

TRANSONIQ HACKER

The Independent Ensoniq User's Newsletter

ESQ-1 PATCH REVIEW

SOFTWORX - AN ESQ-1 SMORGASBORD

By Larry Church

FOR: ESQ-1
PRODUCTS: Sound Sets
PRICE: \$40/80 sounds + Extra for EProms or custom loads.
FROM: SoftWorx, 8402 Clover Hill Loop, Bayonet Point, FL 33567

Most ESQ-1 owners realize that they have an instrument with some rather incredible potential for sound generation. Synthesizer programmers are beckoning to this call and the marketplace for ESQ patch software isn't quite so lonely as it was a short time ago. We should soon see (or, rather, hear) humongous quantities of new sounds for the ESQ.

Last month, SoftWorx MIDI Systems offered their product to the market. TransonIQ Hacker received 11 sets (440 patches) for review. Eight sets are complete; the other three (and probably more) will be available by the time this is printed. A detailed analysis of this much material is a large task and would lead, no doubt, to some pretty lengthy text. A general overview approach is in order.

SoftWorx sent several documents along with the patch data disks. Some useful programming tips and a few do's and don't's about cassette data storage are passed along from their programmers. The ESQ Sound Set Library List with twenty titles (availability to be announced on the last 12) indicates much enthusiasm for the future of the ESQ patch business. A complete listing of patch titles grouped in banks of 10 - 4 banks to a page with each page a complete set - makes a convenient reference for the entire library. A rate sheet explains order requirements and prices. Patches can be selected individually with a minimum order of 80 sounds. An 80-sound cassette set sells for \$40.

Patch sets are paired up and loaded on cartridge, tape, or disk as 80 sound volumes. Volumes 1 and 2 come

with demo sequences. SoftWorx could get better mileage from their demo with a more serious programming effort. There are no demo sequences from volume 3 on. Too bad. A good beat, clever chord progression, a haunting melody or raging solo can really intensify the character of a good patch.

The first four sets of programs on the Library Set List share the same descriptive title - "mixed". Keyboard, bass, effect and percussion sounds are combined to offer an interesting variety. Even though an average percentage of average programs are contained, the overall programming quality of the library is quite good. Each of these sets has at least a few sounds that instantly impressed me as outstanding. A second closer look strengthened my opinion a bit more. The special effect patches particularly are consistently clever. SoftWorx programmers use a lot of velocity and negative envelope modulation. Drastic variations in the sound sometimes result from not so drastically varying performance changes. This allows a single patch to cover a lot of territory. When experimenting with some of these effects I found it useful to zero in on the desired operating range by "taming" a few parameters. In some cases this can be essential to gain precise control of the final result. Changing the velocity sensitivity on the master page is recommended by the programmers. This will significantly alter the performance of many of these sounds and requires experimentation to fully exploit their potential.

Some of these programs defy description by a few, measly printed words. Everyone can relate to animal noises though, and the pigs and lions on set 2 are some of the most amusing ones I've heard.

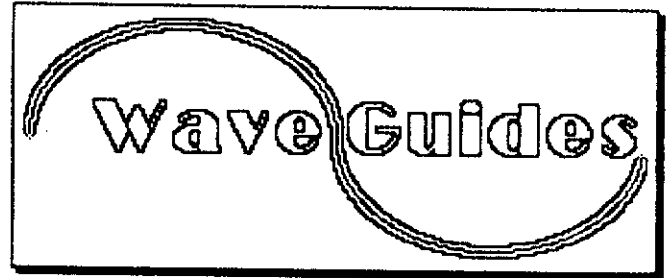
Sound sets 5 through 8 have the following descriptive titles on the set library list: FM Sounds, Orchestral,

FM/Analog/Effects, and FM/Percussion/Drums. These sounds tend to be more redundant than sets 1-4 with some of them obviously designed to give the user a choice of several variations on a sound. There is lots of good stuff here. Michael Duhaime, President of SoftWorx, mentions that these patch sets can be custom assembled, at an additional cost of \$40 per 80-patch set, eliminating the need to purchase sounds not applicable to individual needs just to get the ones you really want.

The amount of productive man-hours represented in these volumes is pretty amazing. For \$5, refundable on the first order, you can preview these efforts on audio cassette tape. This should be all anyone needs to choose the 80 patches most suited to their taste. These hand picked sets will likely rate a better review in the eyes of the individual user than any pre-assembled sets you'll presently find anywhere. SoftWorx will go to a lot of extra work in executing this marketing strategy, but the results should provide an excellent value for anyone looking for new ESQ-1 sounds.

Do you need parameter sheets for all your Mirage factory disks?

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THE MIRAGE - ESQ CONNECTION

By Clark Salisbury

Now I know there're a lot of you out there with Mirages. And I also know there're a lot of you out there with ESQ's. I'm also aware that you're all hyped for information dealing with your particular machine. So which one am I going to talk about this month? Well, both. I know that it seems like the coward's way out, and believe me - it is. But having been fortunate enough to use the two instruments together on a number of occasions, I thought it'd be fun talking about some of the cool things you can do with both a Mirage and an ESQ'1 at your disposal. Not that it's any big secret, or anything. But Ensoniq, with typical shrewdness, has designed the ESQ'1 to be a very complementary product to the Mirage. Or maybe it's that the Mirage is complementary to the ESQ. Well, whatever the case, I'd like to take a brief look at applications utilizing the two in tandem.

Both the ESQ'1 and the Mirage have the capability to dump system exclusive information via MIDI. The Mirage can dump wavesamples and program parameter setting information, and the ESQ can dump program parameter settings and sequences. The shrewdness on Ensoniq's part, though, was that they gave the ESQ the ability to fool the Mirage into thinking it was receiving wavesample data from the ESQ, when in fact, the ESQ is actually dumping its sequences and sound programs. What this means is that you can store your ESQ'1 programs and sequences to Mirage disk. Presto! Disk based sequencing - the lifeblood of many a modern lounge single or duo.

To set up the ESQ - Mirage link, all you will need are two MIDI cables, and a copy of MASOS, version 2.0. Simply plug the MIDI out of the Mirage to the MIDI in of the ESQ, and the MIDI out of the ESQ to the MIDI in of the Mirage. You may encounter a couple of minor problems here if you've been slaving other keyboards to the ESQ or the Mirage - you may start running out of ins and outs. If you are using a rack mount Mirage, the solution is quite simple. Use the ESQ'1 as your master keyboard, and daisy chain your other keyboards from the MIDI thru port on the back of your Mirage Rack. If you are using the keyboard version of the Mirage, I'd still suggest using the ESQ as the master keyboard, but you will need to plug the MIDI out of the ESQ to some sort of MIDI thru box (such as those made by Roland, Casio, and Yamaha) and use one of the thrus on the thru box to go to the MIDI in on the Mirage. The other thrus on the box can go to the MIDI inputs on your other keyboards and modules without creating any problems.

Boot the Mirage using Masos 2.0, and you're set. On the ESQ'1 press the button labelled "STORAGE". The display will show you your options regarding the types of data transfer available. Press the "soft button" under the "Midi-Send" heading. The display will change to reflect which choices are available to you as far as what type of data you can save, and whether that data is to be sent to a Mirage or to another ESQ. Pressing the "Seq to Mirage" button will send your data along to the Mirage - the transfer will take about 15 seconds, and you'll end

up with the entire contents of the ESQ'1s memory transferred to the Mirage. On the Mirage, follow the standard procedure for saving data to disk. You have now backed up all of your current ESQ data.

To load data back to the ESQ, it's pretty much a matter of reversing the procedure - boot the Mirage with MASOS (if you haven't already) and load your ESQ'1 data disk into Mirage memory. On the ESQ, press the "STORAGE" button, select "Midi-Load", then select "Internal Progs And Seqs". Once again, the transfer takes about 15 seconds, and you'll have the ESQ loaded with whatever you had originally saved to the Mirage disk.

Another application that I'm quite fond of is sequencing using both the Mirage and the ESQ'1. I particularly like using the Mirage for the multi-sampled percussion sounds, and for sampled bass, so what I've done is made up a custom disk that loads drums into the lower half of the Mirage, and bass into the upper. As a matter of fact, both the drums and bass that I use can be found on sound disk #20. The ambient drums on that disk are split, thoughtfully enough, between mostly drums and hi-hat on the lower half, and mostly cymbals on the upper. Since I hate cymbals, I've replaced the upper half with the electric bass sounds from the same disk. Unfortunately, the bass sounds on disk #20 are also on the lower half of the keyboard, so I've had to copy them to the upper half before being able to load the drums to the lower half, but this wasn't too difficult to accomplish. My series entitled "MASOS for the Masses" in previous editions of the Hacker should help you to accomplish this sort of thing if you're not already familiar with the techniques used.

Anyway, with my custom bass and drums disk, all it takes is a single track of the ESQ sequencer to handle the rhythm section in my sequences. Usually I will do the drums and bass as multiple overdubs onto as many tracks as necessary, and then when I'm satisfied that the parts are what I want (having been auto-corrected, transposed, and step edited to perfection), I merge the tracks together onto a single track, leaving the other seven tracks free for ESQ'1 sounds, or for any other synthesizers or tone modules I might care to plug in.

Utilizing this setup, one could conceivably have a number of songs and sounds all stored to Mirage disk, ready to go with the push of a couple of buttons. As long as the Mirage is loaded with MASOS, one could first load the ESQ'1 sequence and sound data into the Mirage, send it to the ESQ via MIDI, load the appropriate sounds into the Mirage, (the sounds can be stored on the same disk), and go. The one annoying hangup is that when the Mirage is loaded with MASOS, certain performance functions are disabled, namely, being able to control disk loading functions and patch selection via MIDI. Rumor has it, though, that Ensoniq is aware of the problem and may address it in a future software revision for the Mirage. This is only a rumor, however. Don't try ordering the new software just yet.

Another minor annoyance has to do with the fact that while the ESQ will send MIDI volume control messages (control change #7), the Mirage will not receive them. This means that you can't control the Mirage's volume from the MIX/MIDI page on the ESQ'1. There is a way around this, though (for all you automated mixdown freaks), but it will only work for non-chorused and non-mix-mode sounds.

The idea is to put the Mirage in mix mode, with the mod wheel acting as mix controller. But make sure that one of the two samples that you are mixing is silent. In this way, the mod wheel becomes a volume control. And since mod wheel changes can be written into the ESQ'1 sequencer right along with any other MIDI controllers, viola! - pseudo MIDI volume control.

To try this out, here's what you do. Let's start with the trumpet sound, sample U3 on disk #3. We'll use this disk because there's only one sample to worry about on the upper half of the keyboard. This technique will apply to multi-sampled sounds as well, but let's keep it simple for now.

First, locate the start and end points (parameters 60 and 61) for sample #1 on the upper half. You should come up with values of 0.0 and 2.FH, respectively. Now set the start point for wavesample 2 to 3.0H, and its end point to 3.FH. This makes wavesample 2 a single page long (no use wasting memory - we may want it for something else later). Now we need to make wavesample 3 silent. Normally we might do this by turning down its relative amplitude - parameter 69. This won't work in this case, however. Eventually we will be using this wavesample in mix mode coupled with wavesample 1, and when in mix mode, the second of the pair of samples will use the same parameters as the first, so turning down the volume on wavesample 2 will have no effect, and turning down the volume of wavesample 1 is not at all what we want to do here.

