

TRANSONIQ HACKER

The Independent Newsletter for Ensoniq Users

ESQ-TIPS

By Clark Salisbury

Ah, the ESQ-1! I think that by now I must have programmed somewhere in the neighborhood of 500 sounds for that machine, some of 'em keepers, some of 'em weepers. But along the way, I think I've hit on a couple of techniques for doing things with it that helped me to pull some fairly interesting sounds out of the beast. At least I think they're interesting. You may not, of course, but what the hell - I'll lay a couple of 'em on you, anyway.

One of my favorites is for getting a nice breathy "chiff" sound, the kind you might want for the attack of some types of flute sounds (Peter Gabriel's got nothin' on me). And one of the reasons that I'm fond of this technique is that it can produce some real unique types of sounds.

Interestingly, for you experienced programmers out there, this sound isn't done the way you might think - none of the noise waveforms are used, as is the common practice for generating "chiff" type attacks. Noise is used indirectly - from one of the LFOs. But the key to the sound has more to do with the selection of appropriate waveforms, and convincing enveloping.

I usually prefer working with one oscillator at a time, so first let's turn off oscillators 2 and 3, and just concentrate on oscillator 1. This can be done, of course, by selecting DCAs 2 and 3, and setting their respective outputs to "OFF". Now let's move on to oscillator 1 and select a waveform to use for the main body of the sound. Since this is going to be a flute-type sound, a sine wave might be a logical choice. So select oscillator 1 and set WAVE = SINE. For now, set OCT to +1, leave SEMI and FINE both at 00, and leave MODS= set to "OFF" for both modulation inputs. To keep things simple for now, set the filter FREQ=127, RES to 00, KEYBD to whatever (it doesn't really have any effect at this point) and both the MODS= to "OFF". Now for envelope 4 (which always controls DCA4, the final arbiter of dynamic amplitude changes). Set T1 to 10 or so, L1 to 63, T2 to 00, L2 to 63, T3 to 00, L3 to 63, T4 to 16 or so, and all other values to 00. Now when you play a key on the ESQ, you should have a basic flute-type sound.

OK, here's the cool part. For oscillator 2 select the BELL waveform (actually, there are a number of waves that work well for this type of sound, including SYNTH 1, 2, and 3. You might make a mental note to give them a try later on). Set OCT to +1, and under the MODS=, set one of the inputs to LFO 1. Set its amount to something like +20 (the display should read LFO 1 * +20). Now head over to the LFO 1 page, and set its waveform to noise (WAV=NOI). Set FREQ=63, RESET=ON, and HUMAN=OFF. L1 should equal 00, DELAY should be 63, and L2 should be in the neighborhood of 15 or so. Now go to the DCA2 page and set its OUTPUT to ON, and LEVEL to 00. Under MODS=, set one of the inputs to an envelope, perhaps ENV3.

As you may have guessed, we head now to the ENV3 page. From here set T1 to a value of 12 or so (this is another parameter you may want to experiment with later on - it controls the attack time of the "chiff"). Set L1 to 63, T2 to around 28 (again, some experimentation later on may be in order), and all other values to 00. You may, however, want to control the volume of the "chiff" from key velocity. If so, set the value

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for LV to some number other than 00 - the higher the number you use here, the more effect keyboard velocity will have on the loudness of the "chiff".

If you try the sound out at this point, you should have a fairly interesting bamboo flute type of sound. You may wish to add the third oscillator, perhaps also set to a sine wave, but slightly detuned or an octave above or below the first oscillator. But the most interesting material, (at least for me it has proved the most interesting), has come from experimenting with using different waveforms in various octaves for the "chiff" part of the sound - in this case, OSC2. Also, you might like to try scaling the pitch of the "chiff" by applying KBD or KBD2 as modulators. If you don't want OSC2 to track the keyboard at all, use KBD2 as a modulator with a value of -63. In this way, the "chiff" at the beginning of the note will have the same characteristics no matter where on the keyboard you play. In some cases, this will add to the authenticity of the sound.

