACTION MUSIC, PO Box 55191, Grand Junction, CO 81505.

MSCI - IBM VES for Mirage and MPU-401. Reviewed in Issue #38 of TH. Program: $40.00, Demo: $7.00. Add $5 S/H. Send check to: Jeffrey Richter/Donna Murray, 3502 Village Bridge Apts, Lindenwold, NJ 08021. Phone: 609-346-0943.

PATCHES

40 HOT SOUNDS FOR YOUR SQ-80! There's something for every taste on our disc; with free custom edits made to your request (see the review in the April, 1989 Hacker). Special introductory price is only $12.95. Mescal Music, PO Box 5372, Hercules, CA 94547.

ESQ-1/SQ-80: S.S. Productions SS-40 forty voice stereo sound set. EXCELLENT acoustics, keyboards, synths, basses, effects, and percussion. Data cassette: $15.00 + $2.50 P/H. Specify if you own a C.V. pedal. For sound list or order write: Sevan Simonian, 93 Powell Road, Emerson, NJ 07630.

Yes! Growling Sax! Tremolo, Distortion, Wah Guitar. Acoustic with "finger slider" (sounds sampled!). Steel guitar - great for country and blues! 70's Electric Piano, Rock Piano (Journey), 96 tears organ, Wailing Blues Harp, "Imagine" (Lennon piano), Digital Delays. One bank of my very best original patches. If you don't like them - send it back! Absolutely Guaranteed! $14.95 data cassette plus $2.50 shipping and handling. Jim Symonds, 4 Kenwood St., Portland, Maine 04102.

Introducing the first release of 80 alternative patches for the ESQ-1/SQ-80 for the musician who has every patch except... The "Goosebump" Series. $20/data cassette, Demo=Free (+ $1.50 p/h). (Money Order = Quick Ship.) From: The Patch Well, 1826 E Indianola, Phoenix, AZ 85016. "Quality Not Quantity."

ESQ-1/SQ-80 840 Sparkling Sounds!! Professionally Programmed. Super Synth, Bass, Brass, Thick Strings, and many unusual sounds. 280/$19.95 or all 840 for only $39.95. P/H $2.50. Music World, 617 Panorama Dr., Grand Junction, CO 81503.

SOUND LOGIC ESQ-1/SQ-80 "Modular Voice System". 120 Stereo Voices - 80 Fundamental and 40 Unique. Extensive implementation of CV Pedal and Poly-pressure. 64-page Owner's Manual with program sheets and performance notes. SysEx, Mirage disk and all other standard formats supported. $39.95. FREE Shipping & Handling. For brochure or to order: SOUND LOGIC, 1125 Eleventh Street, Ramona, CA 92065. 619-789-6558.

SERVICES

Custom EPS Sampling and Mod Service. Expert sampling - custom orders. Can do - will do. Rubber Chicken Software, Box 428, Renton, WA 98057. 206-242-9220.

SEQUENCES

ATTENTION SQ-80 OWNERS: Make your original songs and jingles come alive with our Professional Background Rhythm Patterns. Over 50 different patterns on disk. All recorded into sequencer. Each pattern uses Bass, Keyboards, and Drums. All styles of music included. Millions of possible new song creations. 40 new patches also included. Must have MIDI drum machine - any model or brand name will do as long as it has MIDI note number assignments (most all do). Send $19.95 to: New Sound Music, PO Box 37363, Oak Park, MI 48237.

For the ESQ1 with expanded memory: classical music sequences for organ and piano scores, including patches for the proper sounds. 10 volumes available. Supplied on high quality data cassette and individually made at $14.95 each or audio cassette at $6.00 each, plus $2.00 S/H. Send for free list. Newest volume - The Piano Music of Scott Joplin. Don Pribble, 6810 Hwy 55, Minneapolis, MN 55427.

PUBLICATIONS

"The EPS Users Guide," 75-page reference manual for Ensoniq EPS. Price includes shipping in the continental US and free SCSI drive section update in late 1989. Send $20.00 check or MO to Gary Dinsmore, 32695 Daisy Lane, Warren, OR 97053.

OUT-OF-PRINT BACK ISSUES

Transoniq Hacker Issues #2-37 (originals). Please call 703-754-2805. Would swap for $ and/or patches, OS, etc.

M.U.G. will provide Out-of-Print issues for cost of materials and postage. M.U.G. Hotline: 914-963-1768 or write: G-4 Productions, 622 Odell Ave., Yonkers, NY 10710.

Photocopies of out-of-print past issues of the Hacker can be obtained by calling Jack Loesch, 201-264-3512 after 6 pm EST.

Folks in the New York City area can get copies of unavailable back issues of the Hacker - call Jordan Scott, 212-995-0989.

FREE CLASSIFIEDS!

Well, - within limits. We're offering free classified advertising (up to 40 words) to all subscribers for your sampled sounds or patches. Additional words, or ads for other products or services, are 25 cents per word per issue (**BOLD** type: 45 cents per word). Unless renewed, freebie ads are removed after 2 issues. While you're welcome to resell copyrighted sounds and programs that you no longer have any use for, ads for *copies* of copyrighted material will not be accepted.

1600 ESQ1 PATCHES
For Your ESQ1/ESQm/SQ80

Introductory Special
!! Only $24.00 !!

1147	Instrument Patches
98	Bass Patches
286	Effects Patches
69	Percussive Patches

Includes a spiral bound book listing all banks by name, number, type of patch, and space for your notes. The second section is an alpha name list by type with bank and patch number.

This compilation is the best of the patches found in the public domain.

$24.00 Includes 1st Class Shipping
Florida Residents Add 6% Sales Tax
Overseas Please Add $7.00 Postage
All Checks Must Be In U.S. Funds.

Music Software Exchange
Post Office Box 533334
Orlando, FL 32853-3334

Please specify disk for the SQ-80 or cassette for the ESQ1/ESQm.

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, or PAN: TRANSONIQ.
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.

Dear Sirs,

Is it possible for me to retrofit my **SQ-80** so that it will handle 16 dynamically allocatable voices instead of 8? Does Ensoniq have plans for the SQ-80M? Could you suggest to them in my behalf that it should have 16 or greater voices? I'm tired of MIDI overflow and running out of voices during sequences. The EPS doesn't have to be the only Ensoniq complete Music Workstation. I'm also sick of the SQ-80 being considered as a glorified ESQ-1. They are two totally different fantastic machines.

Thank you for your ear.
John D. Williams
Pittsburgh, PA

[TH - We're trying to include more SQ-80-specific coverage. (But, "TOTALLY different" - ?!)]

[Ensoniq's response - Since the DOC chip used in the SQ-80 could only allocate up to 8 voices, a retrofit would not be possible. There are no plans to update the SQ-80 or the addition of an SQ-80 rackmount to our product line, however all suggestions are noted for possible use in future products (the VFX has 21 voices, the EPS/EPS-M has 20).]

Howdy Hackers,

Just writing in with a question and a suggestion or two. Does anyone out there happen to know the brand and model # of the disk drive used in the **SQ-80**? As a former computer techno I know that drives are the weakest point in a computer based system, and that they tend to fail at the worst possible moment (say, like just before an important studio date). Paying for someone to replace the drive is one thing; but losing the use of my main controller and sequencer would be inconvenient at best and a major loss of time and money otherwise.

With this in mind, I'd prefer to shell out for a replacement drive now, and keep it on hand as a safeguard. If a problem occurs, I would be able to replace it myself, and save a lot of lost time, income, and work. Of course, Ensoniq's policies prevent the customer service people from providing us with this highly sensitive information... and if anyone out there would send me or the Hacker a postcard with this information, I'd be extremely grateful.

Now for something completely different. We've all read the letters concerning Heaven and its incredibly lame treatment of their customers. As a sound developer myself, I'd like to see that the guilty are promptly drawn and quartered - this kind of ripoff can only hurt others that are in the same business. Seriously, I thought of a possible solution to the victims of Heaven's pathetic service: while it borders on being illegal, I feel that it might be ethically right under the circumstances.