So the easiest way to make wavesample 2 silent is simply to sample silence. First, turn on multisampling (parameter 77). This is so that we sample silence for wavesample 2 only, and not for the whole keyboard half. Next, select wavesample 2 (parameter 26). Adjust the sampling threshold (parameter 76) for forced sampling - a value of 00. Press the "SAMPLE UPPER" button. When "SU" stops flashing, hit the enter button. This will force sampling to begin, and if nothing is plugged into the audio input on the Mirage, you should end up with a nice, clean sample of nothing.

Now set parameter 28 (mix mode) to "on". Set parameter 35 to 00 - wheel mixing. Oh. You may also want to set parameter 32 (LFO depth) to some value other than 00 - this disconnects the mod wheel from the LFO circuit so that you won't end up getting vibrato when you move the mod wheel.

Now go ahead and try it - when you move the mod wheel forward the sample gets quieter. This is because you're using the mod wheel to mix between the trumpet sample and the silent sample. Now you can use the mod wheel on the ESQ'1 to control the Mirage's volume when sequencing. I'd suggest recording the Mirage parts first on one or more tracks of the ESQ sequencer, and going back and overdubbing the mod wheel part on its own track. That way if you blow it when creating a mix, you can simply erase the mod wheel track, and try

again, without having to re-overdub the entire keyboard part.

And while I'm thinking about it, another application of this technique occurs to me. Since you can use the mod wheel on the ESQ to control volume (by applying its output to the ESQ's DCAs), you could use the wheel to control the balance between the Mirage and the ESQ. Simply assign the mod wheel on the ESQ as the modulation source in each of the three DCAs, and make sure the ESQ and the Mirage are on the same MIDI channel. If you want to use this technique within a sequence, assign the MIDI channel for the sequencer track that you're working with to correspond to the MIDI channel that the Mirage is on. Then, from the MIX/MIDI page in the ESQ sequencer make sure that the track you're working with is set to "BOTH" (the ESQ sequencer plays both internal ESQ voices, and sends over MIDI to the slave instrument - in this case, the Mirage). Now when you move the mod wheel forward, the Mirage fades out, and the ESQ fades in. Try this one in stereo, if you can. That will give you the capability to fade back and forth between one keyboard on the left and the other on the right. Should sound pretty dang awesome.

Anyway, there's a couple of the keeno things that can be done if you've got both a Mirage and an ESQ'1 at your disposal. And if you don't have both of them right now, who knows? One or the other may be lurking around in your future - so save this article. Or save the whales. Or whatever...

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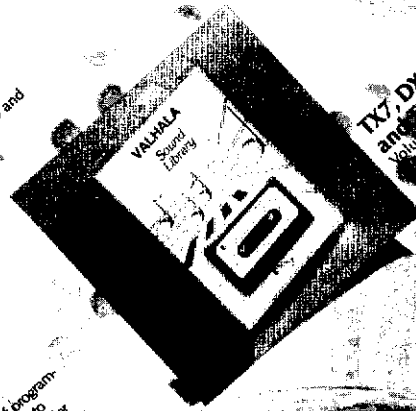
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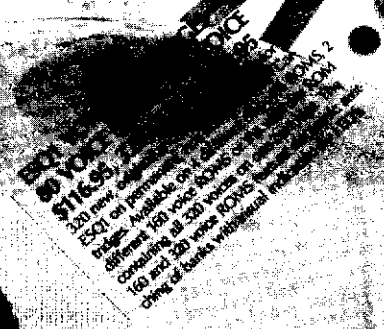
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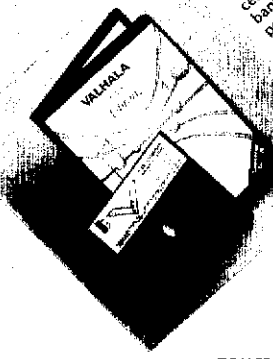
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Not too much going on in the tidbits dept. - Ensoniq is all moved in to their new building and catching up on their shipments. Their new address is 155 Great Valley Parkway, Malvern, PA 19355.

The editors for the Atari ST family are finally starting to appear. (Check out "Hypersoniq.")

There are now TWO monitor programs for peeking and poking the Mirage operating system (again, see "Hypersoniq") - should lead to a whole snake's nest of O.S.'s out there. We'll be running reviews on these monitors in the near future.

We're still hearing rumors about various mass storage devices for samplers - we'll keep you posted when products actually start to appear.

* * *

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. 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. Issues 1 through 8 and numbers 11, 14 and 17 are no longer available. 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.

HYPERSOVIQ NEW PRODUCT RELEASES

ANNOUNCING ONLINE PUBLISHING OF ESQ-1 SOUNDS AND SEQUENCES!! The Transoniq Hacker's own Erick Hailstone and Clark Salisbury (the MIDI Connection) and Larry Church are publishing their wares on Ensoniq-Net (the new name for Mirage-Net - due to increased ESQ-1 interest). Once you send in your check for some sounds, you can either wait for them in the mail - or you can download them off the Net the same day they receive your check (in most cases). Files are compatible with Sound File (tm) C-64 or Mac, ESQ Manager (tm), and Beaverton Digital's own ESQ-1 File. For more information, contact Beaverton Digital, POB 1626, Beaverton, OR 97075.

SONIC EDITOR is a visual editing program for Atari ST computers and Ensoniq Mirage and Multi-Sampler instruments. The program uses the high resolution graphics of the ST to plot upper or lower Mirage waveforms. Operations are accomplished with the mouse, easy-to-use pull-down menus, and icons. Parameters from either the upper or lower sound, any of the eight wavesamples, or any of the four programs may be displayed. Wavesample, envelope, and filter settings are shown on different screens with both Mirage parameter number and title for each. All values can be easily edited. Waveforms of any length can be saved to an ST disk. All MASOS commands are accessed via easy-to-use dialog boxes. Several advanced looping techniques are included. Suggested retail is \$245. Sonus Corp., 21430 Strathern St., Suite H, Canoga Park, CA 91304. (818) 702-0992.

CALIFORNIA SAMPLING TECHNOLOGIES announces a sampling subscription service now available for the Ensoniq Mirage. *Sample Source* (tm) is a full-service sample library with 900 samples. Subscriptions are \$45 for six months or \$65 for 12 months. Subscribers may chose any three initial disks from the catalog and will be sent an additional disk every 30 days. Subscribers also receive 25% off standard disk prices of \$14.95 for individual purchases and free shipping via UPS. California Sampling Service, 1547 Palos Verdes Mall, #255, Walnut Creek, CA 94596. (415) 825-0585 or (415) 930-3365.

LEAPING LIZARDS announces their first products for the C-64/C-128 and Ensoniq Mirage keyboard and rackmount. First, **MIRAGE MONITOR V1.0** for the Commodore-64 or C-128 with Passport, Sequential, S.E.I.L., Steinberg Research, or compatible MIDI interface. Designed and programmed by Steven Fox, **Mirage Monitor V1.0** lets you access the entire memory of your Mirage. It will allow you to disassemble or assemble any Mirage operating system in true 6809 assembly language. Also allows you to save, load, or print any Mirage O.S. **Mirage Monitor** also has a "Terminal Mode" which allows you to easily utilize UPWARD CONCEPTS' OS-1 "MONITOR DISK." **Mirage Monitor** comes with a disk for your C-64 and a **Mirage** disk containing a modified 3.2 O.S. Users are encouraged to share their tips and hacks with LEAPING LIZARDS or TRANSONIQ HACKER. Available May 1, 1987 for \$29.95 + \$2.50 postage and handling. Also for the **Mirage**: **Leaping Lizards** sound disks. These disks (LL-1, LL-2, LL-3) have been available in Europe for the last year and have made quite a splash. Each disk is \$19.95 + \$2.50 p & h. All three: \$49.95 + \$2.50 p & h. For complete details: 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!)

SAMPLEWARE & ENSONIQ SOUND DISKS

By Erick Hailstone

FOR: Mirage.
PRODUCT: DISKS #5, #7.
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FROM: Sampleware, POB 182, Demarest, NJ 07627

SAMPLEWARE DISK 5

SAMPLE 1

Lower: French Horn

L1: The range of this sample is quite a bit larger than Ensoniq's, making it more useful. It is a mellow sound with a nice liplike attack in the first part of the note. Loop points are barely noticeable except in the highest range where they are still quite acceptable. The mod wheel is used to control vibrato.

L2: Chorusing is used to create a brass ensemble effect, otherwise L2 is the same as L1.

L3: The attack and release time have been lengthened. There is also a slow, moderate filter sweep. The overall effect is as if the sound is being stretched out like silly putty in slow motion, ending up with a sound that is more string-like.

L4: Here we have a very sharp attack with a rapid decay. The notes are very short, very staccato, as if they were spit out.

Upper: Trumpet

The trumpet covers the upper 2 octaves. It is very good and a welcome alternative to what is available. I cannot hear the loop points on this sample. The variations are the same as for the French Horn.

Both the Trumpet and the French Horn have some noticeable digital noise. It is more apparent with certain frequencies but from my point of view quite acceptable.

SAMPLE 2

Lower: Brass Ensemble

L1: The sequence used for this sample is a jazz tune called "Donna Lee". Played this way the sample reminds me more of a marching band. I would be careful myself in how low I voiced my chords. I also believe this sample is most realistic when played in a punchy staccato manner. I was surprised to find the filter wide open because it doesn't seem as if there is a tremendous amount of high frequency.

L2: Chorused with a softer attack and a long release. It has a slight filter sweep at the end of the sound. It changes the character of things quite a bit. It is most useful for long sustained parts and gives the impression of instruments in a large hall with lots of reverb.

L3: The attack is longer and softer (less aggressive) with a slight filter sweep. Release time is controlled by velocity. This allows you to set the character of a note with your fingers. If your release is staccato the notes drop off immediately. If you release a key very lightly it

will take longer to decay. Release time is never longer than a second. If you play this sound the way you would play a piano it almost sounds like an audio tape playing backwards.

L4: This has an attack that after about 1/2 second drops down to a second volume. This second volume is controlled by velocity. The harder you hit, the lower the second volume. The hardest being down to nothing. Effects range from reverb following a note to a staccato orchestra hit.

Upper: Brass

U4: This is the only upper variation that differs from the lower ones. It is still a brass ensemble but somewhat lighter in sound and chorusing is controlled by the mod wheel.

SAMPLE 3

Lower: Analog Brass

L1: This sound is typical of what you would hear as a preset on a moderately priced synthesizer. To me it actually has a reedy quality. Used as it is in the accompanying sequence it is effective. Its purpose in the sequence is as a bed (filler, fattener) with the character and fine detail coming from the upper brass hit.

L2: This is the same analog brass as L1 with chorusing added to thicken it up.

L3: This variation has a resonant peak controlled by the filter envelope. It allows you to control the filter with your phrasing. If you play staccato you get a very quick wah sound similar to lipping the note. If you hold out the notes the result is a brighter sound than L1. Chorusing is also present.