Another favorite trick has to do with synthesizing percussive sounds. Ever notice that, in some instances, you just can't seem to get enough "oomph" out of an envelope? One way around this is to try running the same envelope into whatever you're running it into (filter, DCA, etc.) twice. Sounds weird, doesn't it? But it really works. Let's try a little experiment.

Turn off all the DCAs except for DCA1. Go to the OSC1 page, and select the KICK waveform (WAV=KICK). Set the octave for -3 (OCT=-3). Everything else on this page should either be set to *OFF* or 00. Move to the filter page and set FREQ=127. Everything else on the filter page should read *OFF* or 00. Now, move to the ENV4 page. Set T1 to 00, L1 to 63, T2 to any number higher than 30, L2 to 00, T3 to 00, and T4 to 05. Set LV to 00, and TIV to 00. TK should be set to 63. Lastly, we head over to the Modes page to make sure that AM=OF, and that OSC=ON. The other parameters on this page don't have any real bearing on the sound we're heading for, so don't worry about them for now. As a matter of fact, you needn't spend too much time worrying about what any of these parameters are up to; we've simply adjusted them for more or less "plain vanilla" settings so that they won't get in the way of the next part of our experiment.

Now we come to the interesting part. Head over to the DCA1 page. Make sure its OUTPUT=ON, and that LEVEL=00. Select one of the modulation inputs, and route in an envelope, say, ENV3. Give it a value of +63. Doing this allows us to control the amplitude of the KICK waveform from envelope 3, so now we need to come up with the proper settings for the envelope in question. This is going to be the basis for a kick drum sound, so we need to come up with an envelope that will only let one cycle of the KICK waveform be heard (otherwise you can get some rather strange bass drum - echo effects). So for ENV3, try these numbers out: T1=00, L1=63. T2=20, L2=00, T3=00, L3=00, and T4=06. Set LV=00, TIV=00, and TK=63. Now head back to the DCA1 page.

Select the other modulation input, and set it to ENV3. I know it looks weird, but you should now have ENV3 showing up twice at the bottom of the DCA1 page - once with a value of 63, and once with a value of 00 (if it's set to any other value, set to 00 for now). Play the sound from the keyboard for a moment to get a feel for what it's like, and then increase the value for ENV3 to 63; the lower row on the DCA1 page should now look something like "C* MODS= ENV3 * +63 ENV3 * +63". Now try the sound from the keyboard again. See how the sound becomes punchier when using the same envelope twice as an input to the DCA? And, of course, this idea can be applied to any modulator connected to any modulation input. I've found it particularly useful when trying to get just that little extra bite from the filter, and I'm sure you can come up with some applications of your own.

And while we're on the subject of bass drum sounds, have you ever wished that you could tune the KICK wave lower in pitch than is possible using just the tuning controls? Hey, no problem! Simply run KBD2 into the OSC as a modulator, and give it a positive number of some kind. In other words, using the same bass drum patch that we've been working with so far, go to the OSC1 page and set KBD2 * 63 in the MODS= section. What happens now is that the normal keyboard tracking of the ESQ is exaggerated around the middle "E" key, causing notes above middle "E" to sound higher in pitch than they would otherwise, and notes below middle "E" to sound lower. Nifty, huh? I can think of at least 3 other ways to accomplish the same thing (four, if you count holding the pitch bend wheel down while you're playing).

Well, that about raps it up for this time out, campers. I've got to get back to work on my next volume of sounds, "Bagpipes, Sakbutts, and Noseflutes for All Occasions". Besides, I can't be giving away all my secrets, now, can I? ■■■

"Unbelievable!" "Astonishing!" "This could change life as we know it!"

Yes, friends, it's true! The Hacker's own Wonder Team, Clark and Erick have done it again! Not content to rest upon the laurels and paeans generated by their first batch of ESQ'1 programs, (and besides, they need extra income because writing doesn't pay very much, at least not for the Hacker), Clark and Erick are proud to announce:

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* * *

FORAT Electronics, Inc. is introducing the MSM 2000 - Modular System Memory that can interface to the ESQ-1 and contains 2000 memory locations consisting of 64 banks of 32 sounds each, with 512 pre-programmed custom sounds included. The MSM 2000 comes standard with automatic memory self protection provided by maintenance-free rechargeable batteries. Price: \$595.00. Further info: FORAT, 11514 Ventura Blvd., Studio City, CA 91604. (818) 763-3007.

