TRANSONIQ HACKER

The Independent Newsletter for Ensoniq Users

NOT FADE AWAY

By Clark Salisbury

One of the questions that comes up time and again in my conversations with ESQ-1 owners is "Is there any way to control the volume of each of the two sounds in a split or layered program?". Well, I can think of a couple of ways right off the bat, so let's talk about it a little bit and see where the discussion takes us.

First off, to understand how volume is controlled in the ESQ-1, one must first have at least a general idea of what the DCAs do. You see, each oscillator in the ESQ is connected first to its own DCA; from there the outputs of the DCAs are summed and sent along to the filter and the final DCA (DCA 4), then on to the audio outputs.

If you will remember from previous discussions, the DCAs are in charge of volume and volume changes over time. In other words, if you want to hear the output of one of the oscillators, you must increase the level of the DCA that it is connected to. And there are a couple of different ways to do this.

The easiest way is to simply increase the value of the manual level setting (upper row, left hand corner on the DCA page) until the desired volume is reached. The other way is to use a modulator (such as an envelope generator, LFO, mod wheel or some such) to control the level of the DCA. This second method is a bit more time consuming from a programming standpoint, but it is much more flexible in that it allows dynamic control of the DCA's output. And by combining elements of both methods, the highest level of control can be achieved.

Here's an example. Let's say that you want to layer the DIGPNO patch with WAVBEL patch, but you want to be able to control the mix between the two sounds on the fly. First, let's determine what type of controller we'd like to use as a mix control. A couple of options present themselves here. One would be to use velocity to control the mix. You could set things up so that the harder you play, the less of one sound you'd hear (say, the WAVBEL sound for example), and the more of the other sound you'd hear (perhaps the DIGPNO). Another choice would be to use the pedal controller that Ensoniq sells - I think it's called the CVP-1. (By the way, the pedal is a great gizmo to have around for doing this kind of thing. For a measly 29 bucks I can't believe more of you don't have them.) The third option, and the one we're going to try out now, is to use the mod wheel for our mix control. Why the mod wheel, you ask? Well - it's handy, I know all you guys have one, (except for those of you with ESQ racks plugged into Roland or Oberheim gear - oh well), and I figure you don't really need it for anything else in this particular patch (you can live without the squirrely vibrato on your digital piano and wave bell sounds, can't you?). Right. So let's get started.

Our first step is to determine which of the two sounds in our layer we would like to have fade out as we rotate the mod wheel, and which one we want to have fade in. I'd suggest fading out the DIGPNO sound and fading in the WAVEBEL sound, but you could just as easily do it the other way around.

First, let's kill the mod wheel-controlled vibrato so that our DIGPNO sound doesn't get all wiggly every time we try to fade it out using the mod wheel (I just hate wiggly DIGPNOS, don't you?). This is most easily accomplished by selecting LFO 1 (which happens to be the source of the vibrato in this case), select "MOD=" (press the soft

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button underneath the word "WHEEL") and use the data slider or up/down buttons to turn it off. This disconnects the mod wheel from LFO 1, and if all is working properly you should find that moving the mod wheel now has no effect on the sound.

Now let's start setting up the fade on the DIGPNO sound. Take a look at what each of the three DCAs are doing. On my preset, DCAs 1 and 2 are set to full on (a value of 63), and DCA 3 is set to a value of 51. Now we'll need to assign the mod wheel as a controller for each of the three DCAs. Select either of the two modulation inputs at the bottom of the DCA page (by pressing the "soft button" directly below it), and using the data slider or up/down buttons, select "WHEEL". Now that we've selected the mod wheel as a controller for this DCA we'll need to specify how much effect we want the mod wheel to have on the DCA's output. So our next step is to assign a value for the modulation amount. Since we want our DIGPNO to fade out as we move the wheel forward, we'll have to assign a negative value here; we want the mod wheel control signal to be subtracted from the overall volume set at the DCA, not added to it.

If we want to fade the sound completely to 0, we could use a value of -63 for each of the mod inputs to the three DCAs, but this will present us with a problem. The DIGPNO sound will fade out so quickly when we push the mod wheel forward that it will be difficult to hit an area in the middle of the wheel's range that will give us an acceptable blend of the DIGPNO and WAVBEL sounds once they have been layered together. I found that a value of around -30 seemed to do the trick pretty well. Experiment with a few values - see what you think. If you use -30 as the mod amount for each of the 3 DCAs, you won't be able to fade the sound completely to 0, but when the WAVBEL sound is layered on top you can fade the DIGPNO out enough so that it is virtually inaudible.

Anyway, if all has gone well you should find that the DIGPNO fades out nicely as you move the mod wheel forward. Oh, one more thing. Hit the DCA 4 button, and set the value for "MOD = ENV 4" to 63. This will bring the DIGPNO sound up to its maximum volume, and you may need that little extra bit of gain when layering it with the rather loud WAVBEL sound.

Now we want to work with the WAVBEL, so store the edited DIGPNO somewhere in the ESQ-1's memory so that we can edit the WAVBEL without losing the changes we've made to the DIGPNO sound. We're basically going to do the same type of modification to the WAVEBEL, but in this case we want it to fade in rather than fade out.

First, as with the DIGPNO, we need to kill the mod wheel-controlled vibrato. Go into the LFO 1 page, and change "MOD=" from "WHEEL" to "OFF". You'll also find that the wheel is controlling LFO 2, and that LFO 2 is used as a modulator for DCAs 1 and 2, causing the tremolo effect to become more pronounced as the wheel is moved forward, so turn off the wheel to LFO 2 as you did for LFO 1. Now we're ready to start working on our fade in.

Take note of the manual levels set for each of the three DCAs. DCA 1's level is set to 47, DCA 2 is set to 56, and DCA 3 is set to 50. Set one of the modulation inputs for each of the DCAs to "WHEEL", and for amount of modulation use the same number that appears as the manual level setting, i.e., set DCA 1 mod input amount to a value of 47, DCA 2 amount to a value of 56, and DCA 3 to a value of 50 (remember - since we're doing a fade in here, the values given here are positive). Now go into each DCA and set its manual level to 00. If all has gone well, when you rotate the mod wheel forward the WAVBEL sound should fade in from dead silence to the levels you've just programmed. Now hit the split/layer button, turn layering on, and select your new version of the DIGPNO as the sound to layer with the WAVBEL. If you play the keyboard while moving the mod wheel now, you should find that the ESQ cross-fades between the DIGPNO and the WAVBEL sounds.

OK, it's time for some tweaking. In the patch that I developed using this technique, I wanted to be able to achieve an equal balance between the two sounds at some point in the mod wheel's excursion. I found that using the settings described here, the DIGPNO sound was almost totally faded out before the WAVBEL had reached any significant volume. My solution was to increase the manual level settings for DCAs 1 through 3 from 00 to somewhere around 22 for the WAVBEL sound. This starts it at a higher volume to begin with so that it reaches a balance with the DIGPNO sound at somewhere around 1/3 to 1/2 way through the mod wheel's rotation. This is just the frosting, though - adjust to taste.

This technique also works with split sounds, of course, although the settings will probably differ for each situation. I've also found that using this idea to control the volume of just one of the two sounds in a layer to be real useful for doing things like bringing the string sound in on top of the piano sound during a performance or sequence. Try it on a few sounds. And if you're really feeling adventurous, try using this same technique to balance the oscillator volumes in a non-split or layered sound. Give one oscillator a positive mod wheel modulation amount, and another oscillator a negative amount. The effect will be most interesting if the two oscillators are using different waveforms, or if they are tuned to different pitches or octaves.

If you want to try this technique with other controllers besides the mod wheel, simply substitute the new controller for the wheel in the DCA page. Good candidates for interesting controllers to use would be the pedal (for pedal controlled cross-fades), LFOs, envelopes, velocity (for velocity controlled cross-fades) or even the keyboard (for positional cross-fades). This line of experimentation can yield some pretty interesting results, so dig in, and enjoy!

Next month we'll discuss building and using your own solar-powered outdoor clothes-drying apparatus. Don't miss it! ■

RND (♪♫♪)

MISSING PERSONS DEPT.: It may mean something or it may not, but the phone numbers for Digital Software (Melbourne, Fl. 305-259-7404) and Black Squirrel Software (Princeton, NJ 609-924-1470) reach phones that have been disconnected. Please let us know if you know anything about this or have a way to get in contact with these companies.

* * *

FOUND PERSONS DEPT.: It's kind of old news by now, but we like to tie up loose ends - a few months ago a reader wrote in to say that he never received a response from an order to Sound Cells. We just found out that when the order was received, the wonderful Post Office had kind of "modified" it so the name and address were lost forever. It's all been cleared up and Sound Cells is certainly alive and well. (However, the number listed in their ads is no longer in service. Their new number is 402-330-6201.)

* * *

FAMOUS PERSONS DEPT.: Ensoniq is in the midst of a big ESQ1 promotion/contest. See your local Ensoniq dealer for an ESQ1 demo and get complete details of the contest. Three Grand Prize winners will get a trip to Philadelphia (to visit Ensoniq) and New York. In New York, winners get a session at The Power Station studio with Herbie Hancock. Have your MIDI questions ready.

* * *

Ensoniq has a new toll-free number. For sales info only! No technical questions. 1-800-553-5151.

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TRANSONIQ-NET

The following people or organizations have agreed to help with questions:

ESQ-1 QUESTIONS - Tom McCaffrey. ESQUPA. (215) 750-0352, before 11 p.m. Eastern Time.

ESQ-1 QUESTIONS - Jim Johnson, (602) 821-9266. 5 to 10 p.m. Mountain Time (AZ).

MOVING SAMPLES - all over the place. "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) 962-0549. Business hours, Eastern Time (Toronto, ONT).

MIRAGE/ESQ-1 COMPUTER BULLETIN BOARD - Provided by John Connolly of Portland, Oregon for information exchange and file transfer. "Ensoniq-Net": Phone (voice): 503-641-6260. Phone (BBS/computer): 503-646-2095. Free messages. Yearly membership for upload/download: $35.

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

MIDI & SEQUENCING - Leslie Fradkin or Elizabeth Rose, MIDI-MAX Studios. Eastern Time (NY). Calls between 10 am and 9 pm. (212) 628-5551.

MIDI & SEQUENCING - Markus McDowell. Any ol' time. (805) 987-9932 (Calif.)

MIRAGE HARDWARE & FIRMWARE - Scott D. Willingham. Pacific Time (CA). Days. (213) 938-6956.

MIRAGE OPERATING SYSTEM - Mark Cecys. Eastern Time (NY). Days. (716) 773-4085.

MASOS - Pete Wacker. Mountain Time (AZ). 3 pm to 9 pm. (602) 937-1177.

SOFTWARE - Paul Braun. (805) 583-5315.

BACK ISSUES

Back issues are $2. each. (Overseas: $3 each.) Issues 1 through 8, 11, and 14 through 17 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. The first two reprints in our "Quick and Dirty Reprint Series" are now available: MIRAGE OPERATIONS, for $5, and SAMPLE REVIEWS for $4. Each contains material from the first 17 issues.

HYPERSONIQ

NEW PRODUCT RELEASES

C. L. Brandin has announced a multiple output device for the Mirage. It allows the assignment of any of the 16 wavesamples to any of 8 outputs. This allows for true polytimbral and polyphonic operation. Different sounds are NOT randomly assigned to outputs, rather each sound will always only appear at its assigned output. Any sound can be assigned to any one or more of the 8 outputs and multiple sounds can be assigned to the same output. Two of the output channels are stereo. Cost: $350, dealer discounts available. C. L. Brandin, 1502 E. Pikes Peak Ave., Colorado Springs, CO 80909. (303) 634-8655.

* * *

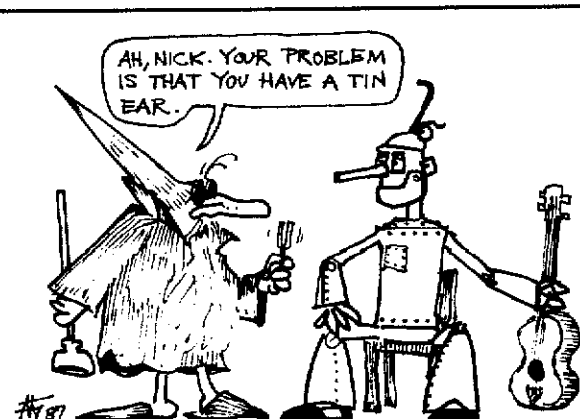
SoftWorx announces "The Worx" - 1600 sounds for the ESQ-1 on cassette format only. Price: $199. They will have "The Worx" on the market by July 15, 1987. Some of the sounds include animal sounds, effects, keyboards, orchestral, muted, reverbrated, echo, drums, choirs, church pipes, belltrees, percussion, etc. These sounds are from earlier released and never released sound collections.

* * *

Leaping Lizards announced further improvements to their Mirage Disk Utility (LLDU-1). The disk utility now allows you to copy an entire Mirage disk (formatting, all sound banks, sequences, operating system, and even the "unused areas" that are now being used by modified operating systems) - all in just 3 minutes. The utility will also give you a readout of any bad sectors and indicates the currently loaded operating system. Still just $24.95 + $2.50 Postage & Handling. Leaping Lizards, 10026 36th Ave. NE, Seattle, WA 98125. (206) 527-3431.

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!)



Alexis Gilliland

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SONIC EDITOR FOR THE ATARI ST

A Software Review

By Mick Seeley

FOR: Mirage and Atari ST
PRODUCT: Sonic Editor
PRICE: $245
FROM: Sonus Corp., 21430 Strathern, Suite H, Canoga Park, CA 91304. (818) 702-0992.