L4: The release time is lengthened quite a bit for this one. Chorusing is also used. Because of the longer release time quick phrases tend to run into each other. I would use this sound more as a quasi-electric piano. Playing in a short choppy manner will be similar to an electric piano using the sustain pedal. If you hold onto the notes they will sustain more like an organ.

Upper: Unison Trumpets

U1: I like this quite a bit. About half a second into the note there is a one octave downward slide (glissando). If you play short notes you won't get the gliss. With a little practice this really adds to the realism of your phrasing. You can let go of the note at any point in the downward slide giving slight variations to each note. This gives a much more human quality to the phrasing. I tried several types of chord voicings and they all seemed quite effective.

U2: First of all this is a larger ensemble, trumpets and trombones an octave apart. Second, when you press down a single key it will play 3 notes going up in half

steps, eg., G-G#-A. These notes are slightly slurred and occur quickly. In the top octave each note is a major triad that decays very rapidly; the ever so popular Brass Hit.

U3: Trumpets and trombones again. This time each note is a dominant 7th chord with a slight downward gliss. Decay time is about a second for the lower notes and half a second for the upper notes. Some very tense chords can be created by playing two notes at the same time. A little goes a long way but I had a lot of fun stacking 7th chords in this way.

U4: U1 with chorusing added.

SAMPLEWARE DISK # 7

Sound Effects

Sample 1 Lower: Cell Door, Upper: Gun Shot
Sample 2 Lower: Car Screech, Upper: Thunder Explosion
Sample 3 Lower: Bush Gardens Upper: Sports Sounds

This is a sound effects disk and other than listing the sounds there is not much to say. They are a decent recording of what their titles indicate they are supposed to be. Their applications are certainly specialized and I suppose if you have a need for a cell door slamming or jungle noises then this disk is for you.

FOR: Mirage PRODUCT: Ensoniq Sound Disk C-1: Horns PRICE: \$9.95 FROM: Ensoniq Corp. 155 Great Vally Parkway, Malvern, PA 19355
--

Good news! A NEW disk from Ensoniq. Better news! They've lowered the price to \$9.95.

SAMPLE 1

Lower: 4 Trombones
Upper: Horn Section Unison

L1: The quality of this sample is excellent. The 4 trombones are playing in unison with a certain amount of natural chorusing. Velocity controls the amount of attack. Brass instruments have an initial burst of energy required to get the note going and this is well represented. Although you can use this sound in orchestras and stage bands, it reminds me most of a marching band. The top note is 24.

U1: This is specifically brass, trombones and trumpets, in unison with trumpets solo in the top octave. First the negatives. You can hear a tick in the upper octave, about a second into the note. There is a vibrato present that is just too regular when you play single lines in the upper octave and a half. When chords are played this is barely noticeable. On the up side there is a lot of breath present and good attack. Brass samples of this type are hard to do. They tend to sound dark and dirty. This is comparable to what I hear other people trying to do on the new \$3,000 12 bit samplers.

L2/U2: The initial attack is staccato and very pronounced falling off to a softer muted bed of sound that is also chorused.

L3/U3: Very similar to L1/U1. The main difference is a change in filter resonance. It is higher giving a thinner, reedier quality. It's as if you were hearing the sound from a different location. You know when you can hear the marching band from across campus and as you walk closer you hear it reflected off different buildings.

L4/U4: Chorused and the OSC MIX (34) is set so you get a different mixture of samples giving a more hollow wooden tone quality.

The accompanying sequence shows this sound off to great advantage, creates a certain sense of nostalgia and once again indicates a great sense of humor.

SAMPLE 2

Lower: Bass Sax
Upper: Horn Section 1 Octave

L1: A lot of folks are gonna think this is a baritone sax and you can certainly use it that way if you avoid the lowest octave. Those of you who may have listened to the music of Stan Kenton will recognize the low rumblings of the bass sax. I hate to give away the sequences these guys use but in case you never heard Kenton, the theme song from Peter Gunn also uses the bass sax. There is not much to be critical about. This sample is what it says. It's a great sample. The top note is 27.

U1: This appears to be the same sample used in Sample 1. The significant difference is that where Sample 1 has these instruments in unison spread across the keyboard, here the trombones are an octave below the trumpets at all times.

L2,L3,L4/U2,U3,U4: These all appear to be the same on this disk as if a template were used. I'm just not hearing any variation.

SAMPLE 3

Lower: Horn Section
Upper: Horn Section 2 Octaves

L1/U1: The characteristics of these samples are the same. In the lower half of the keyboard the notes are 2 octaves apart. In the lowest octave this requires some consideration because it yields notes not possible in real life. Again these seem to be the same samples but this time spread 2 octaves apart. Voiced this way I would tend to use these in a more classical setting as opposed to big band music.

L2,L3,L4/U2,U3,U4: My suspicion of the template for these variations seems confirmed. I detect no difference here either.

This seems to be one of shortest reviews I have written. This is partly because there are less variations and partly because these are very good samples. Most of us have heard these instruments used this way all of our lives and other than saying yes or no to the recording quality it's all self explanatory. This is an excellent disk.

ESQ-1 PERFORMANCE APPLICATIONS

By Chris Barth

THE ESQ-1 GLIDE CONTROL

The ESQ-1 manual is the best I've seen in describing the technical capabilities of a synthesizer, and when you consider the thorough explanation of the sequencing software, other companies would be well served following in Ensoniq's footsteps. Unfortunately, the manual talks computers, not music. This is understandable, considering Ensoniq's history as a renegade offshoot of Commodore. This is also unfortunate, since most ESQ-1 customers are musicians by choice, not computer experts. Yet in the six months I've owned this particular synth, I've come to respect its ability to respond in a musical way once I understood the transition from computer specification to musical application. So let's talk a little bit about the ESQ-1 from a musician's point of view, and the hackers can please continue creating more patches for us to enjoy.

Let's look at the GLIDE control which can be accessed on the MODES button. This feature is similar to the slide on a slide trombone. Normally, when any of the oscillators produces a sound, it plays each note in such a way that the transition to the next one is abrupt. To see what I mean, play the SYNLED voice. Here's the classic synth sound of the early seventies. Playing with it, though, something seems missing. Assuming it's not your overall ability as a musician, access the GLIDE control, and change the setting from 0 to 3 or 4. When you play the voice, you'll notice that each note seems to slide into the next one. This will help you get that Emerson, Lake and Palmer synth sound on "Lucky Man." There is that something special which can set that voice and your playing apart. But don't overdo it; if you increase the setting too much, it's not very musical. Try a little bit on your string patches; the effect is great.

There's actually a lesson to be learned here. The GLIDE control demonstrates that not every control is suitable in every application for every voice. Yet I'm often amused by people who are disappointed that the above statement isn't true, and criticize the synthesizer as a result. The true artistry in synthesizer playing lies in developing an understanding of what works well in different applications. No chef would approach that creation of recipe by throwing in a lot of everything he had in the kitchen; the great ones understand the axiom that "less is more." Look upon the GLIDE control as one ingredient which, in moderation, can add a special flavor to your sounds.

GETTING YOUR ESQ-1 VOICES ORGANIZED

The ESQ-1 can hold 40 voices in its internal memory. Don't be confused about terminology; a voice is simply

what a patch sounds like to your ears. I guess the word "patch" came into use in the old days when the creation of new sounds actually involved using patch cords to connect different parts of the synthesizer. Anyway, Ensoniq also sells a cartridge which permits the ESQ-1 to use an additional 80 voices. Buying the cartridge doesn't give you 120 different voices: the 40 voices which came with the machine are duplicated on the cartridge. But buy a cartridge anyway, because you'll need it.

The voices are in no particular order, so one of the first things you should do is audition each one of them. You'll notice that some of them are obviously ready for live performance, and others sound like useless special effects. Don't despair; a little organization is all you need.

For example, on my unit I started by loading in the cartridge. Since all 80 voices are on the cartridge, you can look at the 40 in the synth's internal memory as expendable. I did, so I erased them. I then decided upon an organizational system as follows: Banks 1 and 2 would be reserved for solo voices, the the piano, bass, organ, and classic synth sounds like OB BRS and BIG 1, Bank 3 would be reserved for for strings and bass, and Bank 4 would keep all the special effect sounds.

I then accessed the first bank of cartridge A, and decided where each sound belonged. Once the decision was made, I copied the voice from cartridge to internal memory.

Once I finished the first bank of cartridge A, I had reduced the 80 assorted voices on the cartridge into the 40 organized voices on the synth; another meaning to the phrase "Top 40". Now, when I want a sound I know just where it should be.

The real advantage of this procedure is apparent once you start auditioning new voices. I don't care what anyone says, 40 voices is probably more than anyone can use productively in a performing context. So when I loaded in the Hailstone-Salisbury STRNG2 patch from Issue 18 of the Hacker, I was able to compare it instantly to the other string patches to see how it stacked up. Since I liked it, it earned a space in my top 40 under Bank 3, next to my other string patches.

If you find that you have more voices in a category than your internal bank will hold, use the same organization for the cartridge. In my mind too many of the factory patches fall into the category of special effects; I selected my ten favorites for internal memory, and placed ten of my next best favorites into Bank 4 of cartridge A. The last ten found a home in Bank 4 of cartridge B. Now, on those rare occasions where a little spice is needed, I know where to look. But when I want to show off, I know that the impressive sounds are already loaded where I want them in internal memory.

CUSTOMIZING YOUR OWN MIRAGE DISKS

By Jack Loesch

Steve Coscia's article on moving wavesamples (Issue #6) is fine for moving an entire half (eight wavesamples) of the keyboard. (Except, Table 1, the memory map, is misleading. The Wavesample Start (60) and End (61) values in this table should not be used because they can differ from the ones in your own Mirage. You should make your own memory map with the values that are actually used.) But, from a performing musician's standpoint, this is not always as valuable as customizing your own disks. Customized disks cut down on the number you need to carry with you as well as the time needed to load separate disks. Which brings us to the really important question of, "How many programs can be placed on one disk?"

I have found that, by using MASOS, I can usually save four upper and four lower programs for banks 1-3, making a total of 24 programs. However, there are exceptions depending on the amount of memory required for each program and your own personal taste in terms of sound quality. An example of this is the harmonica sound in the Mix Mode P(28). When I used only one wavesample I found that I didn't get a full-bodied sound. In order to get the quality I wanted, I needed two wavesamples - and this requires more memory.

Now, on to customizing your own disks.

PROCEDURE # 1

Boot up with MASOS - upper and lower.

Load an upper sound

Find the wavesample you want to use by hitting REC - then 1 - then 67 - then VALUE - then the ON/"Up Arrow" button to raise the octave. If the octave changes you've got it. If not, then continue this procedure through wavesamples 2 - 8 until this happens.

After you've found the correct wavesample, remember to return it to its correct octave.

If it is upper wavesample #1 then hit REC - then 1 - then 60 - then VALUE (write down its memory location as found in the LED window) - then hit 61 - then VALUE (again recording the memory location). This is where wavesample 1 lives and how much memory it uses.