* * *

EMISSION SOFTWARES announces "Slate" - a realtime patch editing aid for the ESQ-1 and IBM-PC. The actual editing takes place on the ESQ-1. What "Slate" does is track and graphically display your changes. Each editing page has its own Pop-Up Window on the computer display. Only \$80.00. For further info: Emission Softwares, 5555 Zuni SE, Suite 157, Albuquerque, NM 87108. (505) 877-4452.

RND (🎵🎵)

"Merger Mania" Hits Music Empire. Well, actually what's happened is that you probably won't be seeing any ads for **Blank Software** here (or anywhere else) because it is now being distributed exclusively by **Dr. T.** Also, **Jim Johnson (James Music)** has sold his **ESQ-1** patches to **Ensoniq** for exclusive distribution.

* * *

A few minor corrections from **Jack Loesch** for his article "*Customizing Your Own Mirage Disks*" which appeared in Issue #23, page 10: Procedure 2 should have Parameters 86, 88, and 90 remain at their default values.

* * *

If you've been trying to contact **Black Squirrel Software** at their old address (301 N Harrison St., #B-135, Princeton, NJ 08540) you probably haven't been having much luck. Up through September 15 they can be reached at 1440 Talcott Rd., Park Ridge, IL 60068, (312) 825-4790. After that, they'll be back at their old address.

* * *

If you're sending in a patch for our *Hackerpatch*, **PLEASE** include your phone number.

* * *

If you want to hear some **M.U.G.** samples, buy *Frehley's Comet* on **Megaforce/Atlantic Records**. **Gordon G. G. Gebert** from **G-4 Productions (& M.U.G.)** has put together samples for **Ace Frehley's** (former **Kiss** member) latest project. **Ace** has **MIDI'd** his guitar to rack mount **Mirages** using the *Photon*.

* * *

Ensoniq sends us the following **WARNING!** If you are upgrading from an **SQX-10** to an **SQX-20** you must have the **SQX-20** installed by an authorized repair station. If your **ESQ-1** currently contains an **SQX-10** (10,000 note expander) it will have to be removed before the **SQX-20** can be installed. To do so, the **ESQ-1's** lid must be opened. Doing this yourself will void your warranty. Please contact an Authorized **ENSONIQ** Repair Station or your Authorized **ENSONIQ** dealer for assistance. (TH - Actually, I had occasion to pop out an **SQX-10** and I found that you can easily remove it by using some double-sticky tape to pull it out - without opening the case.)

* * *

TRANSONIQ-NET

The following people 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).

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

MIDI USERS - Eric Baragar, Canadian MIDI Users Group, (613) 962-0549. Business hours, Eastern Time (Toronto, ONT).

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

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

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

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

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

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

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

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

BACK ISSUES

Back issues are \$2. each. (Overseas: \$3 each.) Issues 1-8, 11, and 14-17 are no longer available. Subscriptions will be extended an equal number of issues for any issues ordered that are not available at the time we receive your order. **ESQ-1** coverage started with Issue Number 13. The first two reprints in our "Quick and Dirty Reprint Series" are now available: **MIRAGE OPERATIONS**, for \$5, and **SAMPLE REVIEWS** for \$4. Each contains material from the first 17 issues.

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!)

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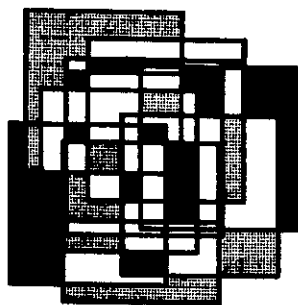
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A VISIT WITH M.U.G.

By Jordan Scott

In the tradition of Elliot Ness and Joe Friday, this investigator searches for truth, honesty, and the largest stash of Mirage samples east of the Mississippi. Our detective work has led us to Gordon Gebert, organizer and operator of the Mirage User's Group (that's M.U.G. in the underworld of sample suppliers). What follows are the comments of this investigator (in parenthesis) and those of the big MUG himself.