Someone out there has to have a set of Heaven patches. Let's say that a certain kind soul were to agree to make copies and sell them to Heaven's victims for his or her cost (no profit involved). Sure, it's unfair that these people would have to shell out a few more bucks so that they can get what they are already entitled to, but at least they would finally get what they had paid for.

To be completely fair (and prevent other people from trying to take advantage of this opportunity to get the patches cheap), our friend would require a photocopy of a cancelled check, etc.,-- proof that payment had been made to Heaven. In my eyes, this differentiates our good Samaritan from the slimeballs that sell or trade other folks' intellectual property (although I'll save that subject for another tirade). Before anyone actually does this, they should look into the legal ramifications -- I don't pretend to know the law here.

I've never done any business with Heaven, and I can't judge them except what I read in the Hacker. Normally, I would never advocate that anyone distribute the patches of anyone else, whether or not a profit is involved. But in this instance, it looks like a number of people have been ripped off with nothing to show for it, and the people at Heaven would have no right to complain if someone were to do as I suggested. As my fellow sound developers would probably agree, we have enough problems as it is without having to deal with one bastard ruining our reputations.

Sincerely,
Charles R. Fischer
Mescal Music
Hercules, CA

[TH - Maybe some legal eagle will comment on your Heaven suggestion... (And someone who would be willing to do this.)]

[Ensoniq's response - The disk drive is either a Panasonic JU364 (no door), a JU253 (door and a red LED), or a Sony 63W//D (door and yellow LED).]

Dear TH,

I have a problem with my **EPS** that drives me crazy. When I want to listen to a sequence - after having done volume level adjustments for each track - all volume levels return to 99. This seems to happen either when I press the start button, or when I pass a point were I have punched in an instrument in "ODUB".

This happens with the 2.10 OS well as with the 2.30 (which is the latest I've got access to). But it does not happen with the original 1.50!

Ensoniq - please do something about it!

And another thing: When I bought my EPS in early December last year, my dealer promised that as soon as I had returned my reply card I would receive a good new sampling manual from Ensoniq. I'm still waiting and my dealer cannot tell why nothing happens. There are many functions in the EPS that still keep their secrets from me.

Mats Beckman
Sweden

[Ensoniq's response - First, make sure that the RECORD MODE is set to ADD on the EDIT/Sequence page. Then set the track mix on the EDIT/Track page to the desired value. Press Record and Play. After the first bar of the sequence, press Stop.

You won't be able to audition the volume change on the KEEP=OLD NEW page, so just select KEEP=NEW. If you don't like that particular mix, repeat the above steps.

MUSKANTOR & CO. in Molndal is our new distributor for Sweden. Please contact them with any questions you may have about Ensoniq products.]

Dear TH,

I'm so mad that I could spit shit! How does *KEYBOARD Magazine* get off rating Ensoniq products **Mirage** and the **EPS** near the bottom? I've been a keyboard player since 1960, and have owned many different synthesizers, Moog, ARP, Roland, Sequential Circuits, and Korg. I find that the EPS I own is far superior than *Keyboard Magazine* rates it. I have to agree with Bill Lewis's editorial *"Guilt by Accusation and Trial by Headline"* (TH APRIL 89). It seems to me that *Keyboard magazine* had real audacity comparing a Mirage to a Synclavier. That's like comparing a Cadillac to a Rolls Royce. That doesn't mean that the Caddi is a bad product does it? What I would like to know is if *Keyboard* spent enough time on any one keyboard to really understand it fully? I don't think a few hours on each board is really a fair comparison. Ever try to make sense out of a Japanese translated manual? *Keyboard Magazine*, I would like you to know that since you rate the Ensoniq products so low I would gladly send you my Casio for any Ensoniq keyboard you would have laying around.

It's time to say a few words to Ensoniq. My next keyboard, without a doubt, will be your new VFX synth. If it's as easy as my EPS is to understand I sure won't have any trouble with it.

Now for my questions:

1. Why does the EPS have trouble remembering volume settings on track 2 & 8 when the sequence is saved with "SAVE CURRENT SEQUENCE" and then reloaded with "LOAD SEQUENCE"?

2. I am using the new 2.35 OS and when I load a sequence from a disk with a 1.5 OS the EPS crashes. Why?

3. How do I copy the Mirage sequences to the EPS so that the EPS will play the Mirage sequences?

4. Is there a new OS coming out soon? And if so what can we look for in improvements?

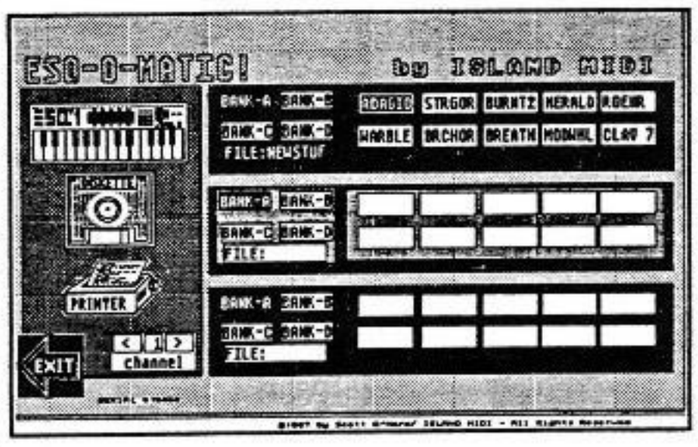
5. Will the keyboard on the VFX be available for the EPS?

MONSTER DAN is *hotter than ever* with *the new* **"Best Of The 60's"** dance list. Hundreds of selections, from the 50's to this weeks chart, for your ESQ1 or SQ80. Data includes sequences, drum patterns, patches and programmed mix. **Demanding professionals** agree that **DANLAR'S incredibly detailed arrangements** and **intricate patch programming** are the *greatest!* Convincing demo available. Call or write anytime.

DANLAR MUSIC
PO Box 973
Tualatin, OR 97062
(503) 692-3663

ESQ1 and SQ80 are tradmarks of Ensoniq Corporation.

ESQ–O–MATIC!!
ESQ'1/M Patch/Sequence Librarian
by ISLAND MIDI for Atari ST



- Includes 40 Original Patches (Vol.I)
- Prints patch sheets, directories
- Saves/loads full & single sequences
- Stores 3000+ patches on SS diskette
- NOW WITH FULL SQ–80 SUPPORT

• $39.95

"I would like to go on record as 'raving' about this product"
-Rick Hall, TRANSONIQ HACKER

ISLAND MIDI PATCHES (cass): Vol.I $16.95, Vol.II (new) $16.95, Both $30.00

ISLAND MIDI, P.O. Box 1102
Bayshore NY 11706
(516) 666–4167 (orders add $2.50 P&H)

6. How often should I have the disk drive cleaned?

7. If I would request an "ERROR CODE LISTING" would you send it to me?

8. Is there any chance that the 4X will be coming down in price in '89 so that we poor and starving musicians can afford to get one?

Last comment. Thanks to TH for the for all the info you carry from your readers and writers. Keep up the good work!!!!

Yours truly,
Steven T. Calewarts
Green Bay, WI

[Ensoniq's response - 1. & 2. We haven't received any reports about these two situations, but we'll be glad to look into it.

3. There is no way to copy sequences, you must play the Mirage sequence into the EPS while the EPS is in the sequence record mode.

4. OS updates are always an on-going project. A new OS is typically released when enough significant changes are made to the OS.

5. The VFX keyboard is simply a refined version of the original poly-key keyboard. We are constantly refining all of our products, including keyboard assemblies. The VFX does not use a "new" keyboard assembly.

6. We don't recommend cleaning the disk drive unless you are having erratic operation. There is no evidence that periodic cleaning is of any value and it may even damage the drive.