Hit PLAY - then 1 - then 60 - then VALUE. The value that appears in the LED window must be the same as that which appeared for the upper value. If it is not, then adjust it by hitting either the OFF/"Down Arrow" button or the ON/"Up Arrow" button.

Hit 61 - then VALUE (again, make a mirror of upper 61's LED reading.)

Hit REC - then 1 - then 65 - then VALUE - then OFF - then 17 - then 1 - then ENTER. This moves upper wavesample 1 to lower wavesample 1.

Hit REC - then 0/PROG - then 1 - then 15 - then 1 - then ENTER. This moves upper program 1 to lower program 1.)

Hit PLAY - then 1 - then 65 - then VALUE - then ON - then 72 - then VALUE. Adjust value to 31.

You might have to adjust some of the lower parameters so that the sound matches the upper sound. Watch Parameter 36 especially.

Let's do one other example of wavesample movement. We'll use Disk 13, upper Bank 2, Program 2 - the String sound. It's found in upper wavesample 4. P(60) has a value of 70 and P(61) has a value of 76. Say we would like to move it to lower wavesample 1. P(60) has a value of 00, and P(61) has a value of 06. Its memory is still seven pages, but at a different location.

PROCEDURE #2

Hit REC 4

Hit 65 - then VALUE - then OFF

Hit 85 - then VALUE - adjust value to 70 (Start upper wavesample - found by looking up P(60))

Hit 86 - then VALUE - adjust value to 04 (Upper wavesample #)

Hit 87 - then VALUE - adjust value to 76 (End upper wavesample - found by looking up P(61))

Hit 88 - then VALUE - adjust value to 04 (Upper wavesample #)

Hit 89 - then VALUE - adjust value to 00 (Start lower)

Hit 90 - then VALUE - adjust value to 01 (Lower wavesample #)

Hit 94 - then VALUE - adjust to lower (Use OFF/"Down Arrow" control)

Hit LOAD SEQ - then 1 - then ENTER (copies wavesample to lower)

Hit REC - then 0/PROG - then 2 - then 15 - then 1 - then ENTER (copies program to lower)

Hit PLAY - then 1 - then 60 - then VALUE = 00

Hit 61 - then VALUE = 06

Hit 65 - then VALUE = ON

Hit 72 - then VALUE = 31

Hit 27 - then VALUE = 01

Again, adjust the lower parameters and, if need be, check parameters:

67 for correct octave

68 for correct pitch

62 for correct loop start

63 for correct loop end

64 for correct loop fine adjustment

I use procedure #2 when I want to move an upper wavesample (2-8) to a lower wavesample of a lesser value, eg., upper 2 to lower 1 or upper 7 to lower 5.

You can follow these procedures - either one or both - to get the three remaining wavesamples from the upper half of any disk to the lower half.

If you can't find the upper wavesample through P(67), then it might be a lower program with a top key P(72) of 61 which would cover the upper portion, or a Mix Mode P(28) program. In this case, you would have to use two wavesamples for a fuller sound.

GETTING THOSE HIGHS

By Michael Carnes

I found a little trick that can be quite helpful to Mirage users who use the Mirage in multi-track recording. As you have probably been forced to admit, the Mirage is primarily a bass and midrange instrument. The high end suffers because the low sampling rate causes a lot of lookup noise for higher frequency sounds. In addition, the basic architecture of the machine causes many samples to be skipped on the higher notes, causing significant distortion of otherwise good samples.

The technique of sampling at half-speed works in reverse. You can record with the tape machine running at half speed and then play back at full speed. By doing this, you can tune the Mirage an octave down from its intended pitch. You'll skip far fewer samples and essentially double the frequency response of the instrument. Of course, nothing is free...

There are a number of adjustments you'll have to make. The primary adjustment is that you'll have to program the Mirage so that all events happen at half the speed. Double the length of attack/decay times, half the vibrato rate and so on. This can be quite complicated for a multi-sampled sound. In addition to all of this, you'll have to work with the onboard filters and whatever outboard equalization you have, partially to compensate for the behavior of the tape machine at half speed and partially just to make it sound right. It can take some time, recording and then listening to playback to get the sound you want (sure would help if Ensoniq told you what the numbers for envelope times really meant). By the way, when you adjust the equalization, you can cut low

frequencies and remove a lot of lookup noise.

Of course, you also have to play expressively at half speed. For some people, that's no problem (and maybe a blessing). Others might wish to record the performance in real time on a sequencer and then playback at half speed.

All of this is a lot of trouble, but with a little investment in time, you can build a set of disks that actually let you play above the treble clef.

Correction for the William Mauchly article in Issue 11. The table should read:

Key	Fine Tune
C	4E
A	8E
D#	0E
F#	CE

Very helpful article!

Bio: Michael Carnes has a Masters in Composition from Boston University and has written extensively for chamber groups, orchestras, jazz bands and computers. He is a former member of Composers in Red Sneakers and can be heard on Northeastern Records (NR220). Currently employed in computer R&D he has just completed an (almost) all-Mirage score for a documentary film on boxing. □

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ESQ-1 SEQUENCING MISCELLANY

By Jim Johnson

One of the ESQ1's most attractive features to many musicians, is its internal sequencer. I've got to admit, though, that when I first saw the specs on the instrument, my first thought was "Another on-board sequencer? Why is Ensoniq wasting precious memory and computer power on a sequencer, when they could use it for nifty things like fancy MIDI modes, exotic modulation functions, and other fun stuff?"

After owning one for about a year, I've completely changed my mind on that score. While I still rely on my computer to handle most of my sequencing chores, I've found that the ESQ's internal sequencer is far more convenient for capturing ideas on the fly than a computer sequencer, and is lots more powerful than those funky little plastic sequencers with the LCD displays that many musicians fall for. And since I use the ESQ1's sequencer a little differently than most musicians will, I've learned a few things that may not be apparent to those who use the ESQ1 in isolation. In lieu of actually sitting down and writing a coherent article this month, I'd like to share some of what I've picked up.

One subject I've received lots of calls on, and which has been brought up a number of times in the Interface, concerns notation and advanced sequence editing software packages for the ESQ's sequencer. Lots of people want these functions, and lots of programmers have asked Ensoniq for details on the sequencer file format so they could write such a program, but for some reason, Ensoniq seems reluctant to release complete details. Guess what - there are already a number of programs out that will convert ESQ sequences to standard musical notation, and for doing detailed step editing. What many ESQ1 owners seem to have overlooked is that ANY standard sequencer or notation program will do this; the only catch (and it's not much of a catch) is that the sequences must be transferred via MIDI in real time, rather than as a system exclusive sequence dump.

Transferring sequences from one machine to another is a fundamental MIDI technique, and is not too difficult to do. Briefly, to transfer a sequence from the ESQ1's sequencer to another, follow these steps. Set the ESQ's clock source to Internal, turn looping off, and set the receiving sequencer to MIDI clock. Patch the ESQ's MIDI out to the other sequencer's MIDI in, and set the track statuses for the sequence you want to transfer to Both. Now enter the ESQ's Mix/MIDI page and mute all but Track 1. Set the second sequencer to record, and press Play on the ESQ1; when the sequence stops playing, stop recording on the receiving sequencer. Repeat this procedure for each track, and you're done. Once you've transferred your sequence to your

computer, you can use your software sequencer to make changes that would be impossible on the ESQ1, or print out a score of the sequence if your program has that capability. After editing on the other sequencer, use a similar procedure to put the modified sequence back in the ESQ1. The exact details of how to do this will vary depending on the capabilities of your sequencer software. For a complete discussion of the ins and outs of this technique, see the December 1986 issue of Music Technology.

Even though the ESQ1's sequencer is about the most powerful onboard sequencer currently available, most musicians who have a computer would probably rather use a sequencer program. (At least I would.) It turns out that controlling the ESQ from an external sequencer is perhaps a little trickier than you might think, thanks to the interaction of the internal sequencer's tracks and the ESQ's MIDI channel assignments. Basically, there are two ways you can use the ESQ with an external sequencer - as a slave instrument, or as an auxiliary sequencer. It's also possible to combine the two uses, but that can be confusing at first, so let's examine these applications separately.

When using the ESQ1 as a slave, each of the eight tracks acts as a separate MIDI "instrument", as long as each track has its own unique MIDI channel assignment. (Assigning more than one track to the same channel, or assigning a track to the ESQ1's basic channel, won't allow layering the voices together, as you might expect.) Track statuses should be set to Both, and the Clock source should be set to either Tape Sync or Internal.

This is all pretty straightforward; the tricky part is making sure you have the right sequence selected on the ESQ. Song select messages 0 to 9 call up songs 0-9 on the ESQ; song select messages above 20 will select individual sequences. (I'm assuming you have version 2.0 or above in your ESQ1 - if you don't, contact the store where you bought your synth and ask about it.) If your sequencer sends song select messages, you can program a separate "configuration" for each song by matching each song on your external sequencer to a song or sequence on the ESQ. If you can't send song select commands, you will have to take care to select the appropriate ESQ song or sequence by hand each time you select a new song on your master sequencer; this is also true if you use song numbers outside the range of 0-9 or 20-49. Otherwise, you might find that all your channels and patches are set up incorrectly when you start a song. (I found this out the hard way, the first time I used my ESQ1 on stage. Ouch!) Once your configuration of tracks and channels is set up, you can change the patches and volumes of each track by

sending patch change or controller messages on the appropriate channel. And don't forget, the ESQ1's basic channel acts just like a ninth track when controlling the synth from an external source.

If your master sequencer is memory limited, you might try using the ESQ1 as a secondary sequencer. In this application, it works just like a drum machine. Set track statuses to Local, or MIDI if you plan to drive external instruments from the ESQ. Setting the clock source to MIDI allows starting and stopping the ESQ's sequencer from your master sequencer; if your sequencer only sends a pulse clock, connect this to the ESQ's Tape In jack, and set Tape Sync as the clock source. (In this case, you must press Play on the ESQ before starting the master sequencer.) The recommendations about song select in the last paragraph also hold true for this application.

One final tip concerns resetting the ESQ. A few people have called me asking about apparent bugs in the ESQ's sequencer, for instance, tracks that won't completely erase, gibberish in the displays, etc. I'm not sure if there are any known bugs in the ESQ's sequencer, or if these people had goosy instruments, or what the situation is,

but my advice to them is always the same. If your sequences become garbled for some reason that you can't fathom, IMMEDIATELY save all your sequences and patches to tape and reinitialize the instrument using the procedure on page 95 of your owner's manual. After you load them back, the problem will probably be gone, but if it's still there, try transferring your sequences to another sequencer using the method described previously and then reinitialize and reload the synth. If you've still got a problem, it's time to call in the artillery; namely your authorized service technician. Doing this could save you an unnecessary trip to the shop, not to mention the hours of work that you've put into your sequences.