After much waiting I finally received a copy of Sonic Editor for the Ensoniq Mirage courtesy of Sonus Corp. Sonus is well-known for their well-written MIDI software for the Commodore 64 & Apple II computers, and now they are finally coming out with their long promised line of software for the Atari ST - the machine that, with a built-in MIDI interface and lots of memory, is quickly becoming the computer of choice for musicians.

Since the Atari ST is a Mac-like competitor, it is almost inevitable that this Mirage Visual editor will be compared with Digidesign's Sound Designer for the Apple Macintosh. That may not be exactly fair, since Sound Designer is about $125 more (ST Sonic Editor lists for $245), but Sound Designer is the standard in the sampling world, and you ignore that competition at your own peril.

I tested the Sonic Editor on an Atari 1040ST, but it will work fine on the 520 or Mega ST.

I'll get to the good points first: Sonic Editor is entirely GEM-based, meaning that it's easy to use, has pull-down menus, and lets the mouse do almost all the work except direct numerical entry (of, say, wavesample addresses) which is easier with the ST's numeric keyboard anyway. The display itself on the Atari ST is GREAT - just as good as the Mac on my color monitor and even better on the monochrome (the program runs on either).

Sonic Editor will run on a RAM disk or hard disk, and is small enough (about 56K) that it deserves some kind of award for not wasting space. The latest trend is towards bigger and buggier programs that waste lots of disk and RAM memory. Thankfully, Sonus isn't onto this trend. I couldn't "crash" this program no matter what I did. That's one thing I can't say about Sound Designer on the Mac!

Unfortunately, I must complain about the copy protection on Sonic Editor. Sonus uses a hardware-based "dongle" (where did this word come from??) that plugs into the cartridge port. The program will not run without it. God help you if you should break this thing, lose it, or have it stolen, or if you use your cartridge port for something else, such as Steinberg's Pro24 sequencer copy protection. Does this program really need copy protection? I won't get into that argument here, but the dongle is a definite user inconvenience.

After booting up with Sonic Editor, I gave it a rigorous workout. A quick listen to the FM-type sounds on disk (made with the program) revealed nothing that would make me throw away my existing sample disks. The FM synthesis portion of the program is pretty basic - similar to Yamaha's DX/TX synths. You enter the carrier and modulator frequency and levels, and the ST plots it out fairly quickly. The results aren't enough to worry the creators of the DX7. Since you can't put any envelope on the modulator the sounds are pretty static. However, sending it to the Mirage over MIDI and adding filtering on the Mirage (accessible with the mouse of course!) helped a lot. There's nothing here in the way of additive synthesis which would be much more interesting to my taste.

The manual was pretty sketchy on the FM synthesis part of the program, referring you to reference manuals (naturally, most musicians will run right to the library...R-I-G-H-T). In fact, the manual was pretty vague and confusing overall - much too "tech-y" for my taste. Even worse, there's no index, in spite of what the table of contents says. When will software makers start writing decent manuals for real musicians???

While using ST Sonic Editor, I kept looking for things that weren't there. Yes, I've been spoiled using Sound Designer on the Mac and Mirage. However, the stuff that is missing are things that really should be here on the ST. How about multiple windows for different samples? Well, there is a buffer with user-definable size (up to 64K), but you can only see one sample at a time on the screen. How about "cut and paste" to and from different samples? Well, you can paste sounds from the buffer to the current window, but it's not exactly easy. Some things are still easier to do on the Mirage.

Also missing and still on the wish-list: any kind of digital EQ, a functional Undo button (it's there - why not use it?), crossfade looping (oh, you can do it the round-about way as on the Mirage, but there is no easy way supported), and a preview to actually hear the sound in the ST, rather than having to send a long sound through MIDI and waiting 'till it gets to the Mirage. With Sound Designer, you can audition the sound in the Mac itself - it's only 8-bit and kind of low-fi, but good enough for approximation. I'm not sure the ST could do this kind of job, so

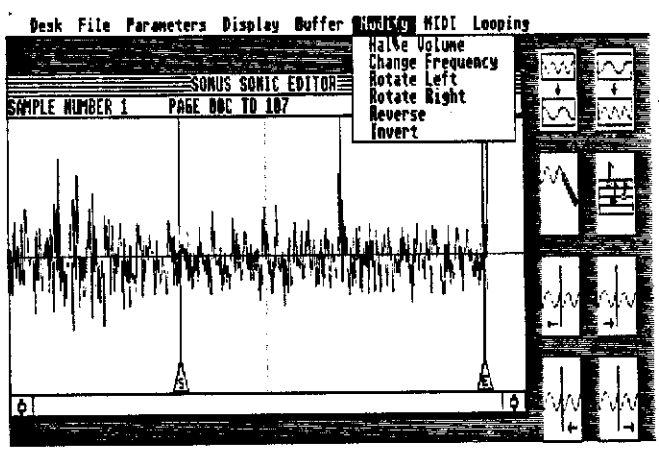

Figure 1. The Main Menu Window.

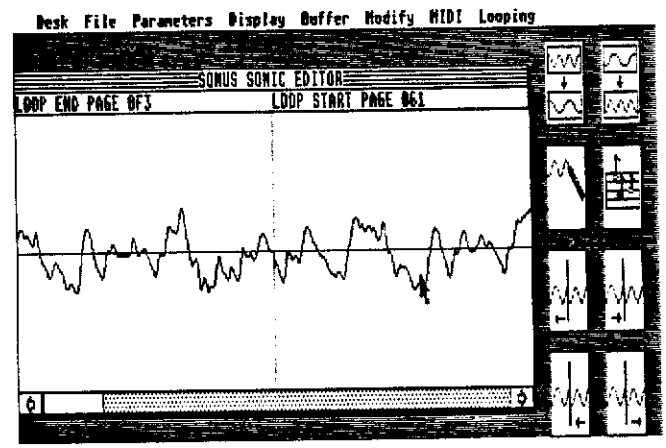

Figure 2. The Loop Edit Window.

it may not be the programmer's fault on this one.

Sonic Editor DOES have the pencil-draw feature that everybody seems to think is so great. Sure it's nifty, but my experience with drawing in your own waveforms is that you usually wind up creating your own glitches. Still, it's nice to see it here.

There's also a great loop window, so you can see the start and end of your loop next to each other and match them up better. There are four icons on the lower right-hand side of the screen that let you move the loop start and end parameters back and forth, and the screen will update to show how close you are to getting a good loop. This is a lifesaver for finding those "impossible" loops. The manual also gives some hints on better looping. Those who put some time into learning this program will come away with better loops in all their sounds.

One function that is becoming more popular in MIDI editors is the built-in sequencer to hear what you're doing without having to play the Mirage keyboard. Needless to say, Mirage rack owners will find the sequencer mode a necessity. However, this part of the program gave me some trouble. The mouse was sluggish in getting the sequencer to record or play. It took lots of clicking, and on playing back via the main screen I couldn't get it to play a single long note. Oddly, it could play almost an entire song no problem. I found myself envying Mirage keyboard owners after using the sequencer a lot. I hope they improve this part of the program, because it ain't up to snuff with the rest of ST Sonic Editor. I ended up keeping the sequencer in record mode and using the mouse to "play" the on-screen keyboard.

Another small, annoying aspect of the program was that every time I transferred a sound I was working on in the ST to the Mirage, I would have to turn the loop switch on and off to reset the current wavesample's endpoint. This got to bother me very quickly. Seems to me this should be included in the waveform transfer.

MASOS fiends will be glad to know that all the standard MASOS commands for mangling Mirage samples are a only a click of the button away. This sure beats pressing those Mirage buttons all day! And you won't believe how much easier it is to deal with the Mirage's program parameters until you see them all at once on that clean Atari ST screen. You can change a program parameter on the ST and send it to the Mirage in a flash. You can even save your sounds to the disk on the ST, though this is no great convenience since there is a disk drive in the Mirage anyway. The ST disk is probably better suited for saving FM waveforms you've created yourself.

Overall, despite some minor gripes, I liked this program. For Atari ST/Mirage owners this is the only one of its kind absolutely known to be on the market (at the time this was written), and well worth picking up. If you haven't bought a computer yet, and are serious about editing your Mirage samples, I still think the Apple Macintosh with Sound Designer is a better all around package, albeit more expensive. Conversely, Enharmonik's VDS system and a Commodore 64 will work low-budget wonders. In between, there's ST Sonic Editor: a good buy for the money and a must for any Atari ST owner with or thinking about a Mirage. ■

MICK SEELEY is a professional keyboard player from the Jersey Shore, whose credits include working with Bon Jovi, Billy Squire & Dan Hartman. He owns a recording studio as well as a MIDI software and synth programming company (Livewire Audio), and hopes to be helping more people get introduced to MIDI, computers and music.

ST SONIC EDITOR FOR THE MIRAGE AND ATARI ST

A Second Opinion

By Jordan Scott

FOR: Mirage and Atari ST
PRODUCT: ST Sonic Editor
PRICE: $245
FROM: Sonus Corp.,21430 Strathern ST.,Suite H, Canoga Park, CA. 91340. (818)702-0992

When a sampling keyboard like the Mirage and a computer like the Atari ST share the same philosophy of providing excellent performance at a reasonable price, you know you have a marriage made in silicon heaven. The wedding announcements are out with the release of an exciting new visual editor -- the ST Sonic Editor from Sonus Corporation.

ST SONIC EDITOR BASICS. This program runs on both the 520ST and 1040ST with any hardware and operating system configuration. The Mirage must be booted with MASOS and a cartridge included with the package must be in the ST cartridge port for program operation. Please note: on the review copy, the program had problems reading the presence of this software key and crashed several times. After powering down and reseating the cartridge, everything ran fine. The program disk can be copied and installed on hard disk. The ST GEM desktop is used extremely well with the mouse controlling menu selection, waveform editing and options selection. Numeric data is entered from the ST keyboard.

THE MAIN SCREEN. After successfully booting the program, the main screen will appear with the waveform display area, the slider bar, the menus and eight icons to the right of the display. (Ed. - See Figure 1 in previous article.) Anyone familiar with ST programs can immediately dig into the program by pulling down one of the program's eight menus. For newcomers, the manual has a quick start section which gets you into the program in a flash.

MENU OPTIONS:

1)DESK - shows the software version and allows installation of desk accessories which are useful for setting time and date with file records.

2)FILE - saves, loads and names files to and from computer disk.

3)PARAMETERS - selects Mirage program parameter information and ST Sonic Editor system parameters.

4)DISPLAY - selects resolution of waveform display and graphic options.

5)BUFFER - controls storage and retrieval from separate wavedata storage buffer.

6)MODIFY - accesses options to modify waveform data in buffer (in addition to those used with MASOS).

7)MIDI - controls wavesample and program data transfer to and from Mirage; includes sequencer section.

8)LOOPING - accesses looping parameters in the ST Sonic Editor.

The top row of icons to the right of the waveform display control the resolution of the display and which page(s) of the wavesample are plotted on it. Clicking on the left icon zooms in, clicking the right icon zooms out. Quick zooms can be accomplished by holding down the mouse on the desired icon. By the way, graphics resolution is variable from any single page to one full lower or upper keyboard memory. Due to the high quality of the ST graphics, no data compression is necessary for plotting wavesamples! The left icon on the second row is the pencil, which when selected is used for waveform drawing,

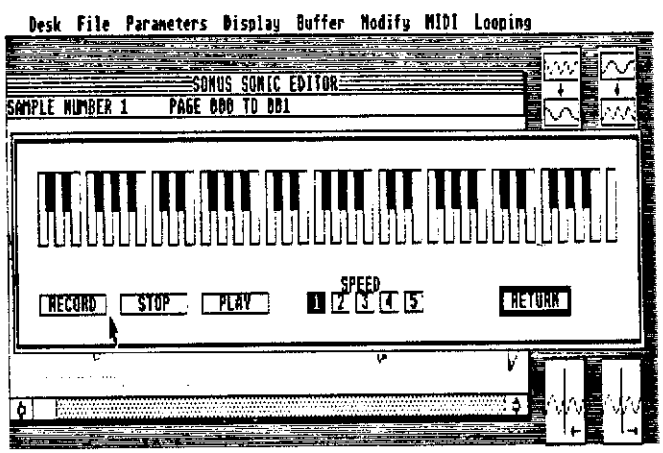

Figure 1. The Sequencer Page With Playback Speed Control.

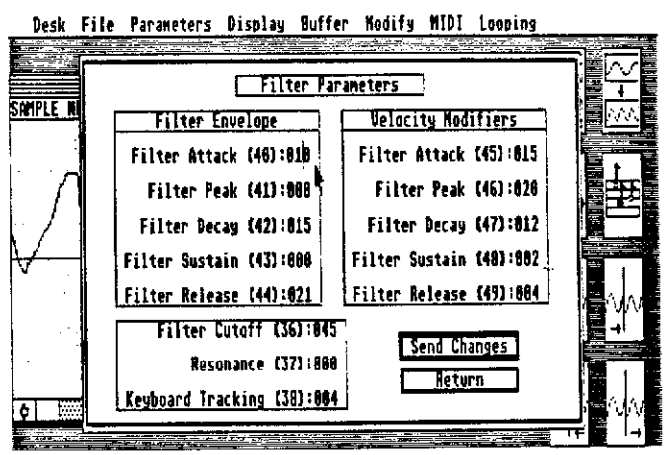

Figure. 2 The Filter and Filter Envelope Page.

looping tasks and assorted doodling. The right icon on this row (representing music notes), plays a user defined monophonic sequence. The included step sequencer has limited musical uses, but it is a must for rack users needing to audition their loops (see Figure 1). The third row controls the loop start page points in the loop edit mode -- the right icon increments, the left decrements. The bottom row likewise increments and decrements the values for the loop end page. Under the waveform display screen is a slider bar which can be used to step forward, back or scroll to desired pages of the wavesample to be plotted. This an excellent system for viewing waveform data.