7. The error codes are for software development and won't really tell you anything other than the EPS has crashed. The only useful error messages are ERROR 144, which means that there is either too much MIDI data or that there is a problem with the poly-pressure keyboard, or an ERROR 18 which indicates a problem with the DOC II chip.

8. If RAM prices come down it will certainly affect the price of the ME-2, although there is no way of predicting the prices.]

Dear TH,

Since my **SQ-80** purchase last year, the Hacker is the most anticipated and enjoyed magazine I've read. However, I have a comment, suggestion, and question.

Comment - I bought my SQ-80 at Ace Music in Kettering, OH. Although I love the synth, I hate the support Ace gives me. My third keyboard was finally a workable, unopened synth (complete with warranty card). Furthermore, not one of the thousands of promised sounds have arrived for me to copy. Although I still would pick the SQ-80 over anything less expensive than a Synclavier, I sure could use more sounds. P.S. I don't even buy guitar picks there now.

Question - The reason I bought the SQ-80 is to program drum and bass (and rhythm and lead keyboard) parts to play my guitar along to. I call my music RAZZ (rock and jazz). I can control all aspects of my guitar in real time, but that leaves no hands or feet to control sequences (let alone individual voice) volume. Is there a way to record volume changes in the sequence such as fade in/out for individual voices or entire sequences?

Suggestion - If Ensoniq made all the MIDI stuff I need, I'd buy it all from them. But, they don't. Consequently, I need to go elsewhere for things like drum machines, dedicated sequencers, etc... and since there are so many different people doing different things different ways, it's all but impossible for one person to really know what's best for him/her without spending forever looking. So why don't you start another column (possibly titled "User Friendly Feedback") in which users (that's us) can let others know what we are using, why we use it, how we hook it up, how we like it, problems we've had, recommendations, etc... About everything from computers and software to MIDI cables and surge protectors. After all, the less money we spend (waste) on stuff that's really not what we want, the more we have to buy the real necessities (niceties) like the EPS-M and VFX MIDIed together!

Thanx and keep it up!
Bob Goering
WP AFB, OH

[TH - Actually, "The Interface" has always been open for this. We haven't actively encouraged this because we don't want to give up the space used for Ensoniq-specific discussions. But then, we've never turned anyone away either. (Please keep it short.)

(Some) dealers who open boxes are definitely a problem. We know that a lot of sample issues of the Hacker never seem to reach the end buyer... (Grrrrrr.)]

[Ensoniq's response - You can record volume changes into individual tracks using the CV pedal. Make sure that PEDAL = VOL on the MASTER page, then use the CV pedal to change the volume while recording the track.]

Dear TH,

I was looking at the **Mirage** external filter cut-off frequencies the other day and noticed that the cut-off jumps from about 20k to around 13k in one step of Parameter 93 (value 25 to 24). Thus it appears to me that when I am using sample times between 26 & 35 uS I am missing the appropriate input frequency cut-off values. When I had a look at the internal filter cut-off frequencies there is a graded range between 20 and 13k. I would be interested to know the reason for the limited range of cut-off frequencies for the external sampling filter and if this affects the performance of the system.

P.S. At this point insert fanatical rave about TH. Yes, the-mag-is-great-I-don't-think-I-could-live-without-it!!

Yours sincerely,
Scott Fisher
Perth, Australia

[Ensoniq's response - The internal filter is an analog 4-pole filter controlled by voltage, generated by an 8-bit D/A. It gives fine resolution over a wide range, but is not a "brick wall" anti-aliasing filter.

The ISF is a brick wall filter. The filter chip used has a built-in divider which offers a fixed selection of cut-off frequencies. Unfortun-

ROM MEMORY CARDS

D-50 D-10 NEW D-20 D-110

$40.00 each

The STUDIO SERIES™ 448 New and exciting voices now available on our seven different STUDIO SERIES™ Sound Blocks for your D10, D20, D50, D550 or D110.

Top 40 • New Age • PCM
Analog • Digital • Effects
Orchestral

Demo Cassette (specify L/A synth): $3.00 p/p in USA.
(Demo Features all 448 voices played individually!) (All other countries send $8.00 for demo.)

ESQ1 SQ80 ESQ M

Orchestral • Bass Guitars • Acoustic Pianos • Brass Percussion • Electric Pianos • WoodWinds • New Age Synth Sounds • Strings • Ensembles • and many more!

80 Voice ROMS **$25.00** ea.
160 Voice ROMS **$52.00** ea.
320 Voice ROMS **$99.00** ea.
80 Voice Percussion ROM **$30.00**

Please write or call the info line for complete voice listings.

TX81Z

Add new dimensions to your TX81Z or DX11!

only **$56.00** per format

757 New Voices! On Data Cassette or Mac™ 3.5" disk for Valhala's TX81Z program or Opcode's Mac program.

DX11 Owners, our TX81Z Voices are 100% compatible with the DX11!

M256 RAM CARDS for: D10, D20, D50, D110

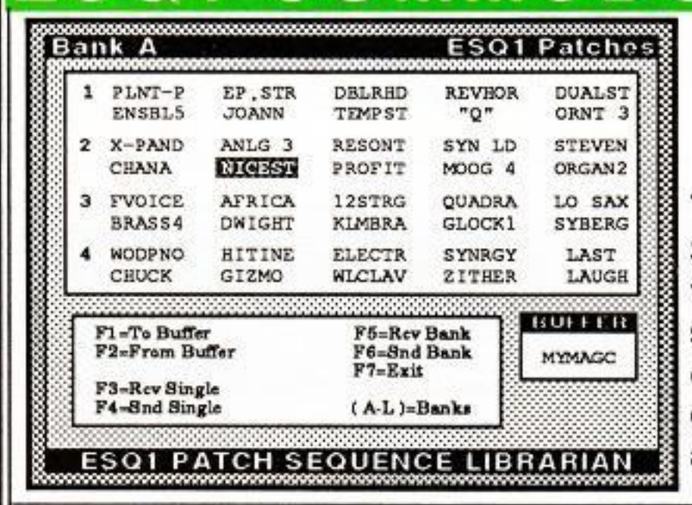
$55.00* each

*When purchased in quanities of 3 or more.

Buy 1 RAM CARD only $69.00
Buy 2 RAM CARDS only $65.00 each

For an additional $10.00 per RAM CARD you can choose any one of our seven D-50 Sound Blocks, or any one of our seven D10/20/110 Sound Blocks from our STUDIO SERIES™ to be loaded onto your RAM CARD at the time of purchase from Valhala. Indicate synth the RAM card is being loaded for.

ESQ1 COMMODORE 64 SOFTWARE



ESQ1 Patch/Sequence Librarian

only **$65.00**

The ultimate storage program for the ESQ1 and C64! Simultaneously holds all of sequence memory (up to 32K) and three banks of voices in computer memory for instant access or simultaneous access of up to 12-banks of voices at one time for easy swapping/viewing. Permits single/bulk sends and receives. Stores up to 1560 voices per diskette. Stores single or all sequence memory (up to 32K seq. storage) to disk.

In summary, the ESQ1 program is a well-written and useful program. - **ELECTRONIC MUSICIAN** -

Valhala's ESQ1 program proves that even a 'dinosaur' like the C64 can be more than adequate for purposes such as this when the software is intelligently written. - **TRANSONIQ HACKER** -

DX7 SPL™	$29.00
TX81Z/DX11 SPL™	$25.00
ESQ1 SPL™	$25.00
ESQ1 Bible™	$19.00

Each Sound Patch Library™ has 757 new & very useful patches. Voices range from traditional acoustic instruments to New Age sounds. The only comprehensive library of sounds in printed form. The ESQ1 Bible™ will help novices to enhance their voice programming skills, and it even includes 40 patches explained.

For info requests, voice listings, assistance or to check on the status of an order call:

1-313-548-9360

Our toll-free number is for the placing of Visa or MasterCard Orders ONLY (No COD's). When calling have your card number ready along with the expiration date.