There's a lot more to be said about the ESQ1's sequencer than I could possibly cover in one article, but fortunately, that's not what I'm trying to do this time around. Look for more articles on the ESQ's sequencer in future issues of the Hacker, and if you have any specific questions, feel free to call me at the number listed in the Transoniq Net section. If I get enough questions on the same subject, I'll put together an article dealing with common problems. □

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File Editing Banks Libraries

New Lib.					
PLKMTL 1	HITMAN 21	BERGER 41	COQUI 61	OIANO1 81	BRTBRS 101
FRIDAY 2	VIOL * 22	CLAMBO 42	WHIPER 62	MRIMBA 82	ELEPNO 102
HARPSI 3	ICEBEL 23	CHANTZ 43	ORGBRS 63	HORN3.T 83	SYNLED 103
SOLICE 4	NOISTR 24	BLLCLV 44	KALMEM 64	BO STR 84	PLKBRS 104
CHFBAS 5	3FDBK5 25	TEKNO? 45	2PNOS+ 65	DIGPNO 85	ISLAND 105
SINPAD 6	SAKBUT 26	OBOE 46	HIT ME 66	YAYBEL 86	ICYORG 106
"MACH" 7	HOYNOY 27	STEEL 47	ACCRDN 67	ORGAN 87	3TRUMS 107
HI-RES 8	YDOPN 28	TAPELP 48	ORIENT 68	ANABRS 88	FUZGTR 108
METAL1 9	SCI-FI 29	BELAIR 49	ARCTIC 69	VELBAS 89	CELLOS 109
TRIBEL 10	SKETTY 30	BASS.T 50	SPDVA2 70	'AIR' 90	TEETH 110
+KOTO2 11	ORCBL2 31	HARP 51	DRORGN 71	BOTTL5 91	TRIAGL 111
YETBAS 12	BUBBY 32	BRASTR 52	NOT ME 72	ORCBEL 92	MIAMIY 112
MOODS 13	JAZORG 33	"L" 53	PRCORG 73	FLUTE 93	AFTGLO 113
HEVYV 14	STR3RT 34	POOPY 54	TAP-NZ 74	2 COOL 94	PNOSTR 114
LAUGHS 15	BUBBLY 35	VIBES1 55	BELLSO 75	BRTBRS 95	KALMBA 115
VELPIN 16	SKID 36	BUBBY2 56	SQRBEN 76	BASS*1 96	BL PNO 116
NLESS 17	ANYLOG 37	BUBBY3 57	PNGPNG 77	FLUTE* 97	GOBELL 117
REPBEL 18	SNAPS1 38	COPTER 58	EVOLVE 78	GONG1 98	4XFADE 118
LUVPIG 19	STLUNK 39	WHISTL 59	HARPY 79	JOHN'S 99	KICK 119
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MOVING AROUND IN HEX

LET YOUR FINGERS DO THE WALKING

By Don Boomer

In order to utilize the MASOS functions you need the ability to move around in the hexadecimal (base 16) system. 0A, 4E, C0, FF...AAUGH! My 1st grade teacher never taught me any of these. The extent of my higher math these days is my calculator and what I can count on my fingers. So I've learned to count hex on my fingers. What? You don't have 16 fingers? Well neither do I, but with just one finger and the hex reference in the back of the "Advanced Sampler's Guide" you're in business. If, like me, you can't add 16 plus 7 without your fingers, you may want to do this behind closed doors. But hey, it gets the job done.

If you need to move a sample around that starts at 00 and ends on 2F to a different spot in the memory, say starting on 80, how do you get there? Get out your finger and your chart. Your sample starts on (and includes!) 00. put your finger on 00, now count down till you hit 0F. Note, you've counted one block (there are 16 blocks on the chart). Now back up to 10(hex) in the next column and down to 1F (a second block). Back up to 20 (hex) and down till you hit 2F (3 blocks in total). Now move your finger and put it down on 80 (hex). Counting down 3 blocks gets you to (and includes) AF. So the distance from 00 to 2F is the same as from 80 to AF. Too easy, huh?

Okay, how about a sample that starts on A8 and ends on BC, to be moved to begin on 0E, where does it end? Fingers ready? Finger down on AB, count one; A9, count two; AA, count three, until you reach BC. You DID count to 21 didn't you? Now move your finger without reloading it to 0E and count down 21 times. Remember 0E is one. Did you end up on 22 (hex)? That's why when sampling it's less messy to start and end on nice even page numbers, but when crowding samples together for custom disks we need every page we can save. Still pretty easy.

The one that threw me was moving the loop inside the wavesample after moving the wavesample. Say you have a sample that starts (parameter 60) at 50 (hex) and ends (parameter 61) at FF. Its loop starts (parameter 62) at C0 and ends (parameter 63) at FF. If you wanted to move all of this to begin at 00 here's how to count it. First count the pages of the sample just like the examples above. Start at 50 (hex) and count down till you hit FF. You'll see it takes 11 blocks on the chart. Remember 11 blocks. Now put your finger on the new starting number, 00 in this case and count out 11 blocks. You'll hit AF, no problem. Next count out the length of the original loop starting at C0. Finger on C0, count down to FF, 4 blocks, right? Here comes the slightly tricky part. Start at the END of the newly moved sample, AF. With your finger on AF, count 4 blocks from the end towards the beginning: AF to A0, 1 block;

9F to 90, 2 blocks; 8F to 80, 3 blocks; 7F to 70, 4 blocks. There you are, not too rough!

Sometimes you may encounter a loop that doesn't end on the ending address of the sample. This example is also useful for figuring parameters 85 through 90 when working with advanced MASOS functions. If the loop on our previous example had been from C0 to FB, count the length of the loop, 57 pages. Count from the end of the sample FF to the end of the loop, 8 pages. Now move all this to the new (moved) sample. First count back from the end AF, 8 pages to AB. Starting there, count the 57 pages, AB is one, A7 is two, etc. ending on 70. There you are, fingers up.

Armed with your finger (whew!) and your chart I'm sure you'll find new meanings in the MASOS for Masses and other such articles in past issues.

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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: CTHDRL

By Bob Wham (*ESQ-1 User's Group*)
Greenville, Texas

This patch uses basic organ and piano waveforms but takes advantage of the AM Modulation feature to give the sound an unusual ambience. Kind of like a church organ in an English cathedral - thus: "CTHDRL"

PROGRAM: CLCHPI

By Erick Hailstone (*MIDI Connection*)

This is a prime example of the WHEEL controlling many things at once. In this patch it detunes OSC2, turns up DCA3 while turning down DCA2 and DCA1, and is performing a filter sweep - all at once.

PROGRAM: STDRMS

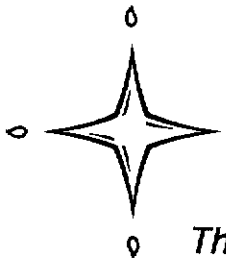
By Nick Longo (*Cesium Sound*)

Steel drums were invented in Trinidad, where they were fashioned out of the tops of discarded oil drums. The ESQ-1 has enough flexibility to approximate this unique sound better than any other synth in its class. OSC2 is synched to OSC1, which is turned off. OSC1 is set to NOISE 3, which has some keyboard-controlled pitch content, but mostly contains frequencies strongly reminiscent of the transverse vibrational modes of sheet metal. OSC2 is frequency modulated by ENV1, causing it to "twang." OSC1 and OSC3 are slightly pitch modulated by ENV2, which is velocity controlled to create a detuning effect. Try playing parallel thirds and sixths. Trill sustained notes.

PROGRAM: MURKY

By Jim Johnson (*JAMOS Music*)

LFO1 modulates LFO3 producing an unusual, yet subtle animation. The wheels control the brightness of the sound.



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ESQ1 PROGRAM SHEET

PROGRAM: CTHDRL

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	3	E PNO2	OFF		OFF	
OSC 2	-1	7	1	DRGAN	OFF		OFF	
OSC 3	-1	0	0	EL PNO	OFF		OFF	

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	On	ENV1	56	LFO2	-1
DCA 2	0	On	ENV2	55	LFO1	-2
DCA 3	0	On	ENV3	56	LFO3	1

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
Filter	45	3	14	LFO3	48	ENV3	9

	Final Vol.(ENV 4)	PAN	PAN MODULATOR	DEPTH
DCA 4	63	8	LFO3	63

	FREQ	RESET	HUMAN	WAY	LI	DELAY	L2	MOD
LFO 1	21	Off	On	TRI	0	1	21	WHEEL
LFO 2	1	Off	On	TRI	0	1	4	WHEEL
LFO 3	5	Off	On	TRI	0	1	16	LFO2

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	63	51	63	0	0	4	13	7	35	9
ENV 2	63	63	63	0	0	19	13	7	37	9
ENV 3	63	61	63	0	0	20	13	7	32	0
ENV 4	63	63	63	8	0	4	13	7	38	9

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
Modes	Off	On	Off	2	Off	Off	Off	Off

	Split/Layer	Split/Layer Program	Layer	Layer Program	Split	Split Program	Split Key
Split/Layer	Off		Off		Off		

ESQ1 PROGRAM SHEET

PROGRAM: CLCHPI

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	REED	OFF		OFF	
OSC 2	-1	0	0	REED	WHEEL	1	LFO3	5
OSC 3	-1	0	0	PIANO	WHEEL	0	WHEEL	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	41	On	WHEEL	-63	VEL	44
DCA 2	39	On	WHEEL	-63	VEL2	45
DCA 3	0	On	WHEEL	63	VEL2	59

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
Filter	16	0	13	ENV2	63	WHEEL	63

	Final Vol.(ENV 4)	PAN	PAN MODULATOR	DEPTH
DCA 4	63	0	LFO2	63

	FREQ	RESET	HUMAN	WAY	LI	DELAY	L2	MOD
LFO 1	10	Off	On	TRI	18	1	18	OFF
LFO 2	16	Off	On	TRI	0	6	63	OFF
LFO 3	20	Off	Off	TRI	0	0	20	OFF

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	12	0	3	63	0	6	14	63	14	0
ENV 2	63	14	15	31	0	0	51	22	11	12
ENV 3	63	56	0	0	0	0	19	49	56	0
ENV 4	63	0	0	6	0	0	5A	63	13	30

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
Modes	Off	Off	Off		On	On	Off	Off

	Split/Layer	Split/Layer Program	Layer	Layer Program	Split	Split Program	Split Key
Split/Layer	Off		Off		Off		

ESQ1 PROGRAM SHEET

PROGRAM: STORMS

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	1	ND13	ENV2	1	OFF	0
OSC 2	-1	0	7	4 OCT9	ENV1	20	KBD	13
OSC 3	1	0	2	DRGAN	ENV2	4	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	Off	OFF		OFF	
DCA 2	63	On	ENV1	8	OFF	
DCA 3	20	On	ENV3	63	OFF	

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
Filter	33	0	0	ENV3	50	VEL	20

	Final Vol.(ENV 4)	PAN	PAN MODULATOR	DEPTH
DCA 4	63	8	KBD2	63

	FREQ	RESET	HUMAN	WAY	LI	DELAY	L2	MOD
LFO 1		Off	Off					
LFO 2		Off	Off					
LFO 3		Off	Off					

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	63	0	0	0	0	3	31	19	45	1
ENV 2	11	7	0	30	0	0	34	32	40	9
ENV 3	60	25	0	48	0	0	20	43	34	3
ENV 4	60	51	0	20	0	2	21	26	36	16

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
Modes	On	Off	Off		Off	Off	On	Off

	Split/Layer	Split/Layer Program	Layer	Layer Program	Split	Split Program	Split Key
Split/Layer	Off		Off		Off		

ESQ1 PROGRAM SHEET

PROGRAM: MURKY

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	PRIME	LFO1	2	OFF	0
OSC 2	-1	0	2	SYNTH3	LFO2	2	OFF	0
OSC 3	-1	0	25	E PNO2	LFO1	-2	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	40	On	ENV2	29	LFO3	39
DCA 2	54	On	ENV2	-20	LFO3	-36
DCA 3	58	On	KBD	20	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
Filter	51	0	3	ENV3	10	WHEEL	14

	Final Vol.(ENV 4)	PAN	PAN MODULATOR	DEPTH
DCA 4	49	8	KBD2	27

	FREQ	RESET	HUMAN	WAY	LI	DELAY	L2	MOD
LFO 1	21	Off	On	TRI	0	16	21	OFF
LFO 2	20	Off	On	TRI	0	16	21	OFF
LFO 3	3	On	Off	TRI	0	34	63	LFO1

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	63	31	0	15	0	0	18	27	20	9
ENV 2	63	-45	11	0	0	36	43	38	20	9
ENV 3	63	0	0	26	0	0	38	0	20	0
ENV 4	63	56	49	38	22	30	36	52	32	9

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
Modes	Off	Off	Off	0	Off	On	On	Off

	Split/Layer	Split/Layer Program	Layer	Layer Program	Split	Split Program	Split Key
Split/Layer	Off	0	Off	7	Off	0	60

CLASSIFIEDS

USER GROUPS

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.