FEATURES. In addition to the graphic display features mentioned above, the program also has pages for wavesample, filter, and EG parameter values (see Figure 2). Values for the filter, DCA and EGs can be edited and sent to the Mirage. Values displayed on the wavesample page cannot be edited (very disappointing). You can edit all program specific parameters for one keyboard half in the computer and send them to the Mirage instantaneously. This is great for quick changes and customizing your own library of sounds. By the way, all screens in the program can be printed using a dot matrix printer. This feature would have been even better if there was a master parameter display page, but unfortunately only one wavesample and program can be displayed at one time. Numerical values can be displayed in either decimal or hexidecimal (hurrah!).

The most important feature on any visual editor is a looping aid. The ST Sonic Editor's loop edit mode lets you see the selected wavesample's loop point instantly. (Ed. - See Figure 2 in previous article.) And using the pencil to draw zero crossovers makes looping a pleasure. The superb manual by Walter R. Daniel (of Transoniq Hacker fame), provides an excellent tutorial on advanced looping techniques. For advanced looping techniques, you'll need to use the MASOS functions which are conveniently located on a single page (no more torture memorizing MASOS commands). Commands from this page are automatically sent to the Mirage. After MASOS operations, wavesample data must be retrieved for computer display update.

The program also provides some new and exciting features which are separate from the Mirage. These include a data buffer for cut and paste operations, buffer modification parameters and an FM synthesis routine. After transferring wavesample data from the Mirage as defined on the systems page, it can be halved, added to, reversed, inverted, rotated and frequency adjusted. Transfers of a four page sample take two seconds and a full memory will take about a minute. The change frequency function is a great feature and with it you can now line up any sample on single page boundaries. The FM routine provides one carrier/modulator pair with individual amplitude control to create four page waveforms. When combined with the computer add functions, very complex waves are possible. Some basic synth waves come with the program.

OMISSIONS. A program this complex can't have everything, but here are some big disappointments. First, there's no provision for Top Key editing in either numerical or graphic form. You do get Top key information (P72) of the current wavesample on the wavesample parameter page, but mistakenly its value is expressed from 0-60 instead of 1-61. Secondly, sampling parameters 73-77 and 93, 94 are ignored altogether. Setting this up on one page and sending it to the Mirage would simplify sampling matters. Many folks will be disappointed that there's no graphic for the EGs...personally I can live without them...the EG parameter pages do the job. Lastly, there's no computer control of Mirage disk functions.

CONCLUSIONS. The Sonic Editor really excels as a waveform visual editor and generator. It gives the user complex, yet flexible control over wavesample manipulation. Instead of just emulating Mirage functions and operations, ST Sonic Editor focuses on its role as a visual editor....in this effort the program succeeds. This also explains some of the program's compromises mentioned above. In general, it simplifies and expands on the Mirage's waveform editing abilities. If you haven't succeeded in finding good loops and also in using advanced applications of MASOS, this program will open that door. Any omissions are small compared to these overall benefits. When you throw in the included synthesized waveforms, the great tutorials on looping, the FM and additive synthesis possibilities, and the price....you have a great package. This program has 90% of the features that big editors have at about half the price. In my book, that's a great deal! ■

Bio: Jordan Scott is a studio-engineer at ABC Network in New York where he pushes buttons and edits tape. His introduction to electronic music occurred in 1981 at Syracuse where, while involved in TV-Radio studies, he wandered into the Crouse College Music Lab featuring Moog synthesizer modules, step sequencers and neon beer signs. Currently, he records home stuff like everyone else in North America.

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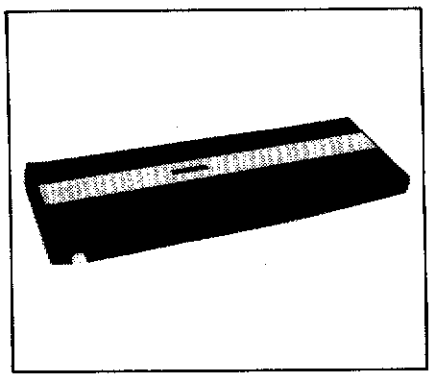

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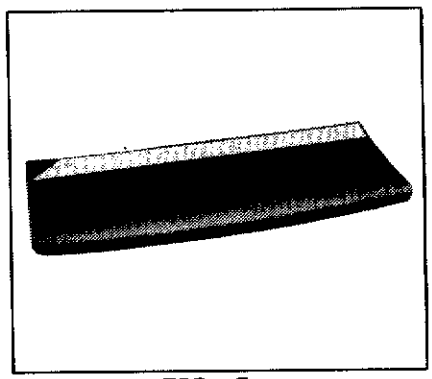

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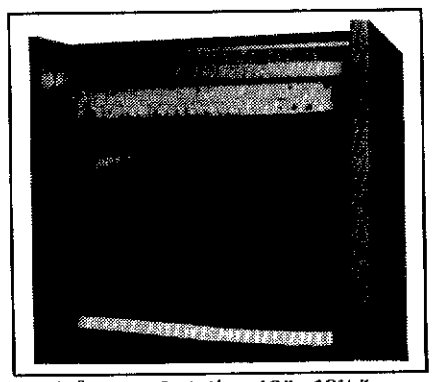

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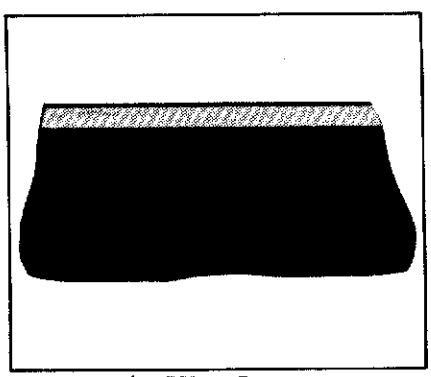

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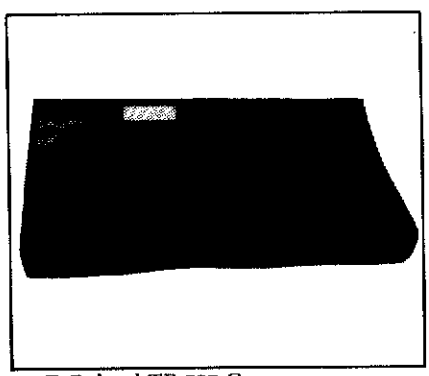

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ESQ-1 PATCH REVIEW

By Chris Barth

FOR: ESQ-1
PRODUCT: Voice Crystal Vol. 1
PRICE: $57.95 (EEPROM), $15.95 (Data Tape)
FROM: EYE AND I Productions, 2151 Old Oakland Rd., #224, San Jose, CA 95131. (408) 943-0139.

This month we're listening to patches offered for sale by Mark Wiens of Eye and I productions of San Jose, California Marketed under the name VOICE CRYSTAL, these patches make up Volume 1, with additional volumes on the way. This volume consists of 80 patches in 2 banks. Each bank can be purchased separately on data cassette, or you can purchase the patches on an EEPROM cartridge. Bank A has imitations of acoustic voices, and Bank B contains mostly synthesized sounds.

If you like a rich, fat, dramatic analog synth sound, these patches will put you in heaven and keep you there for a long time. I confess that when I first got my synth, I was disappointed that so few of the sounds were "analog synth" patches! I really wanted the Moog sound, and instead, I got these brass and piano patches. If I would have wanted real brass sounds, I would have bought a trombone; and my synth sits on top of a Fender Rhodes electric piano. I liked KLUNKS and BIG I and SYNLED and PWRSNK and that was it. Well, at least I didn't buy a DX7.

Mark has produced the first set of patches I've heard which uses other synthesizers as a starting point. The Moog patches are tremendous. Not only do they sound right on the mark, but they can be played over the whole range of the keyboard. You can get different sounds by adjusting how hard you play the keyboard; the MINIMOOG patch in particular does everything the original did, and more. These Moog patches alone would have rated the VOICE CRYSTAL an "A" grade.

There are lots of pianos, and all of them perform well. Some are imitations of acoustic pianos which I like much more than the factory presets. FMPIANO has a great sound over the full keyboard. Not only that, if you adjust the mod wheel a little bit, the sound detunes a bit and produces a very realistic piano sound. You can almost hear the individual strings ringing in unison! This is not going to confuse Horowitz, but mixed in my demo tapes this piano setting works great.

Included in this volume are totally synthesized pianos, along with some excellent clavinets and harpsichords. The most impressive feature is their playing range. How many times have we tested a patch by auditioning notes at the very top and bottom of the keyboard? Some sounds, like reed and horn patches, have a limited range, which makes them produce unpleasant or uninteresting sounds when played too high or low. These synthesized pianos sound good over the full range of the keyboard. These patches really do perform like a piano in their action and response. This means that you can flip through the sounds in the VOICE CRYSTAL and play them with the same technique that you use when you're playing a real piano or organ. Viola! Same old technique, lots of new and usable sounds. This is what we should be getting from more programmers.

On lots of Mark's voices, the mod wheel is intelligently used to produce usable improvements to the voices. This is not the crazy accelerated vibrato which makes you wonder if the programmer ever really listens to his patches. In these patches sometimes the effect is similar to a chorus; other times a filter sweep is introduced to put some color or motion into the sound.

It's safe to say that when using the VOICE CRYSTAL, you should audition the voices with different mod wheel settings. Sometimes, as with FMPIANO, the best sound is produced by adjusting the mod wheel for the proper effect. If you leave the mod wheel at rest, you may be missing the best part of the sound. Unfortunately, I didn't get any performance notes at all with the set, and I felt the loss. On the other hand, I have never found so much to play with in so many patches in one set.

There are five bass guitars, which all have a modern sound right off the Madonna singles, and two upright basses. Since bass sounds are typically wimpy in the upper registers, you might try splitting any one of these basses with one of the Moog or piano sounds on the upper keyboard. This, a drum machine, and a little talent will give you a big sound right away.

The layers are rich and lush. There are loads of sounds in them, and they are perfect if you like fat, synthetic orchestras. There is a lot of of power and drama in these sounds. I love it!

There is only one special effect among the 80 patches. It's so good and entertaining I'll keep the secret. This is one of the few patches I have that can actually produce a big laugh in the right places.

Mark includes a BANJO patch that is very convincing, especially for a "Duelling Banjos" performance. You might try layering this patch over others. Instead of trying to duplicate a banjo performance, use the sound as a starting point for new ones. With no performance notes, I'm not sure how to sound like a real banjo player on a keyboard anyway.

Even better is an imitation of a man whistling. This simply must be heard to be appreciated. Here's your chance add the theme from "The Andy Griffith Show" to your set. Right away, the requests came pouring in for "Lassie".

The usual assortment of strings, brass and reeds round out the set. I've listened to lots of patches with these names over the last few months, and these are some of the fullest and richest imitations I've heard yet. Some are incorporated into splits and layers, and the effect is very orchestral. Unfortunately, all of the split and layer assignments were incorrect when I loaded the data cassette into the machine. A quick phone call gave the correct assignments, but a little planing should have caught this problem right away.

The volume includes drum machine patches, and with the possible exception of the hi-hat, the sounds are weak and disappointing. Really, if you need drum sounds, even the worst drum machine would be preferable. The drum patches, of which there are about ten, are the only weak spot in an otherwise great package (along with the missing performance notes and incorrect split/layer assignments),

There are literally hundreds and hundreds of performing synth sounds in this set. No tweaking, no fuss, just load and play. Most of the patches can be layered with great results on other patches in the set. These sounds blend together beautifully. I've still only scratched the surface of the patches which make up the CRYSTAL, and what keeps me coming back for more is the quality and complexity of the sounds I can produce just by flipping through the patches. I still haven't removed Bank B from internal memory since I loaded it two weeks ago. If you like KLUNKS and SYNLED and OB BRS on our presets, Volume 1 of the VOICE CRYSTAL will make your day. ■

ESQ Aftermarket Manual #1 - A Book Review

By Chris Barth

FOR: ESQ-1
PRODUCT: **Getting The Most Out of Your ESQ-1**
PRICE: $19.95
FROM: Alexander Publishing, 14536 Roscoe Blvd., Suite 110, Panorama City, CA.

When the time comes to learn something new, some people like instruction manuals; others will never look at one even after all else fails. The manual which came with my ESQ-1 is one of the best I've ever seen. It's comprehensive, easy to understand (if you like manuals) and well illustrated. So are lots of other computer manuals, but if you've ever wandered through the computer section at the bookstore, you'll see explanation books for most popular software packages. The reason is simple: it often takes an outsider to develop product insights which will be useful to the consumer. A good aftermarket book will not only explain where the knobs are and what they do; it will offer suggestions on why they operate the way they do and how to get them to produce the results you want.

With the above standard in mind, let's look at the first aftermarket manual for the Ensoniq synth. It's published by Alexander Publishing, which also has similar books (and patches) for machines by Yamaha, Korg and Roland, among others. Written by Bob Wehrman of Ensoniq, the 113 page manual is spiral bound so it lies flat while you're reading it. There are 29 short chapters on various aspects of the synth, from the oscillators and filter to saving and editing sounds.

Overall, the book is well written in a conversational style. The illustrations are clear and understandable. The cover includes a promise that "If you ever have a question, just write the author and get back a written answer."

Conceptually, I have one major problem with this manual: the content is much too similar to the manual which came with the machine. If you like manuals and read the one which came with your unit. then you find precious little new information in Bob's book, except for the tutorial approach. If the original manual says "This is the filter," then this one says "Look for the button marked filter and press it." This is not insight; this is a tour guide pointing you in the direction of the Statue of Liberty. If you liked the factory manual, this aftermarket book is redundant; if your didn't read or understand the factory manual, this book may offer a new path to understanding the various controls.

The most useful performing information not included in the factory manual is contained in the chapter on tweaking sounds (editing them to get the particular effect you want). It's only two pages though, and this stuff shows up in the Hacker, also. What I really resent is being sent back to the factory manual for information (on the conversion of parametric envelope values into actual time in seconds) which, for $19.95, ought to be included, while obvious information is restated in bulk from the factory manual.