VISA

ORDERS ONLY call:
1-800-648-6434 ext. 506

MasterCard

SHIPPING/HANDLING

Mail-Orders, write down product wanted and include correct S/H fee and tax if in Mich.

Continental USA $3.50 S/H; 2nd Day UPS $6.00. Mich. res add 4% tax. Alaska, Hawaii & Canada $12.00 S/H. All others $16.00 + $3.00 for each additional item ordered. All foreign payments must be in USA FUNDS drawn on a USA bank. All ChargeCard orders under $15.00 subject to a $2.00 Service fee.

VALHALA Box 20157-TH Ferndale, Michigan 48220

Specs/ prices subject to change without notice. Studio Series (in reference to Memory Cards/Synthesizer Voices) is a trademark of Valhala Music, Inc.. This ad and text Copyright ©1988 VALHALA Music, Inc. Macintosh is a trademark of Apple, Inc.

ately, it does not provide much resolution between 20 kHz and 13 kHz. Realistically, this is not much of a limitation as the Mirage output frequency response does not extend to 20 kHz.

The higher sampling rates and cut-off frequencies are primarily to avoid playback aliasing by eliminating excessive high-frequency energy without unduly filtering the high-end which would naturally happen with a lower order filter.]

Dear Hacker:

I've often heard rock stars criticized for achieving their success and then forgetting the "little people" who helped put them where they are. Do you think this could apply to other success stories as well?

When I bought my **ESQ-1** over a year ago, I immediately subscribed to your magazine. Sam Mims offered a clever combination of expertise and style in his writing, and many articles provided valuable information about my instrument. I was really impressed. In recent months, the ESQ-1 has had to make way for newer products that demand your coverage (as the Mirage made way for the ESQ-1).

When I bought my ESQ-1 over a year ago, I called Ensoniq and got a courteous and helpful reply to my questions. I was really impressed. In recent months, I've written them two letters with no response, and I called them for three weeks without being able to get through their indefinite "holds."

I'm glad to see the Hacker expanding and doing so well. However, it's of no more use to me now than any other keyboard-oriented magazine. I'm glad to see Ensoniq getting the recognition it deserves for quality products. However, when I decided I needed a sampler, a Roland rep spent almost two hours answering my questions; I chose their S-50 over the EPS.

The times they are a-changing.

Sincerely,
Denny Witt
Bloomfield, NJ

[TH - Well, yeah, they do change. But there's nothing sinister or hoity-toity about it. We don't consider the ESQ to be "the little people" and it's not our "success" that makes our coverage drop off for the older instruments and pick up for the newer ones. There's just not a whole lot of people interested in writing about the Mirage anymore. We do have (and still receive) occasional articles - and they'll show up here. The ESQ coverage is still fairly robust. Sorry if you don't think it's worth the $2 per issue. It's really been about level for the last year. (We actually didn't expect to see your letter till sometime next year... If only you'd gotten the EPS instead of the S-50. Now you're stuck with Roland's 'zine.)]

[Ensoniq's response - We are a small company with a very active and multifaceted customer service department. Due to the costs involved, it would be impossible for Ensoniq to staff up to a high enough level to answer every call immediately. Generally, phone calls receive more immediate attention than letters and the response time for some letters may be quicker than others. Our normal business hours are 9:30 am to 6:30 pm Eastern time, Monday through Friday. Since we receive calls from all over the country, you would tend to have better results by calling before 11:00 am since the rest of the country is less active during this time of the day.

While it may seem impossible to reach us at certain times of the day due to a high volume of calls, we feel we have the most accessible customer service department in the industry. Our customers are very important to us, and if you have been unable to get through, we apologize.]

Dear HACKER:

My **EPS**, serial number 10564, has been a wonderful upgrade from my previous Mirage and ESQ1 combination. Being the "early bird," I managed to "trip" over a lot of the early operating system problems as I attempted to generate a working base of severely edited samples that would allow me to effective orchestrate multiple instrument sounds using rather limited memory, a compromise that I no longer think much about with my ME-2 expander. I have, however, collected my share of problems and questions:

1. My EPS is quite noisy on the output channels, seemingly worse with the OEX-8 attached. The noise is typical of noise gates staying open after the signal dies away and is most pronounced with the digital bass sounds. Additionally, the noise will move to selected outputs progressively as more alternate notes are played leaving the unused outputs or mains dead quiet. With several channels playing orchestrated material the residual noise in the mix is quite noticeable. I am suspicious the sound Is DAC noise reminiscent of early DX7 architecture. The EPS-M, which I note uses the same 7077 DAC as the EPS, is quiet by comparison. I hear that the EPS-M does 16 bit output processing instead of the 13 bit used in the EPS. Can you clarify the situation for me and tell me if my EPS is in need of repairs or alteration?

2. I am problemed with frequent EPS crashes where the display shows random strings of single characters and the machine locks. The failures appear to be related to static electricity, however, the problem is quite sporadic though it prevents me from relying on the unit for live performance. The local technician has soldered the board connecting plug terminals, which apparently were crimped and supposedly causing miscellaneous problems, however, the machine still crashes periodically. The September 1988 issue had something about memory expanders and fuses causing failure of units with serial numbers below 11580. Is this the same problem and how do I arrange the fix?

3. Can the EPS somehow limit the minimum number of voices for individual Instruments to eliminate or, at least, reduce the obvious problems with sample decay cutoff and unpredictable voice shortages during orchestration of multiple instruments? My understanding is the EPS assigns voices on a last used basis which is all right but not particularly good for percussion and sustained melody line notes "dangling" through an

THE MUSICAL EPS!

Introducing the #1 sounds for the #1 sampler—
—the KEEL EPS Sound Library

More than just a sample.
Every KEEL EPS instrument begins with a set of the sharpest, cleanest samples you'll ever hear. Direct to the input of the EPS. **Not retreads** from another machine, like some of our competitors.
But that's only the beginning. Next comes loop smoothing, EQ, and other digital signal processing, via state-of-the-art computer software like **Turbosynth™ , Alchemy™,** and **Sound Designer™.**
Finally comes the programming. Every parameter, layer, and patch variation painstakingly tweaked to get the most out of the powerful EPS architecture.
The end result is a disk full of usable, above all, **MUSICAL** sounds.

Best selection, best support.
The KEEL EPS Sound Library includes all of the instruments you need for **your** music. 50 jam-packed disks right now, and more coming every month.
Our detailed catalog runs the gamut from Accordion to Xylophone: **keyboards, winds, strings, guitars, bass, synths, ethnic instruments,** and all manner of **percussion.**
KEEL instruments come in every shape and size, from a 186-block **Tuba,** to the 1400-block **Steinberger™ Bass Deluxe.**
Many are available in versions for expanded memory as well as standard.

AND we provide total user support, from a comprehensive manual and performance tutorial, to detailed instructions for modifications **you** can make to tailor each instrument for **your** individual needs.

Unbeatable value.
Prices range from $15 per single disk, to as low as $10 per disk in quantity. Here's what you get:

- over 1300 blocks of data on every disk
- 5 - 8 layers and 4 performance patches, per instrument
- premium-grade, certified, double-sided disks
- laser printed labels and documentation
- **money-back guarantee**

KEEL PRODUCTIONS

BOX 467, LAKESIDE
HALIFAX CO., N.S.
CANADA B0J 1Z0
(902) 852-2931

Catalog free. Send $8 for trial disk, $5 for demo tape, both for $10.
HACKER SPECIAL: mention this ad with enquiry, get $10 off first order over $50.

arrangement. It would be useful to ensure instrument notes on say a low note priority basis for an instrument. The present arrangement seems a little too random. Careless playing of piano like instruments, particularly where multiple layers are involved, can interfere drastically with percussion and sustained material. This seems like a significant limitation for a machine with this kind of multitimbral polyphony.

Can you tell me also, how does the EPS assign voices across the Instruments? Is the assignment strictly time based and, if so, how does the machine resolve the maximum simultaneous allocation with respect to the eight instruments?