ESQ-1 Owners in Southeastern Pennsylvania and New Jersey - ESQUPA (ESQ-1 Users of the Philadelphia Area) is the user's group for the ESQ-1 in your area. Patch trading, programming tips, MIDI info, etc. Contact Tom McCaffrey. (215) 750-0352. ESQUPA, PO Box 427, Bensalem, PA 19020.

Forming an ESQ-1 Users Group in the Philadelphia area to exchange patches, programming info, tips, etc. Contact Tom McCaffrey. (215) 750-0352.

SAMPLES

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

RARE ACOUSTIC INSTRUMENTS sampled for the Ensoniq Mirage: Lute, Medieval Harp, Viols, Hand Bells, Clavichord, Vielle, Harpsichord, Recorders, Krumphorns, Dulcimers, Renaissance Pipe Organ, Rebec, Harmonium, Pipes, Dulce Melos, Many more. Barry Carson, MINOTAUR STUDIOS, 4 College Street, Canton, NY 13617.

I urgently need the full, thick, chorus-like sound in the introduction of the song, "All I Wanted" by Kansas. Please somebody! Thanks, Mark Ray, PO Box 2409, Muscle Shoals, AL 35661.

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I would like to swap samples with Mirage owners all over the world. Please contact: Edwin van de Weycleven, Spozkenhoutlaan 30, 5606AJ Eindhoven, The Netherlands, Europe.

SAMPLE-SWAPPERS WANTED: Send your list & I'll send mine. Also interested in user comments on VES and Sequence programs for Apple II+ & Mac. Write or call: Wayne Bice, POB 8692, Naples, FL 33941. (813) 455-5253.

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For sale or trade: Moog Opus-3 polyphonic strings and Roland SH-1000 monophonic (my first synth!), all for \$350 or swap for digital delay unit. Write to: Lonnie Pena, PO Box 21105, Houston, TX 77226.

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Sonus Sonic Editor is now available for Atari 520/1040 ST. FM synthesis, built-in sequencer, MASOS, keyboard display, zoom-in/out. Mouse utilities, cut & paste, displays wavesample parameters. Contact Sonus for dealer nearest you: SONUS CORPORATION, 21430 Strathern Ste. H, Canoga Park, CA (818) 702-0992.

PATCHES

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

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

ENSONIQ ESQ-1 OWNERS. ESQ Sets A and B. Each set contains 40 patches on data cassette and program sheets. Send \$19.95 for one set or \$29.95 for both. For information plus 3 demo sheets from each set, send Self-Addressed Stamped Envelope. ENSONIQ MIRAGE OWNERS. Custom designed diskettes. MIDI layered synthesizer sounds. Send \$5.00 for demo cassette, sound list and disk design form. Or, send \$7.50 for same package plus demo sound diskette. MADWAY SOFTWARE, PO Box 137, Palestine, IL 62451.

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 SOUNDS: 120 new sounds for the ESQ-1 programmed by Jim Welch and John Fitzgerald. Varied and useful. Available on data-cassette for only \$30. For demo tape and samples send \$4. LEISTER PRODUCTIONS, 14 Hill Blvd. Mechanicsburg, PA 17055. 717-697-1378.

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SEQUENCES

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.

SAVE YOUR SANITY! Don't spend days sequencing Top 40. Let MONSTER DAN do it for you. He's already nuts (we keep him locked up 'til he's finished). Available now for ESQ-1 and MIDI drum machine: patch, sequence and drum pattern data for the current tunes you need the most. Other sequencer formats being considered. (QX), MC500, DR T. - users us give some feedback). Turn your ESQ-1 into a juke box. Amaze your friends and conquer your enemies with a library of marvelous MONSTER DAN original ESQ-1 sequences (great patches too). Send for complete product description, available titles, and prices. Include \$8 for demo cassette album. (Deduct from your first order.) DANLAR MUSIC, PO Box 973, Tualatin, OR 97062.

PEOPLE WANTED

LOOKING FOR HACKER to modify a music notation program running on Apple II and plotter. Ernie Mansfield, PO Box 737, Berkeley, CA 94701. 415-652-3647.

ARRANGER WANTED - familiar with MIDI instruments and recording techniques. Please send sample of work on cassette to Terry Lee, 1428 Sinkler Road, Warminster, PA 18974.

FREE CLASSIFIEDS!

Well, - within limits. We're offering free classified advertising (up to 40 words) to all subscribers for your sampled sounds or patches. Additional words, or ads for other products or services, are 20 cents per word per issue. (Unless renewed, freebie ads are removed after 3 issues.)

THE INTERFACE

Dear TH,

Could you please tell me the proper MIDI connection for a Roland Octopad and 707 Rhythm Composer and ESQ-1 sequencer?

To "play in" patterns from the Octopad/707 combo into the ESQ-1 sequencer and playing then back has driven me CRAZY!

Any help would be appreciated.

Daniel R. Graham
Eatontown, NJ

[Clark's response: Any MIDI device, such as a Roland Octopad, can be used as an input device to the ESQ-1 sequencer, but a couple of things need to be set up before everything will function properly.

First, make sure the ESQ-1 is in "Multi" mode - "Multi" can be selected from the Master MIDI page. Next, determine which track of the 8 available you wish to record your material to. As with sequences using internal sounds, more than one track can be used for overdubbing purposes, and the tracks can later be merged to a single track (providing that all tracks to be merged are using the same ESQ preset and MIDI channel). Also, you need to pay attention to which mode you want to run the tracks in - in this case you probably want the drum machine tracks to be played by the drum machine, but not by the ESQ-1. Changes are made from the MIX/MIDI page in the sequencer section - set any tracks that you want to be sent over MIDI to "MIDI", rather than LOCAL, BOTH, or "SEQ".

Finally, check to make sure that the ESQ-1 MIDI channel, the Octopad MIDI channel, and the drum machine MIDI channel correspond to each other. This is set from the MIX/MIDI page of the ESQ-1, and if you aren't sure how to set for the drum machine and the pads, consult your owner's manuals. Also, the master MIDI channel that the ESQ-1 is set to must be different than the channel used for the drum track. In other words, if you want to record the drum part on MIDI channel 5, make sure that the ESQ-1 main MIDI channel is set to any other number. This is set from the master MIDI page - not the sequencer section.

And one tip - the Roland TR-707 will not receive MIDI information if it is not set to "track play" mode. So if you don't hear

anything, check to make sure that you're not in "pattern play" or one of the Write modes.]

Dear Sirs,

Ok, I've been saving all my wish lists, observations and complaints and now I think I'm ready to make them known to the world at large through your marvelous newsletter.

WISH - How about implementing MIDI volume on the Mirage? I am a proud owner of an ESQ-1 and when I brought it home and started using the sequencer mixer - you'd think it would at least work on the Mirage. I use the ESQ's sequencer quite extensively with a group of other synths and it's a pain to have an oddball in there.

WISH - It also seems to me that a "beetle" type of apparatus would be beneficial to the Mirage - that is, a separate module to control parameters and such. I realize that software and a computer would do the trick, but I think the demand's out there for it.

OBSERVATION - I've noticed that ESQ data (sequence and program) stored on Mirage disk is awfully susceptible to loss, i.e., the disk glitches very easy. I've never lost a sound disk, but I've lost more than 6-7 data disks. Another entry in the required disciplines dept. - Back up your disks! Especially the data ones. Apparently, they store data on the part of the disk that's easy to glitch.

COMPLAINT - When you append a sequence on the ESQ, one bothersome thing that happens is that the ESQ leaves note-offs on every track where the sequences were appended. In other words, if you try sustaining a note over an append point it'll cut the the note off. To explain, say you've come up with real hot two-bar sequence. You want to repeat it eight times, so you append it a few times. Then you lay some strings down over that. It will cut off the strings every two bars. And you can't get rid of the note-offs, either. That's a real bummer when you're building a sequence up. Any solutions?

COMPLAINT - I also have had trouble with the sync in the studio (anyone else?) and never really got the tape data dump to work. I may be just using wrong equipment as far as tape goes, though. And my ESQ might be bad, also. Just checking for common complaints.

OBSERVATION - A lot of us have gotten the Post-Purchase Mirage Blues. That is, we are sort of disappointed in it when we first get it - the distortion's too much, too little sampling time, etc. I rarely see the real reasons for these problems written about. The distortion you hear is because the Mirage is an 8-bit machine. The sampling time problem is because it's expensive. You get what you pay for.

COMPLAINT - Concerning sampling time, I thought all this talk about memory expansion was going to be about expanding the sampling time memory, not the storage memory. To get the best out of the Mirage I like the sampling rate as high as possible, but the tradeoff is sampling time. Oh well.

Thanks for letting me voice my concerns and opinions. I'll have some more stuff saved up to ask you next year.

Garth Hjelte
Seattle, Washington

[Ensoniq's response - WISH#1: The Mirage hardware doesn't support MIDI Volume. The Mirage was designed before MIDI Volume was considered an important feature. To add it now would require extensive hardware and software changes.

OBSERVATION#1: *There is absolutely no difference between sound data or ESQ sequence data as far as the Mirage is concerned. We're not sure what you mean by "lost" data disks, but unless you get a "dE" message when trying to load, the odds are the data is ok. Make sure to 1)boot the Mirage with MASOS every time you want to transfer data to or from the ESQ-1, and 2)always save (and later reload) both halves of the Mirage memory (Upper and Lower) to the diskette.*

COMPLAINT#1: *This problem exists in OS ver 1.7. It has been fixed in version 2.0 and higher software. See your authorized ENSONIQ Repair Center about an upgrade.*

COMPLAINT#2: *The tape interface on the ESQ-1 is extremely level-sensitive. We are currently studying all aspects of the tape sync and storage operations and plan to pass on all the hints and information we gather as soon as we can.*

COMPLAINT #3: *No matter how much RAM you put in it, the Mirage can only*

address 64K of contiguous memory at one time. It's a basic hardware limitation of the system.]