This book is supposed to be the first volume, with the second volume scheduled to cover advanced programming theory, synth and orchestration techniques, and advanced digital wave synthesis theory. No doubt about it, I want to see that book when it comes out. This is what I hoped would be covered in the first volume. Since the factory manual and this book adequately cover the "what" and "where", let's hope for a little more "how" and "why" next time. ■

Bio: Chris Barth writes and produces his own top 40 demos in his MIDI home studio using an ESQ-1, a Kawai R-100 drum machine, various guest musicians and signal processors. He played bass in nightclubs for 6 years before getting his law degree. Working hours are spent pension consulting for a firm whose clients include several famous jazz musicians. Chris knows the words and music to all the songs recorded by Paul Revere and the Raiders.

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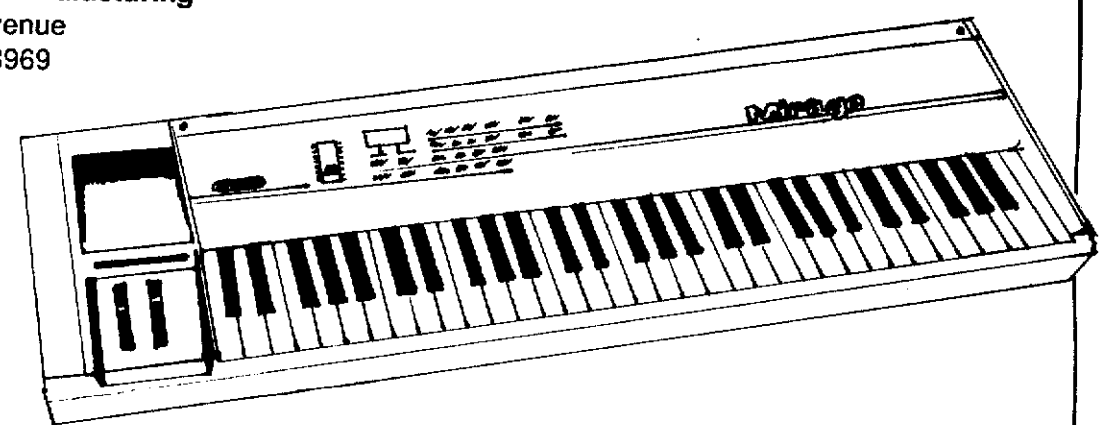

*Compatible with the Mirage, Mirage Rack and Mirage-DSK

ROLLIN' ROLLIN' ROLLIN'
KEEP THOSE WHEELS ROLLIN'

By Erick Hailstone

One of the things the ESQ-1 does so well is provide lots of ways to personalize sounds. There are so many types of modulation (change) and sources of modulation. I'm going to apply several ideas to the MOD WHEEL, but be aware that they will work with any of the other 14 sources of modulation. You can take any of the factory sounds and apply these techniques. Once understood, you can use these ideas to personalize a sound to your own needs and taste. Before we begin, I suggest you read pages 30-40 and, to a lesser degree, 40-70 of the ESQ-1 manual.

OSCILLATORS:

Let's look at sound 1 - "PIANO". OSC2 uses the WHEEL with an intensity of (+1). When we engage the WHEEL we will detune OSC2 to create a chorus effect. This effect can be applied to most any sound.

Example: Patch 3 "HORN3T". Change OSC2 MOD to WHEEL and set the amount to (+1). You now have chorusing. Now return to the "PIANO" patch. At full extension the effect is a bit too thick. As we increase the intensity from (+1) we will change from detuning to larger intervals. At (+63) we are bordering on dog hearing. There are two sources of modulation and if we set them both to the WHEEL we get the sum of the two effects. For instance, if both sources are the WHEEL and both set to (+63) you get twice the effect. If one is (+) and one is (-) you get the sum of the effect.

Example: On OSC2 set MOD1 amount to (+14). At full extension you will now have an interval of a fifth. Set MOD2 to (-2). When you play a note you now have a flat fifth. OSC3 is used in a subsonic way. We will need to make a few changes for the next example. Change the LEVEL of DCA3 to (0). Change MOD1 from velocity to WHEEL and the MOD amount to (+8). Set the second MOD to off. At full extension the WHEEL gives us a major triad. These techniques will allow you to create practically any 3 note voicing. You can create other effects by having the WHEEL change more then one OSC. Unusual effects can be created by setting multiple OSCs to wide and conflicting changes in pitch. These can also be combined with Amplitude Modulation for some very bizarre effects.

DCAS:

The main function of the DCA is control of volume. The WHEEL allows for smoother control than the volume slider. Let's try some examples. Starting with "PIANO"1 go to OSC2 and change MOD1 from WHEEL to off. This will disengage the chorus effect. Although you can have several things under the control of the WHEEL for now we will concentrate on one at a time. Turn off the output of DCA's 2 and 3. On DCA1 change MOD1 from ENV2 to WHEEL and set the amount to (63). Extend the WHEEL fully. You will notice a slight change in volume. How you modulate the DCA and the amount of modulation directly relate to the parameter marked LEVEL. As you lower the LEVEL the change in volume becomes more apparent. Turn on DCA2 and set MOD1 to WHEEL with the amount set to (63). Set LEVEL for DCA1 and DCA2 to (40). There now is an extreme difference in volume. Because you can set things either (+) or (-) you can literally have things coming or going. Starting with "PIANO"1 on OSC2 change MOD1 from WHEEL to OFF. Change OSC3 OCT to(1), SEMI to (0), WAVE to ORGAN, MOD1 OFF, MOD2 OFF. On DCA1 and DCA2; change LEVEL to (63), MOD1 to WHEEL and MOD amount to (-63). On DCA3 set LEVEL to (00), MOD1 to WHEEL and MOD amount to (+63). When the WHEEL is fully back you have the sound of the piano. When fully extended you have organ. Try this with other combinations. Again, there are 2 sources of modulation so it's possible to have VELOCITY bring the organ into the picture as well as the WHEEL. Also, by varying LEVELS and MOD amounts, you can set up different mixes.

Another application is to set up and save a patch so that it is only heard with WHEEL in one direction or the other. Set up a different sound so that they can be heard with the WHEEL in the opposite direction. In HORN V (see Hackerpatch in this issue) I have taken the stock "HORN3T" sound and altered it to demonstrate this effect.

FILTERS:

When modulating the filter it is important to remember the relationship between the filter cutoff setting, your modulation setting, and the filter resonance or (Q). For demonstration purposes select "ANABRS" (8). Each of the LFO's are being controlled by the WHEEL so turn them OFF. Now select the FILTER. Change MOD1 from ENV3 to WHEEL. Now play a chord and roll the WHEEL forward. You will hear a filter sweep. Change the Q to (10), then (20) and finally (30). The higher the number the more pronounced this effect. Change FREQ to (127). Now there can be no change when the WHEEL is moved because the FILTER is wide open. Change it to (00). You can hear nothing until the WHEEL is rocked forward about half way. At full extension the sound is not as bright as it was. You can verify this by using the compare button. Set the second MOD source to WHEEL and its MOD amount to (+63). This will now allow a full filter sweep.

DCA 4 PANNING:

Start by selecting "DIGIPIANO" (4). Then select its DCA4. In this patch panning is controlled by LFO2. Play a chord and notice the sound going back and forth between speakers at a moderate speed. (You must be hooked up in stereo to achieve these effects.) To hear these effects to their fullest first select LFO1 and turn the MOD OFF. Now select LFO2. FREQ controls the speed of panning. Change it from (12) to (24) and listen to the difference. Change to (36), (48) and (63). From (48) on it doesn't make much difference. It's just too fast for the ear to track. There are several WAVEs to use on an LFO. Triangle makes for the smoothest panning so it will be the only one I'm using in these examples. On LFO2 set FREQ to (20), LEVEL1 to (63), DELAY to (6) and LEVEL2 to (00). When you play a chord you will have panning that fades away. Reverse LEVELS 1 and 2 and you will get the opposite effect. What you have done is to set up a ramp which controls the panning effect. Refer to page 51 in the ESQ-1 manual. For our last Panning technique set both LEVELs to (00) and set MOD to WHEEL. The WHEEL will now engage the LFO which controls panning. You may also pan with the WHEEL directly. Go to DCA4 of the "DIGIPIANO" patch. Change MOD to WHEEL. While playing a chord extend the WHEEL back and forth. The sound should move from speaker to speaker. Notice that the parameter marked PAN is set at (08). This is center with (0) being one extreme and (15) being the other.

The only area left untouched by WHEEL control is LFO. Most of us already have some familiarity in this department with the tried and true usage of vibrato. There are many off the wall things that can be done with LFO's and they will just have to wait till next time.

P.S. Remember any of these examples can be redone with the PEDAL or VELOCITY being the controller instead of the WHEEL. ■

"CREATE-A-DISK"

Piano and Drums Practice Disk

By David A. Caruso

This little disk is great for demos, too. The best thing about it is that you can exchange drum sounds by making wavesample start and end adjustments (P60 & 61) according to the substitutions you prefer and then copying them in. For the sake of simplicity I used all Ensoniq sounds for this article, but I sampled a Roland "Dr. pad" for my own disk's snare.

MATERIALS: Ensoniq Disks 1, 4, and 20 (old numbering).

PROCEDURE: The new disk won't sound good (and some wavesamples will be masked by P72) until all of the steps are completed, so be patient. Also, save to disk often to avoid backtracking if something goes wrong.

1. After booting with MASOS, load Disk 1, bank 1 (D1B1) into upper memory. We're going to use upper wavesample 1 and 3 (UW1&3) for our piano so for now we need to copy them into lower memory. Turn off the loop switch (P65) on UW1&3 first. Then set LW1, P60 at 00, and P61 at 2F. Set LW2, P60 at 30, and P61 at 79. Call up UW1 and copy to LW1 using P17. Call up UW3 and copy to LW2. Reset LW1 and LW2's P61 as above, because during copying they will have moved to FF.

2. Reset upper memory this way: W1: P60=00, P61=2F; W2: 60=30, 61=79; W3: 60=80, 61=8F; W4: 60=90, 61=B5; W5: 60=B6, 61=D1; W6: 60=B6, 61=D1; W7: 60=D2, 61=F3; W8: 60=F4, 61=FF. Call up LW1 and copy to UW1 using P18. Call up LW2 and copy to UW2.

3. Load lower half of D4,B2 (Electronic Drums). Call up LW1 (Kick Drum) and copy to UW3.

4. Load lower half of D20,B1 (Ambient Drums). Call up LW2 (Snare Drum) and copy to UW4.

5. Call up LW5 (Closed Hi Hat) and copy to UW5. UW6 is set to play back this same sound for reasons you'll see in a minute.

6. Call up LW7 (Open Hi Hat) and copy to UW7.

7. Leave UW8 alone.

8. Call up upper program 1 and make these program changes: 28=Off, 33=00, 34=63, 35=04, 36=40, 38=00, 42=21, 44=16, 46=06, 47=00, 52=23, 54=09, 57=02.

9. Now to make our new upper wavesamples sound good.

Make these Adjustments:
UW1: 65=On, 69=46, 70=07, 71=63.
UW2: 65=On, 69=46, 70=15, 71=63, 72=56.
UW3: 67=02, 68=63, 72=57.
UW4: 67=02, 68=AE, 70=99, 71=99, 72=58.
UW5: 67=02, 68=7F, 69=10, 72=59.
UW6: 67=02, 68=6B, 69=10, 72=60.
UW7: 67=02, 68=6B, 69=16, 72=61.
UW8: 72=61. We'll use this to our advantage later.

10. Load Lower half of D1, B1.

11. Save upper and lower to disk.

EVALUATION: The piano from key #1-31 is the Mirage piano sound well known and loved. Keys 32 through 56 (UW1&2) comprise the only area of sacrifice on the disk. It's the same piano sound minus mix mode which we gave up for the drum memory requirements. Playing key 32 through 56 one key at a time reveals some noticeable clicking, but when chords are depressed and/or a bass note is added, it's masked to the point of being barely noticeable. If you're not satisfied with that, keep reading because it gets even better with MIDI.

The drums, on the other hand, make no real sacrifices at all. Load the lower halves of the original disks and see for yourself. Now you have the original drum sound in lower memory and the new drums in upper memory for a side-by-side comparison. Don't forget that the Hi Hat in the new disk gets brighter as you increase the volume (P69) for those wavesamples. In other words, for comparing two sounds, their volumes should be set to balance each other, whereas the new drums are currently set to balance with the piano. Also, I set the kick drum pitch (P68) a few steps lower out of preference.

USING THE DISK: Now comes the best part.

1. Build a drum sequence. Keep it short - two measures or so - the piano will need memory space in which to breathe. (Look for a tutorial on drum sequences in a future issue). Notice that you must hold the snare down for a second after playing it because the release is set for the piano. Since you can play one drum at a time and overdub if you like this is no problem. The closed Hi Hats are set for the same pitch using two different keys and wavesamples so you can play it as fast as you like and it will repeat and respond for you.

2. Plug in your sustain pedal (P89=Off). Notice the pedal doesn't affect your drums when you start the sequence with you hand and play using the sustain pedal. So far so good? Just watch!

3. Got another MIDI keyboard? If it has a good piano sound (say, a DX7, for instance): 1). Connect a MIDI cord, DX7 "out" to Mirage "in". 2). Plug the DX7's sustain pedal into the DX7. 3). Switch Mirage P89 "On". 4). Adjust MIDI parameters for both instruments so the DX7 controls the Mirage. 5). Adjust the DX7 volume so that it's quieter than the Mirage - just enough to fatten it up. Now just kick on the drums with the Mirage footswitch as you play your first chord (both hands on the DX7). Sustain with the DX pedal. Remember, don't play any key higher than G5 (key 56), or you'll hit the drums.