4. On a lighter note, pun intended, I want to comment on the keyboard for the EPS. My EPS came with the same unusually lightly sprung keyboard as was found on the early SQ-80 machines. The Mirage springs are, by comparison, much stiffer with a higher rate and appear to be used in the identical fashion though the equivalent keys on the EPS are slightly longer. My point is that installing a set of Mirage springs in the EPS in place of the factory ones has substantially improved playing feel - though I personally would prefer even stiffer springs. Somehow, I recall a considerable amount of discussion of the softer keyboard which Ensoniq claimed was necessary for the "polykey" feature. My EPS seems to work quite all right this way.

5. I am surprised with the introduction of the EPS-M rack mount. Had I any forewarning on this subject I would have chosen the EPS-M for large memory multi-output applications rather than upgrading my EPS. Now I have trouble justifying the duplication though I feel the need for more polyphony. Perhaps the duplicate configuration was the only logical alternative given design costs, however, I would have preferred an EPS compatible rack mount sample player with dual stereo outputs and effect mix inputs. The ME-2 version of the EPS provides quite enough sample variety for typical orchestration but twenty voices can be pretty limiting.

6. Why is MIDI input to the sequencer restricted to a single instrument in OMNI mode only? Why not multiple channels feeding multiple instruments or, at a minimum, why could we not see instruments like my OCTAPAD feeding selected instruments while in MULTI mode?

7. I've read the variety of literature on SCSI devices relative to the EPS, however, I'm confused with respect to the ATARI ST computer, which I understand has a SCSI compatible DMA port. Does the DMA function like a SCSI and, if so, how can I cable the ST to the EPS and SCSI hard-disk? If it isn't, is there any way to connect the ST into the scheme and is there any software for the ST specific to the EPS that uses the SCSI? Can somebody out there clarify the ST situation?

Enough technical stuff for now! I find your publication invaluable and look forward to successive issues. Thanks too for the (First Class) mailing option. Considering that I live only a short mailing distance from you, I find it incomprehensible that my HACKER came to me via such a circuitous route as England!

Again, thanks for the opportunity to write.

Sincerely,
Stan Morasch
Calgary, Alberta

[TH - The DMA port on the ST is not actually SCSI compatible. But - there are several adapters available that will convert it to SCSI (check any ST magazine for ads). With one of these you could theoretically daisy-chain a bunch of SCSI devices together, but, at this time, there really isn't any ST-EPS software that would allow you to do anything. If anyone knows any more about this, please write.

Regarding the circuitous mailing; we use an international mailing house that remails out of England. (This is at about half the price of using the USPS. This is what keeps our international rates from being even higher than they are now.) This same mailing service handles Canadian mail the same way - at much less than going directly. (Some centuries-old agreement between England and Canada...) It's only supposed to add a few days, but, you know how that goes. Hence the First Class Option. Glad you like it.]

[Ensoniq's response - 1. You may need to contact your nearest Ensoniq Authorized Service Facility to see if they can correct the noise problem. The EPS and EPS-M are identical in their data handling: 13-bit samples are processed with 16-bit resolution and 24-bit filtering, then played through a 25-bit floating point output conversion.

2. You should seek the assistance of the local Ensoniq Service Facility about this point as well.

3. Although different voice assignment methods can minimize voice stealing problems in different situations, when you're out of voices, you're out of voices. One of the reasons for the extensive MIDI capabilities of the EPS is for incorporating external MIDI devices for greater polyphony. We are always looking for improved solutions to this issue and welcome your comments and suggestions.

4. We are glad you are happier with your modified keyboard. Keyboard feel is a matter of personal taste. Unfortunately, we can't offer a variety of different spring values as we do not actually manufacture the keyboard ourselves.

5. The EPS-M was produced only after a large number of requests convinced us it was a viable product.

6. The sequencer can only record one track at a time. Recording multiple independent tracks simultaneously is too complex at this point in time.

7. The EPS SCSI hardware and software are designed to work with Apple-Macintosh compatible SCSI devices which are self contained. We don't know if the ATARI SCSI port is compatible and even if it is, we don't know of any ST software which is designed to communicate with the EPS over SCSI.]

Dear Transoniq Hackers,

I am curious. Is Ensoniq going to do anything to fix the glitches in the pitch table editing capability mentioned in Robert Rich's review

REMOTE CONTROL™:

The Remote Control line of products all have the following features:

- User-friendly commands
- Context-sensitive help
- Keyboard macro support
- Free product support
- Mouse and Printer Support

REQUIREMENTS:

- MPU-401 (or compatible)
- IBM PC/XT/AT (or compatible)
- 256K of RAM

GEN

A general patch librarian for any MIDI device.

- Programmable librarian
- Up to 23 banks of data from multiple MIDI instruments or devices
- $99.29 suggested retail

ESQ

A patch editor/librarian for the Ensoniq ESQ-1, ESQ-M, and SQ-80.

- Graphic patch editor • Sequence librarian
- Up to 26 banks in memory at once
- EPS and Mirage librarian support added
- $89.95 suggested retail

Brochure and demo disk available on request. M1 version available too. All of the Remote Control line of products are **NOT COPY PROTECTED!** ***DEALER INQUIRIES INVITED.***

CMRG

(All brand and product names are trademarks or registered trademarks of their respective holders.)

C&M RESEARCH GROUP, 302 RIDGEHAVEN PLACE, SAN ANTONIO, TEXAS 78209-3424
(800) 289-CMRG (Orders) • (512) 826-0721 (Support) • (512) 826-0659 (Modem)

of *"Tuning In: Microtonality in Electronic Music"* in the March 1989 issue of the *Hacker*? Is there room left in the operating system?

Also, there was a great additional, *"Perspectives Between the Keys,"* in the January, 1989 issue of *Music Technology*, which contained a list of recommendations to be made by the Just Information Network to the International MIDI Association and individual MIDI manufacturers. The six recommendations were:

- Any instrument that can be tuned, should be tuneable.

- Tuning resolution should be consistent throughout the range of the instrument.

- Any MIDI note should be tuneable to any frequency.

- A real-time tuning change should not cause glitches or note-offs.

- Tunings should be switchable via MIDI.

Anyway your (our) magazine is great, thanks. And I am enjoying my **EPS** a tremendous amount. Any more tutorials would be greatly appreciated.

Sincerely,
Phil Rogers
Ann Arbor, Ill

[Ensoniq's response - The resolution is limited by the storage capacity allotted to pitch tables by the OS. There is no more room to add additional features.

- All instruments can be tuned. It's a question of whether there is enough code space in the operating system to allow alternate tunings.

- Consistency of the tuning resolution is not always possible as it is set by the hardware. It would be necessary to implement the lowest resolution if this rule were adhered to.

- It's not always possible to prevent glitches or note-offs since a voice may need to be restarted when the pitch is changed.]

Dear Transoniq Hacker,

I am a novice keyboardist and own a **Mirage** DSK (I'm only 15 years old). My friend owns an **ESQ-1** and he said that it's possible for him to send ESQ-1 sounds to the Mirage via MIDI and then they can be copied on a disk. I have purchased MASOS, but either this is not what I need to accomplish this or I don't understand it. How can I copy the ESQ-1 sounds on Mirage disks to be used on the Mirage or is it even possible without sampling? Thank you very much.

Justin Hill
Rexburg, ID

[TH - You can't actually send the ESQ sounds via MIDI to the Mirage. You can send the patch data so it can be stored on the Mirage disk (for later playback - on the ESQ). In order to play the actual ESQ sounds on the Mirage you'd have to sample them.]

[Ensoniq's response - Yep.]