[TH - The excitement about the memory expanders is coming mostly from the performing musicians - who have to try to look entertaining while the Mirage reads its disk - not so much from the hacker and sampler types.]

Dear Hacker,

I am a happy owner of a Mirage sampler and recently had a "Turbo Mirage" memory expander installed painlessly at my Ensoniq dealer. It took less than a week to get it back with only about an hour labor cost. I am pleased with my new memory capabilities. I use the "Turbo Mirage" as a sequence expander. Virtual Engineering is working on a way to get the two to work together so that while a sequence is in progress I can switch banks.

I am probably one of the few people who use their Mirage in church all the time. I use it to accompany soloists and my choir. It has been well received by the congregation. I am careful, however, to use the nice acoustic sounds like piano, brass, strings, etc. Plus mellow synthesized sounds. One Sunday I used the "killer" organ factory disk on the tune "A Mighty Fortress is our God" as the opening number. No one was sleeping after that rendition!

I am also one of the few people who use the sequence expander all the time. I record a difficult accompaniment at a slow speed with a metronome and then play it back at different speeds while rehearsing with the choir.

I like a mix between acoustic and synthesized sounds. I had been waiting for the ESQ to come out in rack form to accompany my Mirage. However, I too, like reviewer Sam Mims, was very disappointed that it didn't include the sequencer, which sets the ESQ apart from other synths. Is it possible to have one custom installed by the Ensoniq factory dealer? Why couldn't the case have been made a little larger to incorporate the sequencer? I don't want to have to buy another box with a sequencer as I like to travel as light as possible.

Thanks,
Ron Johnson
South Portland, Maine

[Ensoniq's response - Putting the ESQ-1 display in the ESQ-M is not just a matter of making the case a little larger. The case must fit into a standard 19" rack, and there was simply no way to fit the

ESQ-1 display with its circuit board into such a case.]

Dear Hacker,

Your magazine is great! The only complaint I have is that the ESQ-1 is getting too much coverage. But that's the way it goes.

I was wondering how, if it is possible, one could divide up the Mirage keyboard using factory sounds - like having a drums/bass/organ/piano split on the same keyboard. I'm going crazy trying to figure this out as I have only found one other Mirage user besides me and he is as lost as I am.

Unfortunately, I will have to say my Mirage is not performing up to par. I've already gone through one faulty MASOS disk, and the keyboard itself has a tendency for the display to go blank and the sequencer is not performing properly. Outside of these problems the Mirage is great.

Mike Bauman
Sheboygan, WI

[Ensoniq's response - Each sound in the machine requires a certain amount of memory. There is a practical limit to how many sounds can be resident on the keyboard at once without seriously compromising the quality of each. There are several performance set-ups among the Ensoniq sound disks, however, which might be of use to you. Also, many of the K-Muse disks contain performance combinations with a number of different sounds.]

[TH - There's some articles in our Reprint #1 (and there should also be one in this very issue) that might help you in arranging your samples more to your liking.]

Dear Sirs,

Having been the proud owner of an ESQ1 for two months, your newsletter is really worthy to me. The ESQ1 is a real hot item here in France.

I have met two problems (I have software version 2.0):

1. I have never been able to achieve a tape transfer (load) even with a professional reel-to-reel tape recorder (a Studer/Revox). The ESQ1 always answers: "Tape not started on leader tone" though it actually starts on leader tone.
2. When the sequencer is almost full (rather easy to do!!) and if I use more

than 4 tracks for a sequence, notes seem to be "stolen" randomly or shortened.

Are you aware of such problems and is there a solution?

Every month, I really enjoy your new patches but we need more and more!

I own an Apple IIe and am developing a little patch editor/librarian that should work with any interface where the ACIA (i.e. the core of it) is a MC6850. If anyone is interested, he can contact me at my address.

I agree with Ronald Hill (The Interface, Feb. issue) when he says he lacks information about the format of the sequencer data. Of course, Ensoniq did a great job documenting ALMOST everything in its owner's manual, but things like: "The data block consists of 132H bytes of track and pointer information." (see page A-8 of the owner's manual) shouldn't be seen in this kind of really serious manual. What are these 132H (=306 dec) bytes? It is really tedious to try to determine it.

Musically yours,
Alain Le Roux
24, Rue Montaleau
94370 Sucy En Brie
France

[Ensoniq's response - 1) (See the response to Garth Hjelte above.) The "Tape not started on Leader Tone" message usually indicates too low a level coming into the ESQ-1. Try boosting it by running it through a mixer. With enough level the leader tone is usually easy to get. If you get this message no matter what level you use, it could indicate a hardware problem, and you should take the unit to an authorized Repair Station for service.

2) The stealing of voices has nothing to do with the sequencer memory being full - it's just that the ESQ-1 is an 8-voice instrument, and when you (or the sequencer) play more than eight notes it will "steal" the oldest note to play the new one. When you get a lot of tracks going at once, this will happen. The answer, unless you have other MIDI instruments to give you more voices, is to be aware of the eight voice limitation, and to compensate. Avoid, for example, recording multiple tracks which each have four and five note chords playing simultaneously.

3) The MIDI Spec contains all the information necessary to communicate with and write a librarian for the ESQ-1. The actual sequence data structure is proprietary and is not freely available.]

Dear TH,

I have been a professional scientific programmer for about twenty years, so of course my wife (who is in the same profession) and I could not resist playing with some aspects of the Mirage that were not in the literature very much.

To assist our prying we have written a program for the IBM PC which will read a Mirage disk and display the contents of the sectors in hexadecimal, decimal, or as a graph (to look at waveforms). It is possible to modify the data and write it back to the disk, which can provide all sorts of curious and interesting results.

I, therefore, noticed when one of your readers wrote asking about reading Mirage disks. We will be happy to supply him with a copy of the program to play with for the cost of materials and postage. (In other words, I'm not trying to make a profit.)

Be aware that it is, of course, necessary to have a 3 1/2 inch drive on the PC. (Although you can borrow the drive from the Mirage and probably void your warranty.) It is also necessary that the PC be running version 3.2 of PC-DOS. Most compatibles should work, too.

By the way, if you have a 3 1/2 inch drive attached to a PC, the Option Board from Central Point Software will back up Mirage disks (complete with OS).

As I said, I am not really trying to go commercial, so if too many people show interest (which I don't expect) I will have to decline their requests on the basis of spending too much time.

Thanks for a good magazine. Keep it up.

Sincerely,
Bill Fleisher
4680 Carrick SE
Kentwood, MI 49508

[TH - Thanks for all the tips.]

Dear Hacker,

I am writing in the hope of a solution to an ongoing problem. Every time I try to save data to cassette, I get failures in the verification process. I use a decent cassette deck (Pioneer) with VU Meters. The tapes are high chrome bias, 90 minutes. Also, the ESQ is giving off a lot of static when in save-to-tape mode. I have done everything the manual suggests. Please let me know if there is something else I can try (shorter tape, etc?)

Thanks,
Frustrated Shelly Plotkin
Brooklyn, NY

[Ensoniq's response - (See the response to Garth Hjelte above.) The level is critical and you will need to determine by

trial and error what works with your deck. It is possible that you have a ground loop with your tape deck (which may cause static). Try reversing your tape deck plug in the AC socket.]

Dear Hacker,

I'm glad you're out there! I enjoy your ESQ-1 coverage, and would like to see more programming tutorials, Hackerpatches and product reviews.

I have a problem with my MIDI setup. I'm using a Mac and the updated Deluxe Music Construction Set (DMCS) from Electronic Arts. I'm trying to record DMCS songs with the ESQ-1. With DMCS set to send MIDI clocks, and the ESQ-1 set to sync to them, I hit Record on the ESQ-1 and Play on the DMCS. Immediately, the ESQ-1 says "Save this track? (0 bars)?" My guess is that DMCS is sending a MIDI stop before the MIDI start. EA has been no help at all, saying I have to buy the Opcode sequencer. Ensoniq suggested I set the base channel to 16, but this only recorded the song as one big note on the first beat.

The Mirage may have this problem, too. I'm stuck and frustrated. Any ideas?

Synthetically,
Steve Meuse
Candia, NH

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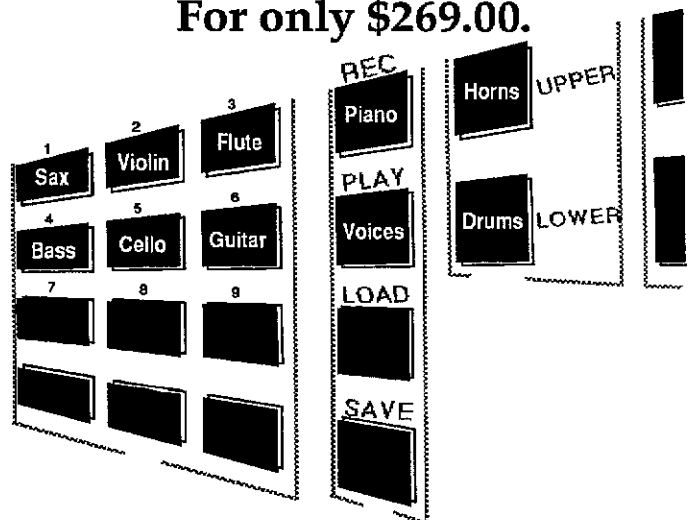
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[John Connelly's response - Precisely correct! DMCS sends a STP song message before starting a song. I tried recording on the ESQ-1 from my SP-12 and it worked fine. Only problem is, I've tried several combinations of MIDI parameters, and I can't get the ESQ-1 to ignore those Song Select messages - even when "KEY EVENTS ONLY" is selected. I haven't scopped the actual data, but I believe it is a Song Start message of some kind, maybe even a real-time clocking message. I'll continue to investigate. You can reach me at (503) 641-6260, or, if you have a modem, call my BBS (Ensoniq-Net) at (503) 646-2095. I think the solution is to somehow get past the first bar...]

[Ensoniq's response - We suspect that you're right - that the DMCS does send a STOP before sending a START. If that's the case, it will definitely kick the ESQ-1 out of Record just as you describe. We can only suggest that you reverse the situation - use the ESQ-1 as the master clock and sync the Mac to it. Or you could start with the ESQ-1 in Play (instead of Record), and once the sequence is running, press the Record button to put the ESQ-1 into Overdub mode. Then it will start recording whenever you start to play.]

Dear Hacker,

As a guitarist who purchased the ESQ-1 largely because it supported MONO mode, I am disappointed with the fact that the "new improved" software, version 2.0, does not allow a guitar controller to play all strings, one channel per string, using MONO - although Version 1.7 did. Ensoniq mailed me an article which said to use MULTI mode for this application, though to my ears and those of many authors on the subject, tracking is clearly better if each string is assigned to a separate channel and MONO mode is used. Why was this capability written out of version 2.0? I understand Ensoniq is working on 2.1. Please deal with this problem; if it could be done in 1.7, it surely can be done in the new version. As Ibanez MIDI guitarists are now cheaper than ever, the odds are greater that they will be paired with ESQ's, which, after all, are supposed to be "guitar synthesizer compatible". Don't let success go to your heads! Please provide full support for what is in most ways an excellent synth.