VARIATIONS: If you don't like adding your second MIDI keyboard sound to the Mirage, hook it up as above anyway and turn the volume off. You'll lose a bit of Mirage velocity sensitivity MIDIing to the DX7, but you'll gain the use of your two pedals. Another possibility is to put a bass sound on the DX7 and play that with your LH (it will play the same bass notes on the Mirage) and play the Mirage with your RH. Now you have drums, bass, and piano for those nights when you're stuck in your motel room with just your keyboards and a headphone amp. Think of the demos you can make this way until you get your four-track tape machine! Think of the tracks you can save if you already have a four-track!

ABOUT WAVESAMPLE 8: Copy a special effect or percussion sound into this wavesample. (There's not much memory, but I fit a nice stick click in there). Don't forget to set W8's P67-71 according to its new environment. Save to disk this way and "uncover" UW8 as needed (using special sequences which suit it) by setting UW7's P72 to 60 and UW6's P72 to 59.

If you have improvements or suggestions for this disk, mail them to the Hacker's "Interface" column and we'll all be able to test them out. If you have a "Create-A-Disk" of your own, let's hear it! ■

FILL IN THE BLANK

By Duane L. King

I still remember the first blank disk I bought. (That's right, I bought my Mirage BDF - before disk formatters). I took it home, loaded it into memory and pressed a couple of keys just to see what would happen. I was amazed to hear "This is a blank formatted diskette." So I played around with it until the novelty wore off and never did anything with it again.

Why did I put it away and forget about it? I had made a very natural assumption - you can't do anything musical with the wavesample on a blank diskette. This assumption was based on my belief that a wavesample is very different from a patch on a synthesizer. If you don't like a particular patch on a synthesizer you can change it a little or a lot just by changing the parameters that describe the sound. I had concluded that samplers were fundamentally different. I believed that some aspects of the wavesample were "forever cast in concrete" - the sound that you capture in the machine can be altered slightly with filters, chorusing, and resonance, but it is still basically the same sound. I want to show you that these assumptions are wrong. I also want to show you some of the sounds I found on the blank diskette and hopefully give you some new techniques you can use to dig new sounds out of your own collection of samples.

The first thing to try is locating the major sound events. In this case we have an entire sentence as a wavesample. Each word is a major sound event. So let's find out where each word in "This is a blank formatted diskette" begins and ends in memory. Turn on looping (parameter [65]) and use the Loop Begin and Loop End parameters ([62] and [63] respectively) to surround each word. You don't need to see the waveform - just listen to the loop. If the word you are interested in isn't perfectly repeated by the loop, adjust the begin and end parameters again. Here's the begin and end values I came up with:

page*	word
0-10	"this"
11-1A	"is"
1B-1F	"a"
27-56	"blank"
57-8C	"formatted"
8D-CB	"diskette"

It's pretty simple at this point to assign each word to its own wavesample. Then you can play each individual word on its own range of keys. Don't do the obvious and set Wavesample End (parameter [61]) to the end of each word. If you do this, you could mess up the word you want to loop. If you change parameter [61] everything will be fine as long as you don't turn on Looping (parameter [65]) and then later change you mind and turn it off. When the Loop Switch is turned off 16 zeros are inserted at the end of the wavesample as determined by the value of parameter [61]. It's safer, and less troublesome to move Wavesample Start (parameter [60]), leave parameter [61] at FF, and set the release rate (parameter [54]) to a small number like 4. When you play the word, let go of the key at the end of the word. Another method that works is to make the amplitude envelope go to zero at the end of the word. Use a fast attack rate (parameter [50]), set parameters [52] and [53] to zero, and vary the decay rate (parameter [51]) until you hear just the one word. In any event, as long as you don't move Wavesample End, you can loop or not loop without endangering any of the words in the sample.

Let's do something a little more interesting than just making the Mirage say "blankblankblankblankblank". If you haven't loaded in your blank diskette, make one if necessary, and load it into your Mirage. Set Wavesample Start to 1B, set Loop Start to 1B, and set Loop End to 1F, but don't turn on looping yet. Play the sample and you should hear "a blank formatted diskette". The loop is around just the word "a". Now turn on the loop and play the sample again. Surprise! The loop doesn't sound a bit like "a". This got me excited the first time I did it, even though it's really a bad loop - it's five pages long. Short loops should always be a power of two in length, 1, 2, 4, 8 and they should always start on page zero or a page number that is evenly divisible by the length of the loop. This short loop violates both rules! As a result it will go flat as you play the sample higher and higher on the keyboard. If you don't believe it, set parameter [72] to 61 and try it out for yourself.

Now change Loop Start to 1F and loop just the last page of the word "a" and play it. You can still here the word "a", but now it has an organ-like tone grafted onto the end of it. This simple technique can be used to make some interesting sounds. Use consonants as the start of your sample and loop one or two pages at the end of the percussive sound of the consonant. For instance, set Wavesample Start to 8C, and set Loop Start and Loop End to 92. The region from 8C to 92 is the end of the word "formatted" and the beginning of the "diskette". Since the words are so close together, the tongue makes a "tuh" sound between the two "d's". When you play this sound in the lower two octaves it sounds like a bass harmonica grafted onto the end of a "tuh"!

Here's another interesting discovery. Reload the original wavesample ([LOAD LOWER] [1] [START]). Play a bunch of staccato sixteenth notes on the C in the second octave. Try to play short enough notes that you don't hear the "s" sound at the end of "this". Doesn't that sound like some kind of drum? Well, it did to me. Change the amplitude envelope and suddenly "this" will sound like a tom-tom. Set parameter [50] to 0. Set parameter [51] to 31. Set parameter [52] to 5. Set parameter [53] to 0. Set parameter [54] to 2. Set parameters [56] and [58] to 0. Now play the C in the second octave again. Now that sounds like a drum! If you don't like the way the sound starts off, change parameter [60]. I found the values 1, 2, and 3 produced the best drum-like sounds. You can slowly march parameter [60] all the way through memory searching for percussion sounds, but before you do, try the next example.

Sometimes when you are searching for percussive sounds it is a good idea to try slight variations in the amplitude envelope attack and decay parameters ([50] and [51] respectively) before you pass over a particular snippet of a sample. For example, advance Wavesample Start (parameter [60]) to 5 and play some fast notes on the G# in the second octave. Doesn't sound very interesting, does it? Now advance parameter 50 to 4. Now it sounds more like a snare hit! You have discovered yet another sound hidden in "this". Now before we abandon percussive sounds, let me show you one more. Advance parameter [60] to A2. Play on the G# in the second octave. This has a curious kind of a slapping attack sound that ends in a tuned-wood kind of tone. What you are playing is the "k" in "diskette".

Now reload the original wavesample ([LOAD LOWER] [1] [START]) and I'll show you some bass sounds. Yes, I said BASS! This is more involved than the earlier examples. Set parameter [60] to 1E. Set parameter [67[60 2. Set parameter [50] to 3. Set parameter [51] to 31. Set parameter 52 to 5. Set parameter [53] to 0. Set parameter [54] to 2. Set parameters [56] and [58] to zero. Play anywhere in the lower keyboard up to the A in the second octave. This is a strange sounding muted bass! For more muting, raise the attack velocity sensitivity (parameter [55]) to 4. Now as you play harder you get a more muted sound. You can also increase parameter [50] to 5. This will give you slightly more control over the muting effect.

Two page loops can be used to make very interesting bass sounds. What you want is a snippet that doesn't perfectly repeat in two pages (it is rare for part of a wavesample to repeat perfectly in two pages). Looping the odd squiggle produces a subharmonic that really fills out the sound. Just make sure your candidate starts on an even page number - 0,2,4,6,8,A,C,E,etc. For example, set Loop Start (parameter [62]) to 1E. Set Loop End (parameter [63]) to 1F. Set Loop Switch (parameter [65]) to ON. Set Top Key (parameter [72]) to 61. Play anywhere from the C in the third octave to the top of the keyboard. This has a real science fiction kind of sound! The bottom two octaves sound different because the loop hasn't had sufficient time to repeat before the sound dies away. The simple fix is to increase the decay (parameter [52]) to 7. Now you can play the entire keyboard though the bottom two octaves are still weak. I solved this problem by accident. I noticed that the top octave sounded vaguely like a banjo. Now if you set parameter [63] (Loop End) to 1E you can play hard in the top two octaves and get a banjo sound! As a side-effect you get a much stronger bass in the bottom two octaves. This sounds like a bass banjo to me but you may like it.

There are many other sounds that I could show you, but I think my point has been made. Even if you don't like any of the sounds I've shown you, you still may have learned some more techniques to use for digging new sounds out of familiar old wavesamples.

Here they are again in summary form:

1) Leave or set Wavesample End to FF and leave it there.

2) Use Wavesample Start, Loop Start and Loop End to control the part of the wavesample that gets played.

3) Loop the last page of an interesting sound event to create continuous tones with novel attack segments.

4) Adjust the amplitude envelope attack and decay values to control how much of a percussive sound event is heard.

5) Small adjustments in Wavesample Start, or in the envelope parameters can make big changes in the resulting sound.

6) Two page loops can be used to make great bass sounds because of the subharmonic created by the loop.

THEATER SOUND EFFECTS

By John Fraser

Seven days after getting my new Mirage I got my first job with it at a local theater and therein lies the tale of this story.

With thousands of small, medium, and large theaters scattered throughout the country, there is a lot of work out there crying for samplers. Imagine the delight of a producer when you tell him/her that the gun shot in Act Two, the scream in Act Three, and the string section in the finale will be NO problem. Not only that but why not add a soft wind behind the dialog on the beach in the opening scene? Musicals are crying for horns, oboes, cymbal crashes, and of course, strings.

Also stress that in some cases you could handle the entire music/sound effect job by yourself, saving the theater the cost of hiring many when just one would do. Explain that the majority of the sounds they hear in movies now come from samplers and yours is the "State of the Art" model. (However, don't let your mouth get you in trouble by promising too much)

The work you get will be divided into Sound effects and/or Musical. As far as the music part goes, if you can sight-read like a fiend, the better off you are. I can't. I'm used to lead sheets and making up my own chords as I go. I'll warn you too that a lot of theater music loves odd keys and time signatures. My first part was a string section in Db. (ughh). Also, singers expect you to be able to lower/raise keys by half steps until they find what they want. Parameter [21] should help you here but don't forget to use Parameter [14] to save the changes and put that song on a separate disk and reboot.

You will (depending of the size of the theater) work under a Musical director even if you only do sound effects. Listen to them. Politics of a theater go like this; Producer, Director, Musical Director, actors, then you. The egos of 50 people are all at work, so keep yours low key and friendly. (You do want to work here again, don't you?)

Oddly enough, the sound effects part, with a few reservations, is easy. Get a script BEFORE you apply and have two or three of EVERYTHING you can think of on hand. (Don't worry they're sure to ask you for something you forgot to bring.) Stress that your machine uses RECORDINGS of sounds and cannot make things up on the spot - but given overnight, you can get almost anything they want. You'll get a lot of, "you know, ..sort of a scary sound, but underwater,..like you know.." (!) Parameter [67] and dropping the sound a few octaves was a great help. Also, if you have a VCR with an audio out there's lots of gun- shots and screams to be had in any movie. (Keep in mind the copyright notices.)

In general: Demand to do quick sound checks before each performance. Try to use the house sound system unless it's horrible. (Many are.) Remember, this is LIVE theater and you only get one chance. A duck quack where a scream is supposed to be ruins the show. Try to have a headphone out so you can check you have the correct sound loaded. Live Theater operates in two modes - total-boredom and near-chaos. Theaters quote wages by performance, so double check to see if you'll get paid for rehearsals. Even if you don't, plan to attend a few as you'll need to work with the actors and their cues.

Good luck and hey,..break a leg!

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Bio: John Fraser was the sole member of the JUAN MAN BAND in Portland, Oregon during the seventies. Playing over 15 instruments, (three or four at a time). He is now happily living in the art community of Cannon Beach, Oregon.

HACKERPATCH

HACKERPATCH is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Once something's published here, it's free for all.

PROGRAM: HORN V

By Erick Hailstone (MIDI Connection)

What we're doing here is changing Ensoniq's patch #3, "HORN3T." Instead of a split patch, we have layered the two sounds and have the wheel controlling the volume of the horn part of the sound. (Also see my article elsewhere in this issue.)

PROGRAM: CALIOP

By Sam Mims (Syntaur Productions)

CALIOP makes use of the NOISE2 waveform to represent the steam or compressed air blowing over the whistle pipes of a calliope. Since these instruments seem to be inevitably out of tune, I detuned oscillators 2 and 3 from each other both with the fine tuning and with slowly-sweeping LFO's. I also detuned the scaling so that it is slightly compressed, thus playing higher notes flatter, by using the KBD function to control the oscillators (see my article in the February 1987 TH). Since this also lowered the pitch by nearly a half step, I compensated by raising the fine tuning 10 notches, to 10 and 13 for oscillators 2 and 3. The sound is pretty grundgy on its own, but when playing in the hoaky style of a calliopist, it captures the charm of the carnival.

PROGRAM: PURPLE

By Tom McCaffrey (Philadelphia ESQUPA)

The next time you're jamming, and the guitarist who only knows three chords (and three songs) starts in on "Smoke on the @#$%!!! ...", you'll be ready. "Purple" is a fat, gritty B-3 sound that's great for blues licks and might even convince Jon Lord to trade up to an ESQ. The patch is built around octaves and fifths in OSC's 1 and 2, and a slight key click is provided by octaves in OSC 3. Filter settings are wide open, and no novelty settings are used. For an even fatter sound, MOD1 in DCA3 can be switched to ENV2 during performance.

PROGRAM: VIBES

By Dave Greenway, Cinncinnati

See letter in this month's "Interface."