Dear Hacker,

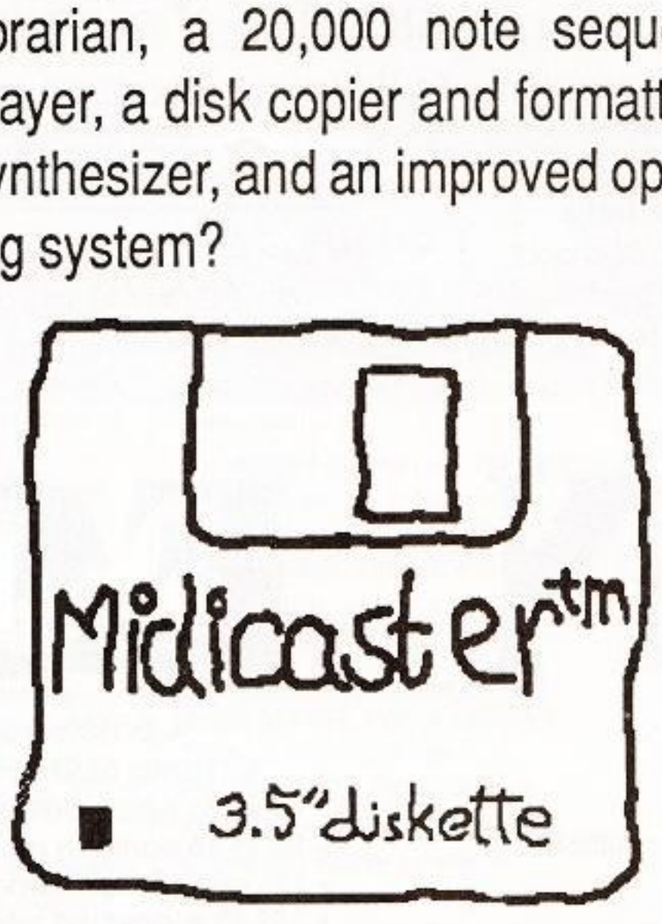
I'd like to request more articles of the likes of Gary Dinsmore's Seventeen Things to do With Envelopes that appeared in your April issue. I believe that the envelopes, modulation and routings are one of the most exciting features of the **EPS**, but also (at least in my case) one of the least understood. I could tell that Gary's article, as interesting as it was, only began to scratch the surface of the abilities of the EPS's controls.

Now, I do have something to offer the readers as far as a tip, but I unfortunately cannot explain why it works the way it does, but I enjoyed the result! While I was tweaking the stock Tenor Sax patch to enable me to perform pitch bends via aftertouch (I needed my left hand to play something else, so the patch select switches/pitch wheel were left out), I ended up creating a patch that would create two different aftertouch modulations depending on the style of playing! Let me explain - since the sax instrument is monophonic, hitting one key and then another without releasing the first key would cause the second note to sound, and aftertouch at this point would control vibrato. If I would release the first key before hitting the next key, aftertouch would be controlling pitch! This was done by setting the pitch modulation to press * 12 editing all wavesamples of layer 1 (edit pitch page 7) and turning lfo off (edit LFO page 7). Although it may seem a little awkward to play at first, this patch opens up some interesting performance possibilities. So there you have it, but I can't explain it! How about it - can someone offer me an explanation? Certainly I'm not the only one to run

---

Q: If you own a Mirage, what's the cheapest way to get a system exclusive data librarian, a 20,000 note sequence player, a disk copier and formatter, a synthesizer, and an improved operating system?

A:



Midicaster is an amazing new alternative to your current Mirage, Mirage DSM, or Mirage DSK operating system. With Midicaster, you can save sysex data (synth sounds, sequencer dumps, drum machine data, etc.) directly to Mirage diskettes. And you can load it back into those same Midi devices without disturbing the sounds loaded into your Mrage! That's right - unlike with other operating systems, there's no need to re-load your Mirage after data transfers when you use Midicaster.

Midicaster also now includes a 20,000 note sequencer download function that allows you to record 16 channel MIDI sequences from your master sequencer directly into the Mirage, making the Mirage a portable "jukebox" type of sequence player. And the new "wave draw" function can teach your Mirage a couple of new tricks - namely, how to be a synthesizer.

Midicaster noticably speeds up a number of normal Mirage functions, so you'll be saving time as well as money. Formatting diskettes with Midicaster is a breeze, and Midicaster is still one of the finest utilities available for backing up your important sound and operating system disks. As a matter of fact, Midicaster now includes so many new features that we have'nt got the space to tell you about all of them here. But we can tell you the price - $49.95 (by the way, we include a money-back guarantee). And it's easy enough to find out more. Simply ask us. We're the Midi Connection.

the midi CONNECTION
Clark Salisbury & Erick Hailstone
7280 S.W. 104th, Beaverton, Oregon
(503) 643-7286

across this??!

Sincerely,
Kurt Peterschmidt
Idaho Falls, ID

[Ensoniq's response - The sax sound uses the legato layer feature (page 46 of the AAG-1) of the EPS which allows you to trigger a different layer with legato (or connected) notes. The legato layer for layer 1 is layer 2, which means that hitting a key without releasing the previous one will trigger layer 2.

Simply performing the same edits to layer 2 that you did to layer 1 will cause both new and connected notes to behave the same.]

Dear TH,

We were not terribly amused by Bill Lewis's little diatribe (April '89). For starters, since he is affiliated with *Music, Computers, & Software*, it is perhaps not the best example of the "responsible journalism" of which he professes to be so enamored to have him making direct criticisms of his competition, especially in such inflammatory terms. If there were any substance to his complaints, then it would of course be responsible for him to make them. As it is, he is simply indulging in a childish display of bad manners.

He alleges that our March '89 issue was "a smattering of facts woven into a chronicle which proves the opinion of the writer" (italics in original). This is insulting, and entirely wrong. What we published was not "a smattering" of facts. We spent months gathering facts, and published just about every fact we could get our hands on. If anybody has significant facts not covered in that issue, or if any of the information we provided was in error, we'd like to know details, please. To date, only one minor correction has been required, having to do with the **EPS's** ability to save global parameters. We rectified that at the earliest opportunity, in our May Letters column. What's more, the facts we published were absolutely not selected or arranged so as to support any prior opinion. (I certainly wouldn't want to speculate that that's how they treat facts at *MCS*, but I will do Lewis the courtesy of assuming that he must have acquired his low opinion of music journalists through first- hand observation at some publication or other.)

The term "exposé" is inflammatory and misleading. At no time did we allege that any manufacturer was covering anything up, so there was nothing for us to expose. Is it shocking that the **Mirage** came in "dead last" in terms of sound quality? Not to anybody with even a cursory knowledge of digital audio.

Next, Lewis accuses us of "hiding" a cautionary note on page 140. I would agree that that note ought to have been placed at the beginning of the article (on page 24) rather than in the concluding paragraph. Perhaps, in light of the howls of protest we heard from Ensoniq enthusiasts after the issue appeared, we should have put the note on the cover, though I would have thought it so obvious as to not be worth mentioning at all, except pro forma. More to the point, at the time the article was being written, we had no idea whether it would have to be picked up in the back pages. We were not "hiding" anything. Lewis's complaint ("How many of you made it to page 140?") is self-cancelling: He certainly made it to page 140, so if we were attempting to hide anything from him, we failed.

The charts he mentions, on pages 30-35, did not include a "price/performance ratio" figure because performance is a complex and subjective issue, one not subject to mathematical formulation. The suggested retail prices of all the instruments are given in the chart, which should make it easier for Lewis or anybody else to arrive at his or her own personal price/performance ratios.

Michael Marans's sidebar on operating systems was not presented as "the definitive treatise" -- anything but. Marans said specifically, "While we didn't have time to master every nuance of every instrument...." He referred to the sidebar as "a quick look at the best and the worst." It is highly disingenuous of Lewis to criticize this short piece for failing to live up to an artificially high standard when we specifically disavowed such a standard in the article itself. Marans did learn enough about the differences in operating systems to allow him to make what we feel are valid comparisons in the area of keyboard assignment for playback. This is the area that was targeted as a topic in the first paragraph of the article. Marans did not use the LFOS, so the complexity of the EPS's LFO programming, and Lewis's ignorance of it, are red herrings.