Wayne Dooley
Winchester, VA

[Ensoniq's response - The problem has been fixed in ESQ-1 software version 2.1. See your authorized ENSONIQ Repair Center about an upgrade.]

Hacker:

Another good issue of the Hacker - great stuff, which I look forward to reading each month.

Message for Don Slepian: DON'T take

too close a look before opening your mouth again. Your ideas and discoveries have been great, and I, for one, appreciate knowing that stuff. You've generously offered your knowledge for free (how many people do that nowadays?) and with a clear warning that we take our own risks screwing around with the machines. With the help of an electronics whiz friend, I enjoy the stereo (we went for eight channels with individual pan controls) retrofit, and have made other modifications as necessary. I know going in that it's my tough luck if it smokes. and I'm willing to take that chance. Those who want a guarantee can pay money for a product, but I thank you for your willingness to share your insights and ideas. If I had your expertise, I'd do the same. If others don't like what you're doing, send your ideas to me! As for your critics: well, you know what they say about people who can't take a joke.

Another quick kudo: Dick Lord (of Upward Concepts) has been unbelievably helpful and accommodating in providing help and information to one of my friends who, along with three other people including myself, is designing and building (for manufacture sometime in the fall) a very special and affordable new product for use with the Mirage. Thank you, Dick.

Yes, Hackery (the true, altruistic-style "hacker spirit") lives!

Question for Ensoniq (or anybody else who can answer it): I only care about sound, not looks. Does the new keyboard plug into the case in the same way that the old one does? I KNOW the new keyboard doesn't fit inside the old case; but will it function if plugged in? Paso Robles, CA 93447

[Ensoniq's response - The new keyboard will plug into the old circuit board. Unfortunately, we don't sell it separately.]

[TH - We always appreciate mods that Don Slepian (or anyone else) shares with our readers. (And we're sure there'll be more.) However, we do hope everyone's aware of the potential dangers to both equipment and people of poking around inside your gear.]

Dear Sir,

I've recently taken delivery of my ESQ-1 which is, to me, the greatest thing since sliced bread. No wonder everyone's raving about it and voting it keyboard of the year.

The music I'm aiming for is of the Micheal Stearns - Tangerine Dream type. Well, I mean, at 64 years, I'm not exactly heading for the top 40.

By the way, if there's anyone out there who can help me understand the AM mode I'd very much appreciate it, as all those I've spoken to over here can't help me much. I'm searching for the elusive (sorry about this) Yamaha DX sound,

but I really think we can improve on that, don't you?

Yours sincerely,
Harry Badger
10 Petersham Road
Merrickville, NSW, 2204
Australia

[Ensoniq's response - The AM mode is simply ring modulation between two waveforms.]

Dear Hacker,

I've had my ESQ for about five months now, and think it's the best synth, in the price range, available. Unfortunately, I've had quite a few problems with it and am glad to hear that Ensoniq is planning to spend some time and money improving the reliability of their instruments.

I've been experiencing the power-up problem everyone else is having: sometimes it turns on, sometimes it doesn't... In addition to that, sound data are occasionally lost, garbled, or otherwise destroyed. Sequences are sometimes corrupted - going weird in the middle of some sequences. Sometimes system data gets screwed up - like the quantization value, which is supposed to read "1/4" or "1/8" or the like, instead displays some weird garbled data. The result of these problems is often a pain in the neck. I have to "system reset" once a week which means I have to save all of my memory to tape often for fear of losing everything.

I have Version 2.0, so I don't know what causes the internal memory problems. Could it be related to the power-up problem?

Twice already, I've experienced a COMPLETE system failure - involving a screeching howl from my amp at 300 db, the screen blanking out, and after that, nothing works. The "system error" sign even comes up garbled. The first time, the technician replaced the two internal ROMs which control the system. That worked sufficiently for a while (though I still had the problems I listed above - lost data, etc.). The second time was today, and who knows if the technician will be able to fix it properly this time. Supposedly, they are going to replace the motherboard.

Do you think this will fix my problems for good? Could my problems be involved with the power supply? Are other people having these problems? Well, I certainly appreciate any advice or suggestions you could give!

Keep up the good work. I'm happy to see the increased ESQ-1 coverage!

Sincerely,
John Cooper
Alamo, CA

[Ensoniq's response - Sounds as if you did have a main board problem, and if it is indeed being replaced this should

solve your problem. If not please contact ENSONIQ Customer Service and they will see that you are helped in any way possible.]

Dear TH,

I have an unmodified early '85 Mirage. (In soft drink terms it's the "Mirage Classic".) I also have a TX-7 and an IBM computer with sequencing software. The software, by the way, is a very powerful program called Personal Composer that allows you to create a traditionally notated score by keyboard or mouse which can be played by MIDI or printed. Also, scores can be created by converting a recorded track to graphics and then be edited. It also has a librarian mode that allows you to save banks of voice programs or patches to disk. My problem is that when MIDI information is sent "thru" the Mirage from the computer intended for another MIDI instrument the Mirage locks up and the LED gets fried from showing parameter information numbers to showing dots. Help would be appreciated.

Additionally, it would be very handy for me to have sound disks that have complete drum sets on one-half of the keyboard only. This allows for comp piano, bass, or strings to be sequenced with the drums and would really squeeze a lot of music from one instrument. Is there such a family of disks available? Preferably the family would consist of traditional drums and several ethnic and electronic drum variations with consistent key assignments for the common sounds.

Finally, do you know of a digital synthesis program (similar to Softsynth) for the IBM and Mirage, and is that the type of thing you would review? Thank you for your insight.

Sincerely,
Skip Bletzacker
Sacramento, CA

[Ensoniq's response - MIDI Thru on the Mirage requires the microprocessor to read and retransmit every piece of MIDI data coming in. This can keep the Mirage very busy, especially if aftertouch or MOD wheel is being used (not to mention MIDI clocks). Put the Mirage at the end of your MIDI chain or use a MIDI Thru box.]

[TH - Digital synthesis programs are exactly the type of thing that we review. Did you catch our review of IBM visual editing programs in Issue #21? You might also want to check out our Reprint #1 for info on arranging your sound disks. Another possibility is SoftWorx (see ad and review elsewhere in this issue). They put together custom disks. Plus, we'll always be reviewing new disks as they become available.]

Dear Hacker,

Thank you all for an excellent publication, and an obvious dedication to hard work and an outstanding instrument.

I am writing in response to Loren Moore's letter published in TH issue #21. I have been very thankful that my older Mirage has been without major problems considering that it has lived most of its life in smoke-filled lounges and clubs. I have experienced that keypad lockup problem that Loren mentioned, and maybe I can help others with a possible solution. The keys that locked up on me were the 1, 4, 7, cancel, parameter, value, on and off. Can you imagine the fun I had trying to turn off the sequencer on the downbeat in a live performance? Since my warranty had expired anyway, I opened up my Mirage and discovered that a few of the nuts attaching the keypad to the inside of the unit were slightly loose. After I tightened them up a bit, I no longer had the lockup problem. If anyone should experience lockup, it would probably be a good idea to have your service center check this one simple item before replacing the entire keypad or board, especially if your unit is no longer under warranty.

Also, does anyone have an authentic quality sample of a Stradivarius?

Sincerely,
Chuck Starr
832 Held Rd. "C"
Las Vegas, NV 89101

[TH - Thanks for the info. Good luck on the "Strad."]

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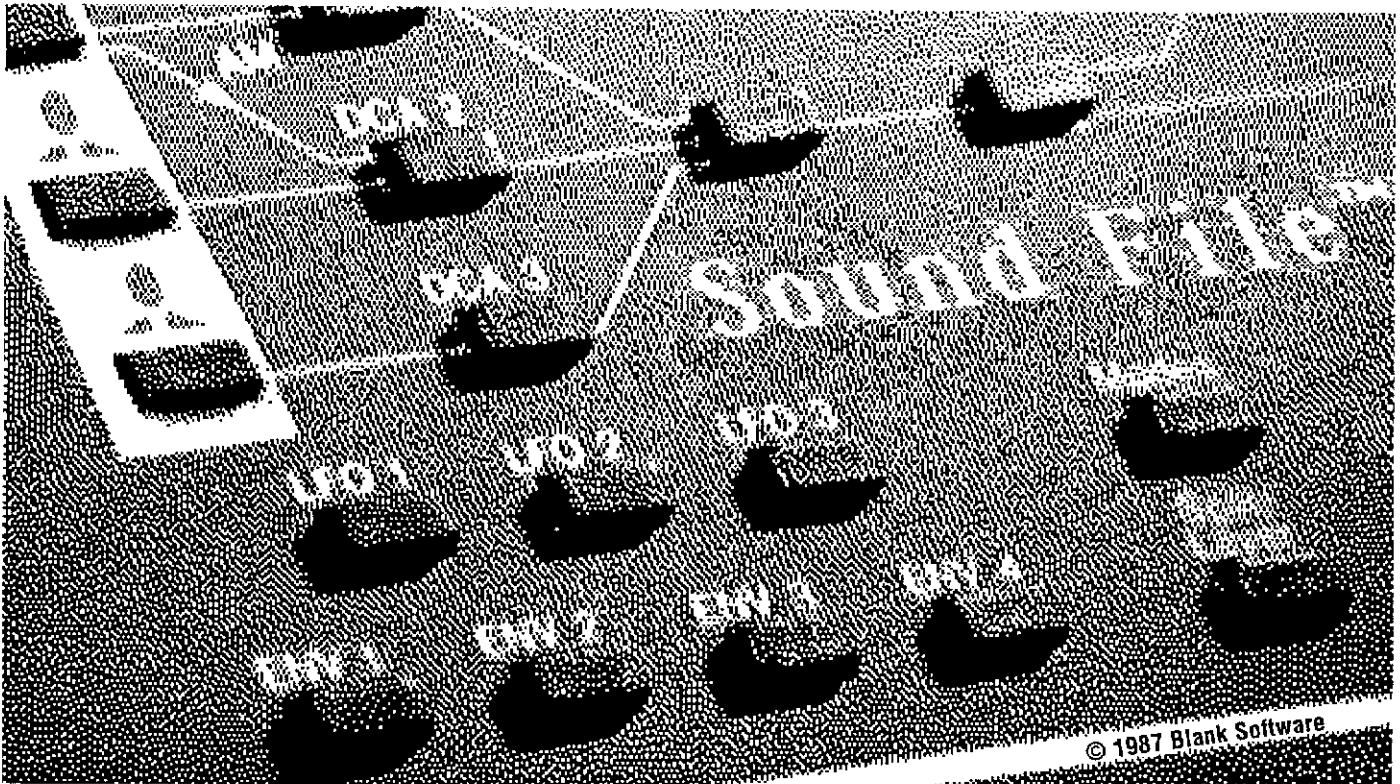
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