ESQ-1 PROG HORN V

BY: ERICK HAILSTONE - MIDI CONNECTION

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	2	0	0	PULSE	LFO1	0	OFF	
OSC 2	0	0	0	SAW	LFO1	3	OFF	
OSC 3	1	0	0	SAW	LFO2	0	OFF	

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	WHEEL	-63	LFO1	0
DCA 2	63	ON	WHEEL	-63	LFO1	0
DCA 3	63	ON	WHEEL	-63	LFO1	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	18	0	12	ENV3	63	LFO1	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	56	8	LFO1	0

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	OFF	ON	TRI	0	1	6	OFF
LFO 2	24	OFF	ON	TRI	0	1	6	OFF
LFO 3	22	OFF	ON	TRI	0	3	4	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	49	63	0	0	5	50	63	20	9
ENV 2	63	50	45	0	0	6	50	63	20	9
ENV 3	63	4	-63	51	0	19	62	0	21	9
ENV 4	63	43	0	8	0	2	51	54	24	9

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

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	3TRUMS	ON	3TRUMS	-	-	-

ESQ-1 PROG CALIOP

BY: SAM MIMS - SYNTAUR PRODUCTIONS

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	1	0	0	NOISE2	LFO3	63	OFF	0
OSC 2	1	0	10	SQR2	KBD	-2	LFO2	-3
OSC 3	0	0	13	SINE	KBD	-2	LFO1	4

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV1	41	OFF	0
DCA 2	0	ON	ENV2	63	LFO2	3
DCA 3	0	ON	ENV2	45	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	54	0	9	ENV3	9	LFO1	-2

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	56	8	LFO1	1

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	4	OFF	ON	TRI	0	1	0	OFF
LFO 2	12	OFF	ON	TRI	0	1	6	OFF
LFO 3	63	OFF	ON	NOI	63	3	4	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	23	10	0	0	2	28	63	20	9
ENV 2	63	50	50	0	0	15	35	63	20	9
ENV 3	63	57	57	51	0	13	35	0	21	9
ENV 4	63	43	0	8	0	2	51	54	24	9

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

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

ESQ-1 PROG PURPLE

BY: TOM MC CAFFREY

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	0	0	OCT+5	LFO1	0	OFF	0
OSC 2	0	0	3	OCTAVE	LFO1	0	OFF	0
OSC 3	0	7	1	OCTAVE	LFO1	0	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	56	ON	OFF	0	OFF	0
DCA 2	54	ON	OFF	0	OFF	0
DCA 3	54	ON	ENV1 *	35	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	127	0	63	OFF	63	OFF	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO3	55

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	23	OFF	ON	TRI	0	1	20	WHEEL
LFO 2	N/A	-	-	-	-	-	-	-
LFO 3	11	OFF	ON	TRI	32	0	32	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	63	0	0	0	0	0	0	0	0
ENV 2	63	50	45	0	0	0	50	63	12	0
ENV 3	N/A	-	-	-	-	-	-	-	-	-
ENV 4	63	63	63	0	0	0	17	63	8	0

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

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

ESQ-1 PROG VIBES

BY: DAVE GREENWAY

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

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	12	ON	ENV1	60	OFF	0
DCA 2	41	ON	ENV1	39	OFF	0
DCA 3	41	ON	OFF	0	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	32	3	20	ENV3	41	VEL	0

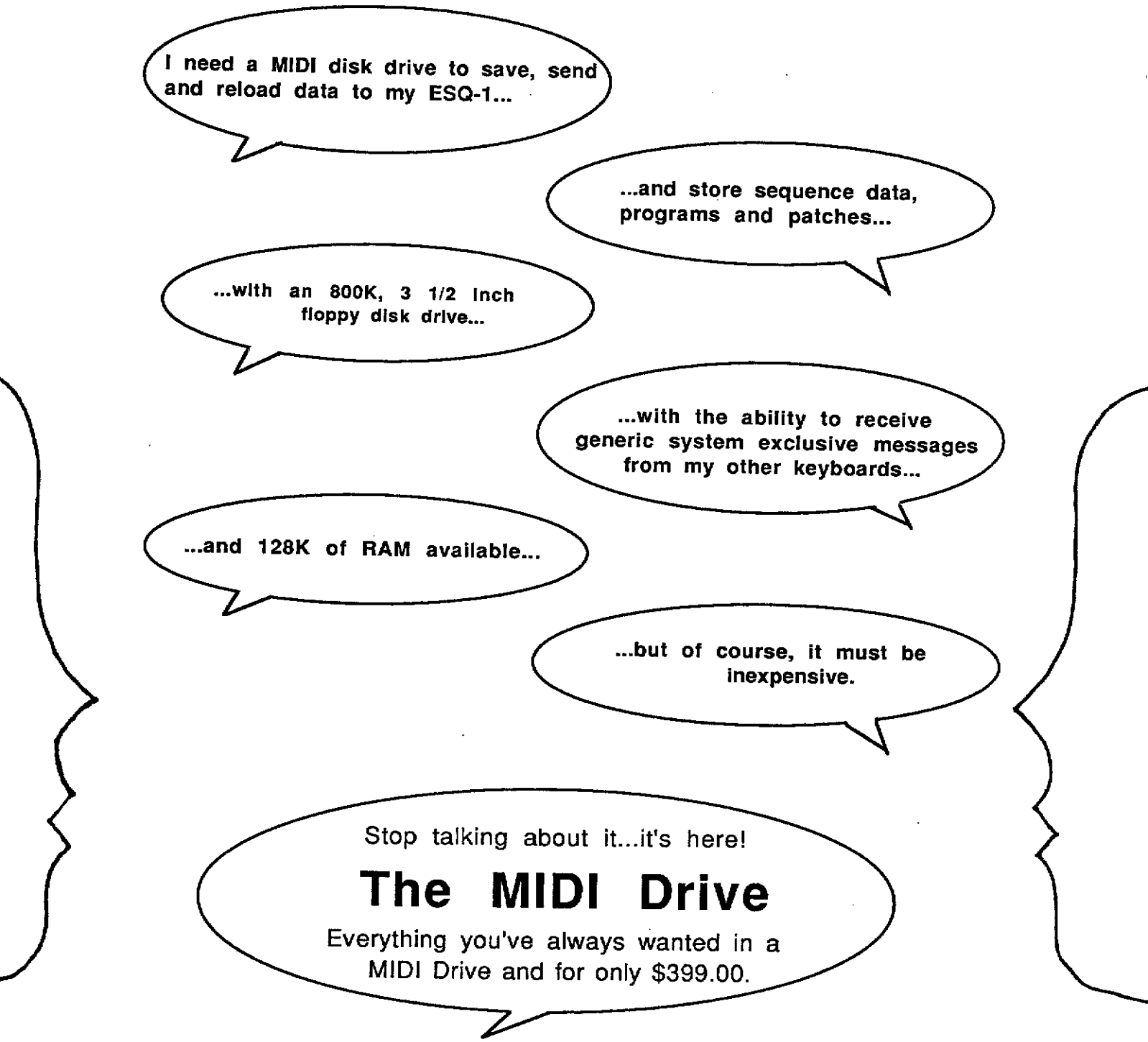
	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO2	47

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	ON	TRI	0	0	45	PEDAL
LFO 2	18	ON	ON	TRI	0	22	8	OFF
LFO 3	N/A	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	22	0	15	0	0	33	36	18	0
ENV 2	N/A	-	-	-	-	-	-	-	-	-
ENV 3	63	26	18	33	22	0	28	47	24	15
ENV 4	63	47	0	26	63	0	24	57	17	9

	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
N/A	N/A	N/A	N/A	N/A	N/A	N/A



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USER GROUPS

Philadelphia area ESQ-1 user's group. Lots of public domain patches, programming info, sequencing and MIDI tips, and more. Contact Tom McCaffrey, ESQUPA, P.O. Box 427, Bensalem, PA 19020. (215) 750-0352.

MIRAGE INTERNATIONAL USER'S GROUP. Join M.U.G. the largest, fastest growing club in the world. Receive monthly lists of quality user samples. Correspond with members. Special discounts!! 1 Year Membership: $20 (1 free disk), Outside USA: $30. Lifetime Membership: $65 (2 free disks), Outside USA: $75. Checks or MO payable: G-4 Productions, M.U.G., 622 Odell Ave., Yonkers, NY 10710.

Anyone interested in trading ESQ-1 Patches? Join the west coast ESQ-1 user group - ESQUG-WEST. Patches and programming discussions. Working on a great patch library. Jim Grimes, ESQUG-WEST, PO Box 365, Harbor City, CA 90710. (213) 541-8908.

ESQ-1 USERS GROUP: 20 members and growing with a main purpose of distributing tips and public domain patches. Contact: Bob Wham, 4900 Joe Ramsey Blvd., #1303., Greenville, TX 75401. 1-214-454-6792.

SAMPLES

I am interested in exchanging samples and communicating with others about the Mirage - especially in the Midwest. Also looking for sounds for Roland JX-8 synth. Paul Adam, 2720 N. Knoxville, Peoria, IL 61604. (309) 688-0267.

TRADE YOUR MIRAGE SAMPLES. Send me a list, or just send some good disks and I'll copy my best on them and send them back. I also would like to trade Apple II+ software, especially MIDI and Mirage programs (no copyright material). Send to: Daniel Wolkoff, 3705 Gates Rd., Vestal, NY 13850.

Five Mirage disks from "Sound Cells" including: Air Choir, Bottle Flute, Sound-Track, Orchestra, Piano-String, Choral Strings, Rock Guitar, 12-String, Guitar, and more! All five disks, $30. Call Kevin (503) 344-3494.

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I would like to swap samples with Mirage owners in the Boston, MA area. Call: Jack Ellis (617) 268-9792.

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PATCHES

I am looking for ESQ-1 users in the Burlington, Vermont area. I would like to exchange sounds, sequences, patches, ideas, ... If interested, call or write. Bryan Moore, 1-802-863-5100. 12 Waybury Rd., Colchester, Vermont 05446.

ENSONIQ ESQ-1 80 voice EEPROM cartridge. VOICE CRYSTAL 1 is made of translucent, deep blue, high-impact resistant epoxy, filled with voices so accurate and unique you won't believe your ears. BANK A; natural instruments: Steinway, tack piano, Rhodes, clav, Taj Mahal flute, trumpet, bassoon, upright bass, fiddle, strings and percussion. BANK B; electronic instruments: FM piano, digital pianos, bell pianos, Moog patches, chorus bass, slap bass, adjustable gated drums and claps and much more. VOICE CRYSTAL 2 is now available in magnificent red thanks to all our satisfied VC1 customers! It features BANK A; organs, music box, spirit voices, woodwind and horn sections, sitar, bagpipes, classical guitar, steel drum, belltree, cowbell and congas. BANK B; Fat OBX, Polymoog, electric guitars w/chorus, mellow, voice sync, glass bells, tube bells and much more. All this for only $63.00 per cartridge. Specify VC1 or VC2. DATA CASSETTES are also available for $16.00 per bank of 40 voices. Specify VC1A, VC1B, VC2A, or VC2B. Also, the next series VC3 and VC4 will be available soon with their own unique color and voices. Mail check or money order to; EYE AND I PRODUCTIONS, 2151 Old Oakland Rd., #224, San Jose, Ca. 95131. For COD orders and more info call (408) 943-0139.

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Ensoniq ESQ-1 Owners, buy the best. Volume 1: 40 exceptional sound programs. Only $19.95 for data cassette and program sheets; also tips for effects processing, splits/layers. Quick Delivery! Dark Horse Music, PO Box 295, Crested Butte, CO 81224.

ENSONIQ ESQ-1 --- 40 NEW programs with percussion including: snares, toms, cymbal, flat rim shot, claps, open and closed hi-hat. Acoustic instruments including: guitar, flute, upright string bass, sax, trumpet, harp, and incredibly "real" string patches. Plus "useful" NEW electronic sounds including: TUBES, BIGKEY, BELKBD, VOXORG, SYNSTR, OBERHM 1, STARK, and more. To order, send check or money order for $19.95 + $2.00 shipping and handling (Calif. residents add 6 1/2% sales tax) made payable to The MusicBank, 18522 Mtn. View Ave., Los Gatos, CA 95030. Phone: (408) 353-5040. Please specify Songwriter Series 1 on your check. Demo tape of sounds is also available for $3.00. Good luck with your ESQ-1!!!

Famous PATCHMAN MUSIC Patches for ESQ-1. Volume 1: Moog/Thumb Basses, Real Piano, Drum Kits, Percussion. Volume II: Jump!, Guitars, Orchestral Winds, Gated Snare/Linn Kick, Leslie B-3. 40 patches/volume. $19.95/volume. Cassette. 2043 Mars Ave., Lakewood, OH 44107.

ESQ1 PATCHES and Commodore 64 software from JAMOS MUSIC! Two all-original sets of forty sounds each for the ESQ1 on cassette, with full patch listings and application tips, $25/set. All sounds programmed by Hacker author and ESQ1 expert Jim Johnson. ESQRND: An algorithmic patch generator for the C64 and ESQ1. Reviewed in the Feb. 1987 Hacker, ESQRND is a useful tool for pros and beginners alike. $20. MIDIPRINT2.1: A MIDI data display program for the C64. Features real time or buffered display, variable data filtering, MIDI thru, printer or screen output, and hex, decimal and English display modes. An essential tool for troubleshooting and education, this program is a STEAL at $15. For more information send a SASE to JAMOS MUSIC, 1970 N. Hartford #17, Chandler AZ 85224

ESQ-1 (The $1400 Fairlight?) Orchestra sounds, wheel controlled filter sweeps, sampled sounding EFX, choir voices, Hammond B-3 with and without keyclick, wheel controlled Leslie, and more. 40 studio quality patches w/performance notes. Send $16.00 for datasheets or $25.00 for data tape (cassette) to: WEINBECK SOUNDS, 485 Shelard Pkwy, Suite #203, St. Louis Park, MN 55426.