The most insulting (and possibly libelous) assertion in Lewis's tantrum is this: "...my hat is off to the folks at GPI, they're in control of

MidiDisk MM

HIGH-CAPACITY GENERIC SYSTEM EXCLUSIVE STORAGE DEVICE

ROAD WARRIOR!

The IVM MIDIDISK.....Far and away the favorite MIDI storage medium for both top professionals and serious amateurs alike,..With its huge 128k buffer, lightning quick data transfer and convenient, sturdy 3.5" computer floppy disks. It beats tape storage hands down!...No more spending your entire break trying to reload for the next set...So, whether your next big gig is the local Holiday Inn or Carnegie Hall, let MIDIDISK help you smooth out the road to the top!

MILLENNIUM MUSIC PRODUCTS 22 S. Balsam St., Lakewood, CO 80226 (303) 239-6601. FAX: (303) 239-6559

Q-SPECTRUM
Nothing else even comes close

KEYBOARD Magazine: "Those of you who are looking for some incredibly fresh new sounds should check out **Q-SPECTRUM**. These people **really** know how to program the ESQ-1. Presented by Patch/Works Music Software, Q-SPECTRUM **speaks for itself**. In two volumes of 80 sounds each,the library has plenty of **innovative** and extremely useful sounds. These sounds are impressively **huge and lush**.The pianos,organs,and other emulative sounds have many of the **true acoustica**l features present in the real instruments. There are also **gobs** of interesting effects and synth sounds. These sounds are definitely upfront and very present -- without the ESQ cliches. It's obvious that the programmers took careful advantage of the programming capabilities of the ESQ. *If you're looking for some progressive sounds for your collection, the Q-SPECTRUM should make a great addition.*" -- Reviewed Jan.'88 (C) Reprinted with permission

If you don't have the Q-SPECTRUM™ sounds in *your* ESQ, you still haven't heard *half* of what it could *really* sound like --

Programming synthesizers is an ***ART*** as well as a science. You can have the same artistic edge as many top New York studios -- Patches by renowned programmer Jed Weaver, who has created fantastic full-***SPECTRUM***™ **professional** sounds so good, you may find it hard to believe its the same instrument.

Q-SPECTRUM™ -- **For the ESQ-1/ M /SQ-80** -- Sizzling, new sounds that will take you to new heights of performance. Two 160-voice sets full of ***all*** types of instruments -- **acoustic *and* synthetic** -- with special emphasis on superb keyboards. Great basses. Super strings. Real kick and snare. Fat analogs. Digital bells. And much, much more... The sounds critics have been ***raving*** about in reviews !

NEW PRICES!

160-voice ROM Cartridge -- Contains *both* Vols. 1& 2 or -new- 3&4 ! -- $69.95
160-voice RAM (E²) Cartridge -- As above but **fully programmable ! -- $109.95**
Data Cassette -or- **Disk** (SQ-80/ Atari ST [Omnibanker,Dr.T,self-load...] (160 sounds)
Volumes 1&2 -or- 3&4 -- **$44.95** All 4 Volumes! **Special!** (320 sounds) - **$79.95**
Blank 160-voice RAM (E2) cartridge (SQ-80 compatible)- **$84.95**

VISA ***ORDERS ONLY ! (800) 77-SYNTH*** MasterCard
All info and in NY State: (212) 873-2390
Hours M-F 10-7 Sat. 10-2

SATISFACTION GUARANTEED !

To Order: Send check or money order. Call for COD. Specify product/volume. **Add $3.00** shipping/handling. Foreign orders (US$ only)$5.00.NY State residents, add tax. Please print clearly. Write for voice lists. ESQ/SQ80™ Ensoniq. D50™ Roland. 81Z™Yamaha. CZ™ Casio. Contents (C)1989 Patch/Works

Patch/Works
MUSIC SOFTWARE

Box 450 Dept. TH New York, NY 10024 (212) 873-2390

their readership. I'll paraphrase the comments: 'Gee, I was going to buy an Ensoniq sampler, but after I read the *Keyboard* report..'" In other words, he is alleging that we wrote our March issue intentionally in such a way as to reduce the sales of Ensoniq products. I can think of no conceivable reason why we would do such a thing; it would represent a complete reversal of everything that *Keyboard* has always stood for. It was grossly irresponsible of the *Hacker* not to insist that he supply evidence for such an outrageous claim.

Lewis is correct on one point: We will happily admit that we're not the last word, on samplers or anything else. As he points out, there is simply too much information floating around for any single publication to synthesize it all into a form that would be adequate for all readers. This is why publications like the *Hacker* perform an invaluable service. You provide detailed information for a specialized readership in a way that we cannot. We provide as much in the way of insight as we can, but it is naive (dangerously naive, I would say) for Lewis to expect any magazine, or any other form of mass media, to relieve him of the burden of arriving at his own insights. of course some magazine readers fall into the trap of expecting this. Unhappily, we cannot write our publication in such a way as to insure that nobody ever misunderstands anything we say, or takes our statements to be something that they are not. If we tried to do this, *Keyboard* would be so filled with cautionary disclaimers as to be unreadable.

We will claim, however, to be both thorough and impartial. Lewis himself fails to live up to this standard. He is not thorough in his evaluation of our March issue, but highly selective. Nor is he impartial. The reason for his broadside, transparently, is that he is disturbed that the Mirage and EPS fared so badly in our tests. To be frank, we were disturbed by the same thing. We went to a good deal of extra trouble to insure that the Ensoniq samplers weren't being treated unfairly. But we did not design or manufacture the instruments, so we cannot be held accountable for their failure to perform well enough to meet Lewis's, or anybody else's, expectations. In the last analysis, we are simply the messengers who bring bad news. It's ironic that Lewis addresses not one word to Ensoniq's engineers, neither to defend their efforts nor to ask why the EPS has supersonic components in its output, greater-than-average residual noise, and high THD+N at lOkHz. Does he not understand the technical issues? or does he think that if he hides his head in the sand, the problematical aspects of the instrument's sound will go away?

I hope nobody will read this response as an attack on Ensoniq or its products. The EPS has some of the most advanced programming and performance features on the market, the SQ-80's control layout makes it an ideal master keyboard for a MIDI rig, and no company has ever challenged the Mirage's unique position in the market. We'd simply like to set the record straight. Thanks for allowing us to do this.

Jim Aikin
Senior Associate Editor
Keyboard

[TH - Jeeze, after four years we publish one

tiny little inflammatory editorial and look what happens.

Actually, the editorial was clearly marked "Guest Editorial" and it was restated in Front Panel that this was "one journalist's opinion." We're a pretty open forum here, and we're sure Bill can defend himself, but - there are a few items in your letter that we feel that we should comment on. (Bill's comments, if any, will follow.)

Taking things approximately in order; first, Bill's affiliation with MCS *was clearly stated in the bio accompanying the article. (And, on the same page!) We left it to the readers to decide whether this makes him more or less qualified to be making judgments on how magazines present their facts. Bill also mentioned to us that his relationship with* MCS *was finishing up. The timing wasn't too clear to us at the time (so we used our existing bio), but what was clear was that he'd be long gone before* MCS *reaps the bodacious benefits from his editorial. He was writing as an EPS user who also has a music-journalist background.*

Regarding "smattering" - this is a subjective area we'd just as soon avoid, and we certainly agree that Keyboard covered an awful lot of territory in the article, but we believe Bill was just taking it in comparison to the really tremendous amount of information there is out there on all these machines.

Regarding "exposé" - just to be sure, we looked this one up, and still can't figure out what's "inflammatory" about it. If we had to pick, the words "diatribe" and "tantrum" would certainly seem more inflammatory.

Lewis's complaint ("How many of you made it to page 140?") is certainly not "self-cancelling" in any logical sense. He is merely pointing out that a lot of people will look at the charts, etc., and won't make it back to the tail end of the article. He didn't say "nobody" would see it there. Yes, THAT would have been illogical.

About GPI being "in control of their readership" - actually, we had a little debate with Bill regarding this, but it certainly wasn't because we felt that this was saying "in other words" (or in ANY words) that GPI was INTENTIONALLY trying to reduce Ensoniq sales. This thought really never crossed our minds. (Which is why we didn't ask him to substantiate this "outrageous claim." He didn't make this "outrageous claim.") What we found objectionable (and how we believe Bill meant it to be taken) was what it said about the READERS. (And, yes, unfortunately, we have seen evidence that a fair number of readers did react that way.)

We think that that's really the point of the whole thing. The people who are reading this type of overview article with the idea of making a purchasing decision don't KNOW all the in's and out's and if's. This is why in most publications you'll see some sort of summation with "price/performance" or "overall value" with little bar charts or the like. When this is missing a lot of readers will tend to "read this into" some other (probably less appropriate) parameter. You yourself still consider yourselves to be "the bearers of bad news." That's the whole point - the Mirage (and the EPS) do enjoy (as you said) a "unique position in the market." There's a reason for that - the overall evaluation of THE MARKET is that these machines are a good value. It seems like your own interpretation of your own article is at odds with this.]

[Bill Lewis - Methinks Jim doth protest too much.]

Dear Ensoniq,

I'm a proud **ESQ** and **EPS** owner. I must say the ESQ is the best sounding and easiest programming keyboard I've ever owned. Its versatility in sound enabled me to sell my other keyboards and never give up a thing! I have spent hundreds of hours programming and expect this to be my "main board" for life. This is why I beg you to keep the ESQ/SQ-80 legacy alive! The ideal upgrade for me would be an SQ-80 with digital effects, 16 voices, and whatever else would be needed to reproduce the "M1" sound. Yes, I've heard the VFX does this and it does peak my interest. However, I look forward to bringing my huge ESQ library into a new era. They would be the building blocks to which I could add the finishing touches. Please! I know my fellow programmers will agree. Don't make us start from scratch.

Sincerely,
Jim Symonds
Portland, ME

[TH - We suspect that the main tradeoff in keeping patches upward compatible (as opposed to, say, samples) is the severe restraints this would impose on the new design.]

Soundprocess™

Turn Your Mirage into a Digital Synth

- *48 Multi-timbral sounds per bank*
- *Midi Volumn Control*
- *Software only/No Hardware*

Limited Offer...

Soundprocess Operating System
$149.00

* California Residence add 7% sales tax

Triton P.O. Box 160493 Cupertino, CA 95016
(408) 253-8547

TRANSONIQ HACKER

1402 SW UPLAND DR., PORTLAND, OR 97221, (503) 227-6848

BULK RATE
U.S. POSTAGE
PAID
PORTLAND, OR
PERMIT NO. 913

FORWARDING AND RETURN
POSTAGE GUARANTEED

SUBSCRIPTION MATERIAL
DATED MATERIAL - TIME VALUE

Publisher: Eric Geislinger
Editor: Jane Talisman
Staff: Erica Gullixson

Our (somewhat regular) illustrious bevy of writers includes: Craig Anderton, Chris Barth, Michael Carnes, Dave Caruso, Walter Daniel, Gary Dinsmore, C. R. Fischer, Steven Fox, Bryce Inman, Jim Johnson, Duane King, Bill Lewis, Dick Lord, Kenn Lowy, Sam Mims, Clark Salisbury, Jordan Scott, Mick Seeley, and Don Slepian.

Copyright 1989, Transoniq Hacker, 1402 SW Upland Drive, Portland, OR 97221.
Phone: (503) 227-6848 (8 a.m. to 9 p.m. Pacific Time).

Advertising rates: Please send for rate card.
Rates for authors: Typically 4 cents/word upon publication.

Subscriptions: 12 monthly issues. US: $23/year, All others: $30/year. Payable in US funds.

Transoniq Hacker is the independent user's news magazine for Ensoniq products. Transoniq Hacker is not affiliated in any way with Ensoniq Corp. Ensoniq and the names of their various products are registered trademarks of the Ensoniq Corp. Opinions expressed are those of the authors and do not necessarily reflect those of the publisher or Ensoniq Corp. Printed in the United States.

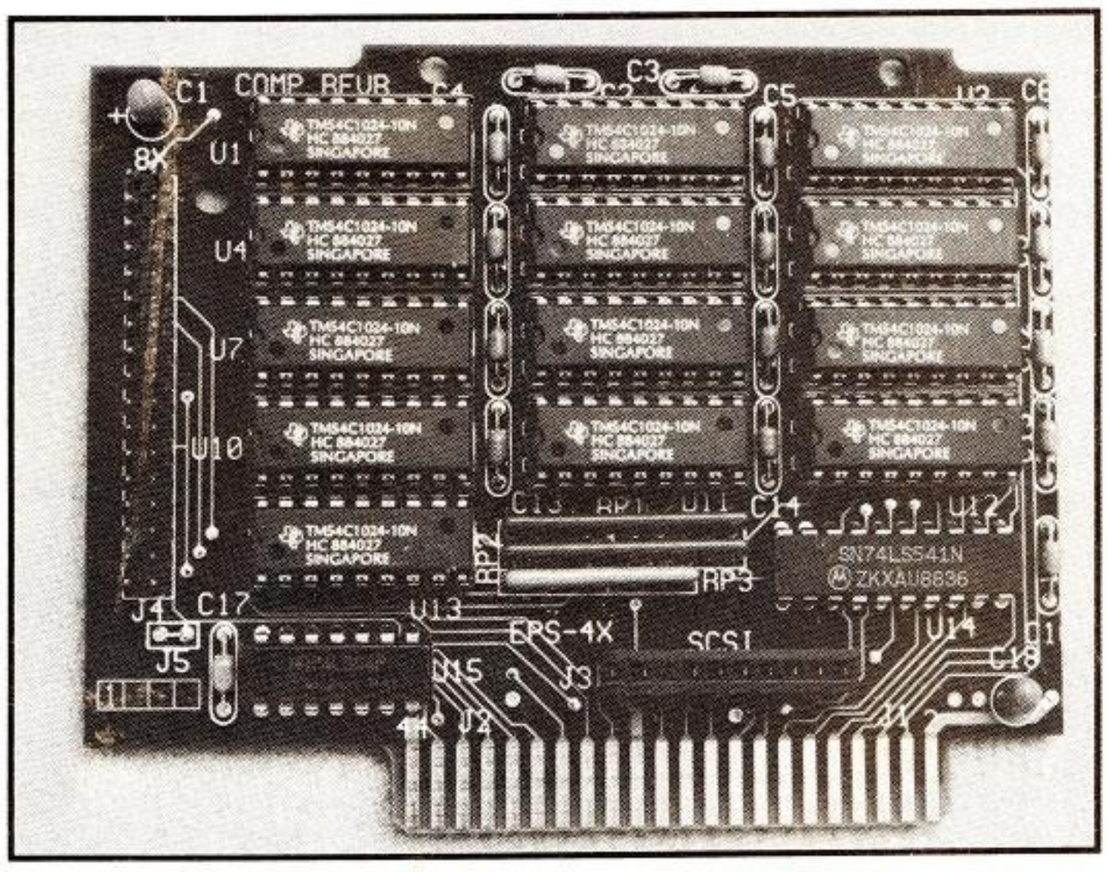
PS♩ SYSTEMS

Music Technology Products

EPS-4X Memory

The 1st 4X memory expander for the Ensoniq EPS

$895.00 - Suggested Retail



- 1 full megaword of sampling memory
- 1 year full warranty
- Ultra low EMI noise 4 layer board design
- Approved by Ensoniq
- Highest quality construction
- Fully burned-in and 100% tested
- Shipment from stock

For purchase, contact your local dealer.
Dealer Inquiries Invited

9747 Businesspark Avenue
San Diego, CA 92131
Phone: (619) 578-1118
FAX: (619) 578-8851
Toll Free: (800) 446-8404