SEQUENCES

For the ESQ1: Classical music sequences from piano and organ scores. Patches to go with the sequences using SOS software and Commodore 64. Send for a free list. Don Pribble, 6810 Highway 55, Minneapolis, MN 55427.

ESQ-1 Sequence Data! Bach's Brandenburg concerto #2. A complete and artful performance. Full voice separation onto eight tracks. Sensitive attention to dynamics and theme. Soundsheets and usage tips included. Data cassette: $35.00, Demo cassette: $3.50. Robert Sanson, 71 Pleasant St., Keeseville, NY 12944.

ACCESSORIES

Protect vulnerable key contacts from dust, dirt, and cat hair with a CUSTOM COVER for the Mirage, ESQ-1, Mirage DSK, SPD-1 and most popular synths and samplers. Made of durable black double-stitched poly/cotton - NOT plastic. Send $19.95 + $2.00 p/h to: STAR COVER, 520 Mildas Drive, Malibu, CA 90265. (Calif. residents add 6%.)

WaveGuides. Mirage parameter sheets for Ensoniq factory disks. Spiral bound, two indexes, easy to use. Vol. 1 & 2: disks 1-23, $24.95. G3, 134 San Leonardo Way, Huntsville, AL 35811-9132.

INSTRUCTION

MIRAGE VIDEO INSTRUCTIONAL TAPES. MIRAGE TECHNIQUES VOL 1. Basic operational functions, parameter functions, basic sampling, multi-sampling, basic MASOS functions, moving wavesamples, making performance disks, tips and tricks.... BONUS!!! Also hear demonstrations of M.U.G. sounds from the M.U.G. library. (approx. 60 min.): $29.95 (+ $3.00 shipping and handling). M.U.G. members : $19.95. MIRAGE TECHNIQUES VOL. II - Visual editing systems, advanced multi-sampling, looping, MASOS functions, etc... (available soon). NY State residents add 8.25% tax. Specify Beta or VHS. G-4 Productions, Dept. MV, 622 Odell Ave., Yonkers, NY 10710.

FREE CLASSFIEDS!

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 20 cents per word per issue. (Unless renewed, freebie ads are removed after 3 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.

THE INTERFACE

Dear Transoniq,

I am an owner of one of the first line of Mirages and have enjoyed reading your informative newsletter over the past year and a half, or however long it's been. I've finally found some time to write to you and I've recently come up with a short and undemanding wish-list.

Fist of all, congratulations to the people at Ensoniq for the excellent samples found on the C-series disks. I've only heard one demo disk which featured a number of horn samples that were beautifully demonstrated with sequences of Peter Gunn and Hawaii Five-O. I couldn't believe the sound quality of these samples! This is what I've been waiting for! Now, as for my wish-list, I'd like to hear (definitely in the new C-series) a disk full of Japanese instruments and percussion including taiko drums, shakuhachi, and koto. Also, I'd love to have a sample of a breathy flute like the one featured in Karate Kid II. The closest sound I've found to it is the perc bottle sample on disk 9.0. This leads me to a question for Ensoniq: is there any way to copy a single sample off a factory disk (i.e., the perc bottle sound on disk 9.0) without having to purchase the whole disk?

Also on my wish-list is a portamento feature for the Mirage. Would this be too difficult to implement in a future software update?

One last thing. I just read in Keyboard magazine that the bass line in Janet Jackson's hit song Control is a car horn sample on a Mirage (it's even an older model Mirage like mine!).

Thank you for your time and keep up the good work.

Sincerely,
Kenneth Ibrahim
Monterey, CA

[Ensoniq's response: 1) Mirage Sound Disks are sold complete and the sounds contained on them are copyrighted. While it is possible to copy any sound to any formatted disk, such action would violate the Ensoniq copyright and is prohibited by law. Once you have purchased an Ensoniq sound disk, you are of course free to modify and copy the sounds for your own use.

2) Ensoniq currently does not have plans to add this feature to the Mirage. Because of the complex process required to implement a gliding function between two different wavesamples, portamento is not a practical feature on a sampler at this time.]

[TH - Try M.U.G. (see ad for contact), Jack Loesch (see classified), and/or Sound Cells (402 330-6201) for Japanese instrument samples. We know that a few of our readers have developed some Japanese sounds - maybe they'll contact you through the Hacker.]

Dear TH,

As I come from a musique concrete background and am using the Mirage instead of tape loops, I would like to see a RAM expander/OS extension that allows more sample points per wavesample. That is to say, make all wave samples louder. Like say 512K per keyboard half. Is this possible? Is anyone working on it? I would be interested in being a customer for such an upgrade. Also, how does one get some hard technical data on a Mirage, anyway?

Sincerely,
Grant Richter
Milwaukee, WI

[Ensoniq's response: 1) We're not quite sure what's being asked here ("more sample points per wavesample"), so we'll approach it from two different angles. In both cases, hardware limitations are the determining factor. Because the Mirage is an 8 bit machine, more bits of resolution is simply not possible. If you are asking for longer samples, the fact that the Mirage can only address 64K of continuous memory is the limiting factor.

While it is our policy to provide software revisions as are necessary to maintain the value and quality of our products, major hardware modifications as would be required above are simply not included in the set of options available.

Keep in mind that a number of outside developers market memory expanders which allow the user to keep more resident sounds available in internal memory at any given time.

2) As to your request for "hard technical data" on the Mirage, Ensoniq maintains a structured policy regarding the distribution of such materials. Third party developers interested in making hardware modifications to our products submit to an approval process which includes the signing of a non-disclosure statement in order to obtain technical materials such as schematics and source code. This careful process is designed to protect against unauthorized and potentially damaging hardware modifications and ultimately helps us to maintain the quality and reliability of our products. Without this policy, our modular service replacement policy would be undermined.]

Hacker,

I'd like to thank you for your article by Jack Loesch, "Customizing Your Own Mirage Disks." Here's a guy that will take time out of his own schedule to help other "Mirage Idiots" in this world. It's this kind of information that us working musicians need - Thank you!

I'd still like to know how to move sounds that use more than one wavesample, or sounds that are in the mix mode, and how they are assigned. It's easier to understand when you have a step by step example.

Do you think Ensoniq will come out with their own memory expander - I can't imagine why they haven't done this already.

Keep those live performance articles coming - I love it!

Also, I am looking for the ultimate, touch-sensitive Bass keyboard - small, compact, and powerful. Any ideas out there? I currently use a Yamaha CE-20.

Thank you.
Sincerely,
Dennis Provisor
Stevens Point, WI

[Ensoniq's response: 1) Regarding the process of moving wavesamples on the Mirage, we refer you to an excellent article on the subject written by our own Steve Coscia entitled "Copying Current Wavesamples to Another Location" (Transoniq Hacker, Issue #6). [TH - Currently available in Reprint #1.]

2) Because there are two third party developers already marketing Ensoniq-approved memory expanders, we have no plans or need to develop one of our own. When installed by an authorized Ensoniq Service Center, these products do not violate the warranty.

The approved Mirage memory expanders are:

"MegaBank" from Indian Valley Manufacturing.

"Turbo MME" from Virtual Engineering Corp.]

Dear Hacker,

I recently purchased an ESQ-1 and enjoy it thoroughly. I own two cartridges, and am in the process of purchasing a memory expansion card. I only have one problem. In my songs, I usually need to use sounds from not only the internal memory and one cartridge, but most of

the time, from all three patch sources at once. Is there any way that I can do this with just my synthesizer?

If worse comes to worst, as it usually does, I would like to try to MIDI interface it with my IBM XT. I know that the ESQ-1 is relatively new on the market, and there really hasn't been enough time for much software to come our, but I'm still hoping that you can help me find a program. By interfacing it, I would hope to be able to:

1) Create my own waveforms, and place them in the ESQ-1's memory to use at will.

2) Through my MIDI interface, I would like to use my IBM's 640K to store patches and sequences, which would, as long as the computer was working the interface, be shown on the ESQ-1 screen, as if it really were in memory. If possible, the patches in the IBM could be used without having to transfer them into the ESQ-1's memory.

Well, I know that these ideas probably sound pretty weird to you professionals at the Hacker, and at Ensoniq, but, I'll still be hoping for some literature and an encouraging reply in the mail!

Yours truly,
Greg Skibiski
Northampton, Mass.

[Ensoniq's response: 1) The ESQ-1 is capable of simultaneously accessing sounds from internal memory and both banks of one cartridge. In order to have access to all the desired sounds from all three patch sources, we suggest that you consolidate your favorite sounds from both cartridges onto one STC-8 EEPROM Storage Cartridge. This will give you instant access to the sounds without the use of a computer-driven librarian.

2) Because the ESQ-1 is not a sampler and has no user-definable waveforms, creating your own waveforms and storing them in internal memory is not possible.

3) Only one batch of sequencer data can be accessed at a time and the ESQ-1 can only display and play what is in internal memory at any given moment. As a means for storage and retrieval of sequencer data, we recommend "ESQ Manager", a librarian software package developed by Turtle Beach Softworks and distributed by Ensoniq.]

Dear TH,

I have a few questions about the Mirage concerning MASOS.

1) I wrote an additive synthesis program for the 520ST/Mirage. It generates a single page waveform that should have a noiseless loop. I then use MASOS via the computer to replicate, scale, and add the wavesample with other wavesamples. I have noticed that after a wavesample has been replicated and a loop established on any page other than the first, there is an audible click as the loop is entered. Once in the loop everything seems perfect, no looping noise or change in tone from the pre-loop pages. The clicking only occurs on higher notes. My best guess is that the click occurs due to the look-up table removing samples from the wave for transposing to higher notes. Please tell me if this is true or not and if later versions of MASOS fix this. I have MASOS vers. 1.0.

2) How can I get the latest version of MASOS? I won't have to pay $50 again will I?

3) What are the differences between vers. 1.0 and the latest version of MASOS? Are all versions upward compatible?

4) TH, are you interested in seeing any of the software that I have written for the 520ST and Mirage? I have also modified my "'85" Mirage to get rid of the keyboard scanning noise. Do you think that anyone would be interested? I have heard no complaints about the noise, so I don't know if it's a common problem.

Sincerely,
David Light
Poquoson, VA

[Ensoniq's response: 1) Your assertion that the audible click in your loop is due to table look-up noise is absolutely correct. This phenomenon is due to a Q-chip characteristic and has nothing to do with updated versions of MASOS (which, by the way, currently stands at 2.0). You can minimize the click by keeping your loops on even-numbered pages, making sure there is a zero crossing at the start of the page and by trying to minimize transposition intervals.

2) The most recent update of MASOS is version 2.0 and is available from your authorized Ensoniq dealer as a part of the Advanced Sampler's Guide package (model # ASG-1) for $19.95. There are no functional differences between version 2.0 and earlier versions. The new system is compatible with any Mirage.]

[TH - We're ALWAYS interested in software and mods. Articles, tips, software for review - send 'em in!]

Dear Hacker,

I've recently been experiencing some difficulty with my Multisampler upon bootup. I'm using a factory disk with a 3.1 OS. If I first turn on the Mirage, then insert the disk, the drive will whirr, then the light will go out, and everything is blank. Sometimes the readout will

indicate that the disk is unformatted. If I turn the Mirage on with the disk inserted, the drive whirrs and then stops and two lines appear at the top of the readout and the whole system is locked up. I have to restart the system many times before I get a successful bootup. The problem seems to be sporadic - not every time do I have a problem. Sometimes the disk boots without a hitch - sometimes it boots, but indicates a disk error.

Any help you could give me would be much appreciated; there are no authorized Mirage dealers around here.

Kudos on a fine publications.

Sincerely,
Richard Rupert
Hughesville, PA

[Ensoniq's response: By way of introduction, the most recent version of the Mirage operating system is 3.2. If the malfunctions you describe occur when you boot with a particular disk and no other disks, then the problem could simply be caused by a damaged disk. If the symptoms appear upon boot-up with any disk, this could indicate a hardware problem with either the disk drive or PC board. If the latter is the case, consult with your nearest authorized Ensoniq Service Center. If you are having trouble finding a local Service Center, feel free to call our Customer Service Department at (215) 647-3930 for the nearest location.]

Dear Transoniq Hacker,

Is there any way I can change the mix level of a track, WHILE I'M RECORDING IT into the sequencer? AND have my beautiful ESQ-1 remember it? Or is this simply a facility when putting my sequences onto tape?

All the best wishes to Hacker. Keep up the great work.
P.S. Is there any software I can buy for a Commodore or Atari which will a) store my sequences and b) expand my sequencer memory???

Cheers!
S. Coxon
England

[Ensoniq's response: You will be pleased to learn that the feature you describe has been provided for with the new ESQ-1 software revision (version 2.3). As of this update, manipulation of the footpedal can be interpreted as a volume change on the currently selected track. Volume changes will be accurately reproduced upon playback. Make sure you select PEDAL = VOLUME on the MASTER page.

See your authorized Ensoniq Service Center for the version 2.3 upgrade of your ESQ-1 operating system.

P.S.) a) To aid you in the storage of your sequences, we recommend "Sound File", a librarian software package developed by Blank Software and distributed by Ensoniq. There are numerous other librarian packages available for the C-64, including the ES1 Librarian developed by Valhala Sound Products. We also suggest you scan the Hacker for one of the numerous Atari librarian developers (Dr. T, among others, distributes one).

b) The only way to actually expand the sequencer memory of the ESQ-1 is to add a sequencer expander cartridge. The many available software packages facilitate the storage and retrieval of sequence data; they do not expand the memory of the machine.]

Dear Hacker,

I am the proud owner of an ESQ-1. Recently, I heard through my local Ensoniq dealer that Ensoniq is developing a software package for the ESQ-1 that will allow disk storage on a 3.5" drive made by Yamaha. This is just the kind of thing that I've been looking for since I've had my ESQ (6 months). Being a college student, I have things to worry about like tuition, room and board, etc. The comparatively small price of an external drive instead of a Mirage ($300 opposed to $1000) could be swallowed much easier. Have you received any information concerning this issue? Also, I am interested in forming an ESQ-1 user's club in the Metro Detroit area. Anyone else interested?

Sincerely,
Scott Lake
2931 Pinto Dr.
Union Lake, MI 48085

[TH - We've included your complete address for those interested in your user's group. You might also be interested in I.V.M.'s disk drive plans mentioned in last issue's interview.]

[Ensoniq's response: With the release of version 2.3 of the ESQ-1 operating system, dumps of sequencer data can be achieved with the SEQ TO ESQ-1 command on the STORAGE page, regardless of whether or not you are actually sending data to another ESQ-1. The Yamaha MDF-1 MIDI disk drive has been tested extensively here at Ensoniq and it does work. By the way, the Yamaha unit actually uses 2.8" "quick disks", not 3.5" micro-floppies.]

Dear Hacker and frustrated ESQ data cassette users,

The main reason for data storage failure is because of dropout on the tape. When storing data use either certified computer data cassettes (available at Radio Shack and computer shops) or HIGH quality NORMAL BIAS 120us ferrous oxide tape. This is the type of tape used in computer data cassettes and provides better resistance to dropout. I have been using Maxell XL1-60 with excellent results, however most brand names carry a high quality normal bias tape. Also, WATCH THOSE LEVELS. Data is fast and those needle movement VU meters are not. Data can reach a +7 db peak and back before those meters can reach 0 db. Experiment a bit to find the best record/playback levels, turn the noise reduction and Cr02 switches OFF and don't mess up the signal path with mixers and other gear. Run the data directly into and out of the deck if possible. Also, though Ensoniq provides for the storing of entire internal sequences, I prefer not to wait 8 minutes only to find out during verification that the data didn't take. Record each sequence separately. The ESQ-1 seems to prefer it that way.

Happy Storing,
Mark L. Wiens
Eye and I Productions
San Jose, CA

Dear Transoniq Hacker:

1) Concerning all the questions about cassette interfacing on the ESQ in the May 87 issue: the answer is to get a cassette recorder especially designed for transferring data. I use a TRS-80 cassette recorder (Radio Shack, approx. $70). The TRS-80 recorder adjusts the level automatically when you are recording data. When reloading program or sequence data to the ESQ, set volume at "4". I have never had a failure, and I have one of the very early ESQ's (August,'86 with subsequent update to 2.0.) Another note, use computer cassette tape. The main drawback to computer cassette tape is that you end up with beaucoup cassettes if you do a lot of programming and sequencing.

I don't know why Ensoniq has not researched and documented this problem with cassette storage in the owner's manual. I couldn't load anything using any "high Quality" cassette machine and I have several. By the way, I have never been able to load the factory sequences and programs on the tape provided by Ensoniq with the ESQ. That includes using the TRS-80 recorder. The recording level is way too high.

2) Concerning Mr. Hjelte's comments about synching in the studio, I have had that problem also. The solution is to press "Song Play" and "Song Stop" often until no notes sound when the clock is set to tape sync. This is true even with 2.0.

3) My main gripe about the ESQ concerns the sequencer. You can't chop off the front or any other part of the sequencer except the end and have the remainder exist as a sequence without step editing or punching in. I usually re-record the whole thing in real-time since I hate step editing. Other than that, the sequencer in the ESQ is extremely powerful. So powerful, in fact, that I am not considering getting a computer for sequencing. I am planning on getting a Commodore 64 for voice editing of both the ESQ and Yamaha FB 01.

4) Minor Gripe: Why the hell didn't they put a MIDI-thru on the ESQ-1?

5) Why is everyone trying to get FM sounds out of the ESQ? If you want FM sounds (and only some FM sounds are really good), get an AM, FM synth. The FB01 or the TX812 are excellent for use with the ESQ. I love analog and additive synthesis. If you really want some interesting sounds, try additive synthesis on the ESQ. You may have to, God forbid, go read some books on synthesis because additive synthesis is kind of difficult without a little theoretical knowledge. I have included a vibes patch [TH - see Hackerpatch] which makes use of the CV pedal for some interesting effects. It is not additive, but it will satisfy the FM freaks.

All of this reminds me of another minor gripe. Why three oscillators? Why not four (or more)? One complicated way of getting at additive sounds without buying another ESQ or ESQ-M is to build the first 3 harmonics and amplitudes on one patch location and the other 3 harmonics and amplitudes on another patch location and then layer the two patches together to create a composite voice. However, as all owners of the ESQ know by now, layers are 4-voice polyphonic.

6) If people are willing to do some programming and fool around with the ESQ, they will find that the ESQ has more sonic potential than any single synth on the market today. That includes all the DX's and their offspring. C'mon, who out there really likes DX strings? FM is great for metallic sounds and really percussive stuff. But so is the ESQ.

Sincerely,
Dave Greenway
Cincinnati, OH

[Ensoniq's response: 1) When loading factory sounds using tape, the ESQ-1 is highly level sensitive to playback output. Our engineers have found that finding the right playback level simply requires a bit of trial and error and patience. An output level of around 2 on the TRS-80 unit works consistently.

2) The 2.3 operating system revision for the ESQ-1 provides for a more reliable Tape Sync operation.

3) The major and minor gripes you bring up can can all be addressed through an examination of the fundamental design of the instrument.

Because there is only so much room within the operating system of the instrument, some sequencer editing functions simply had to be left out of the ESQ-1 design. The ESQ-1 was envisioned as a controller keyboard and it is for this reason, in addition to cost considerations, that a MIDI Thru port was not included on the unit. As an aside, we recommend the use of one of the many inexpensive MIDI Thru boxes available to facilitate splitting the MIDI signal. As to your request for a greater number of oscillators, the Q-chip design only allows for 24-oscillators at the ESQ-1's playback rate. We feel that the unique 3-oscillator capability of the ESQ-1 affords the sound designer more programming power for the dollar than any other synth on the market.

In our effort to produce what we at Ensoniq feel are instruments of unmatched quality of sound, features and dollar value, certain compromises are obviously necessary. We appreciate any and all input from our customers concerning current instrument features as this input plays an important role in the design and development of new products.]

Dear Hacker.

I am a proud ESQ-1 owner since 1/87. As this is my first synthesizer, I couldn't have made a better choice. And your newsletter has been such a boost. Keep up the good work!

I am a composer/arranger whose profession is a software engineer for a major electronics firm. With such a blend of knowledge, I see so much potential for the ESQ-1. Let me share these ideas, and problems, with my fellow readers.

First, I have a problem going from one sequence to another. I wanted to put two "grace" notes at the end of a 4/4 sequence leading in to the next sequence. I put the notes on the last bar, last beat, clock ticks 22 and 23. The note on clock tick 23 was not

played. If I append the 2nd sequence to the 1st, both notes are played. It's only a problem when moving to a different sequence. Besides appending to form one sequence, another solution was to put the notes on clock ticks 21 and 22, which works acceptably when the tempo is fast.

Sometimes I get a "System Soft Reset" error after merging two tracks. My usual procedure is record and quantize a track, record and quantize a second track, merge the tracks, and erase the remaining track. I receive the error when I try to play the sequence. The only fix is to erase the merged track, and repeat the recording procedure. It usually works the second time, as the error seldom occurs anyway. The ESQ-1 gives me no clue as to what's wrong.

The editing features leave a lot to be desired. The most aggravating is when I make changes, change something else, and my first set of changes go away! An example is when I change the track mix settings, then edit sequence with the append function. My track mix settings are restored to the original settings! It's very difficult to tell what changes are applied immediately, which ones can be cancelled, and when the changes are made permanently. Sometimes I select a different sequence temporarily, so the question "Save changes to old sequence" will be asked and I can ensure my changes are set. A simple SAVE (and CANCEL) button on the ESQ-1 would have been wonderful.

Appending two sequences is a cinch, but splitting a sequence into two sequences is impossible. This could easily be solved by having the prompts "From what bar" and "For how many bars" added to the COPY SEQUENCE function, with default values from bar 1 to the last bar. The APPEND SEQUENCE function should have the same prompts.

Deleting bars at the end of a sequence is a cinch (CHANGE LENGTH function), but any other bars within the sequence is impossible. If the COPY SEQUENCE function had the prompts mentioned above, this function could be accomplished in a few steps. Inserting bars in the middle of a sequence could also then be performed.

While the DATA ENTRY SLIDER and UP and DOWN ARROW buttons suffice most of the time, sometimes it is nearly impossible to get to a desired number due to the broad range of values (such as bar values 1-999). A set of numeric keypad buttons would be great when wanting a specific number quickly. Minimally, have a ZERO button, as I set values to zero quite often.

When a sequence is selected and power is turned off and turned on again, the selected sequence is remembered. When a song is selected, power is turned off, and power is turned on, the selected song is forgotten and the latest sequence referenced by the song is the selected sequence. This is not a problem, but rather "odd" and inconsistent. In addition, each sequence has an associated LOOP control value - songs do not, and inherit the value of the previous selected sequence. These are just bothersome side-effects that need not exist, that I have to double-check when making audio recordings.

The QUANTIZE function is great! I didn't realize how badly I played until I used it! But I do have some suggestions about this function. The QUANTIZE function currently remembers the number of clock ticks a key is pressed down. When the "key down" clock tick is moved to a different clock tick, the "key up" clock tick is moved the same direction the same number of clock ticks. This can sometimes result in one note "bleeding" into the next, possibly resulting in a voice prematurely lost. I see three ways the QUANTIZE could work: 1) the way it does now; 2) adjusting the "key down" clock tick but retaining the original "key up" clock tick; and 3) adjusting the "key down" and "key up" clock ticks such that the original number of clock ticks between a "key up" and the next "key down" (i.e., silence) is retained. Both methods 1 and 2 could cause "bleeding" notes. Method 3 would be the most desired method for monophonic tracks, which is the way most of mine start. It would be nice if the ESQ-1 supported all three methods, and allowed the user to choose which method to apply.

The data saving functions are minimal, and I suspect ENSONIQ left this task for PCs and software developers. The inability to save/load programs directly from cartridge, to save/load a single program, and most importantly to save/load songs, is sorely missed. I suppose I'll have to wait for software developers to give me these functions.

Before I invest in a PC and software for the ESQ-1, the following requirements should be met: 1) the ability to save/load a single program from/to any location in any bank (i.e., a program library); 2) the ability to save/load songs. This means saving the song, all the sequences associated with the song, and all of the programs (by name, not just by program number) that have not already been saved in the program library. When loading the song, the sequences should be loaded in the available sequence slots, and the song sequence pointers should be renumbered as appropriate. In addition, any programs not already in the program banks should be dynamically loaded (since there are never any available program banks the user will have to specify where). All track program numbers in the sequences should be renumbered as appropriate so that they point to programs whose name is the same as the name when it was saved. The software could even be smart enough to

handle different programs with the same name; 3) the ability to show screen graphics and print sheet music, of a score of a song/sequence. It must have full editing capabilities, whereas I sometimes have strange time signatures and tempos in a sequence to simulate fermatas and ritardandos, that would look silly if scored as such; and 4) full support functions for the data saved, including: a) listing, deleting, copying, and editing the data, b) showing data in readable formats, c) printing data such as program sheets and track sheets, and d) showing ESQ-1 memory requirements and total playing times for a song/sequence.

While my letter concentrates on the deficiencies of the ESQ-1, I am greatly pleased with its performance. It has brought me many hours of enjoyment. Ensoniq must be proud of such a fine product. But I do look forward to its future enhancements!

Sincerely,
Joe Slater
Dallas, Texas

[Ensoniq's response: An abundance of good ideas and valuable comments here! As always, we at Ensoniq appreciate the feedback. Many of your product enhancement suggestions would no doubt appear on the non-existent "ideal instrument". It is our goal, however, to produce instruments that balance powerful features and superior sound quality with unmatched dollar value.

1) It sounds like your key down message at clock 23 is falling victim to the "all notes off" message that is sent at the very end of every sequence. This message is necessary to prevent notes from hanging on after the end of the sequence. The "all notes off" message comes so close to the key down message at clock 23 that the voice doesn't actually have a chance to sound.

2) The appearance of your "System Soft Reset" message should be eliminated by re-initializing the instrument. It could also be caused by an operating system malfunction. Are you using the latest ESQ-1 operating system? We have just released version 2.3. If not, you can visit your nearest authorized Ensoniq Repair Station for the upgrade.

3) In regards to saving track mix and other such data, one handy method is to go back and select the same sequence and then answer "YES" to the SAVE CHANGES prompt. See page 100 of the ESQ-1 Musician's Manual for a list of which information is saved.

4) The "Helpful Hint" on page 32 of your ESQ-1 Musician's Manual describes a quick way to get a zero value with parameters that have a +00 center value. With the Modulation Depth selected, press the DOWN ARROW button and while holding it down, press the UP ARROW button. This automatically sets the Modulation Depth to +00.

5) A great deal of engineering time and effort went into determining the best method for handling the quantize function and it was determined that your option #1 ("the way it does now") was the best all-around method.

6) We're not quite sure why you are having trouble saving and loading single ESQ-1 programs. This function is handled by the WRITE page and is detailed beginning on page 74 of your ESQ-1 Musician's Manual.

7) You needn't "wait for software developers" to provide you with many of the PC-driven features you are looking for. While it would not be cost effective to include many of these features on-board the ESQ-1, we suggest you take a close look at patch librarian and transcription packages from developers such as Passport, Mark of the Unicorn, Dr. T's and Voyetra Technologies. Perhaps you could contact the developers directly and offer your suggestions for future software products.]

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