JS: How did M.U.G. start?

GG: I got the Mirage when it first came out. I picked up the *Hacker* and there were ads for a third party company, so I ordered their sounds, waited a couple of days. They came and I didn't like them. They were going for \$35 a disk. Terrible - no program variations, no sequences, very simple. In fact, they only sampled in the lower bank and then covered the upper. The upper range sounded awful. (Gordon next described the odor of these samples -- sort of like that New York garbage barge). So I put an ad in the *Hacker* to trade with people all over the world. All of a sudden I got all this response. After a couple of months, it got ridiculous with all these people wanting to trade. I had to weed out the good samples, so I decided to make a club out of it and get the serious people. (After another *Hacker* ad, M.U.G. was born and today it weighs in at 250 members).

JS: What kind of services do you offer members?

GG: The *Hacker* usually gets them all the information they need, but they will get additional info from M.U.G. Starting next month, we'll have a hotline for info about the Mirage and samples. Mostly, M.U.G. is about getting samples. We'll have a demo cassette coming out with all the samples with catalog numbers stated before the sounds and their sequences for reference. It'll be \$15 for the cassette which will be refundable with a \$100 order.

JS: What about quality control?

GG: About half the stuff I get from members I already have under another name. Some of them are other companies' stuff which I will not deal with. I have all the collections, including the K-Muse library, so I'll tell the member this is not to be traded. Usually, I have certain people that make sounds. I know I'll get a good, new and different sound.

JS: With all the analog and digital processing abilities on the Mirage, how can you tell if you've heard it before? What is the crossing point between copyright infringement and something new?

GG: I don't want to go into it. That's really hard - we're very concerned about it. In one of our newsletters, we've asked if anyone feels we are infringing on their copyright, to please contact me immediately. We will not deal with samples from K-Muse, Sampleware or other third party libraries. I know them well. Some new club members send me copyrighted sounds. I find that they don't always do this intentionally. With trading, all these sounds get lost out of the context of their libraries.

JS: What are the costs of membership?

GG: It's \$20 for one year with one complimentary disk and an upgraded sample listing with the newsletter each month.

There's also a lifetime membership for \$65 which comes with two disks. For members, disks cost \$12. (Sounds in the catalog are listed in banks and disks are made by mixing and matching upper and lower sounds of your choice. This works out to be a very flexible system and lets you design your own custom disks).

JS: What about discounts for large purchases?

GG: We have M.U.G. specials each month like last month's M.U.G. zoo collection which had six disks for \$50. We have the whole library on sale for \$1195 (that's an awful lot of money for sounds but you do get over 738 sound banks or something like 123 disks full of stuff).

JS: The Ensoniq disks have come down in price. Will you be competitive?

GG: Costwise it's hard to compete. Looking at third party suppliers - they're still \$19.95 each, so we're still cheaper than them. You can save more if you buy in bulk quantities. The more club members I can get, the more I can bring the price down.

JS: Are you a not-for-profit organization or do you see it as a club that entitles you to make money? What is your philosophy about the club?

GG: Right now I am breaking even and keeping up with my costs. We're putting out a Mirage video and I'm laying out a lot of money to produce that. (The video will feature demonstrations of Mirage product peripherals). So the money is going back into the club. It's all for the betterment for understanding and getting the most out of the Mirage. All this takes a lot of my time, and I want to get paid for it. I'm a professional musician and I work with a lot of bands and this takes a lot of time. I'm not out to get rich on this.

JS: Before we get to the sounds, what's your impression of the Mirage in 1987? You've worked in pro studios, how does it compare with all the new technology and other pro gear?

GG: All the other instruments in the Mirage price range - the Roland, the Prophet 2000, the Akai, the Casio; of all of those, the Mirage has the best library. With 12-bit and 16-bit machines, there are better sound quality machines, but it depends what you're using it for. The Mirage is a great live instrument, and Jam and Lewis use it on Janet Jackson's album and I use it on my 24-track recordings. If you get a good sound on the Mirage, it will compare with a 12-bit. The newest Ensoniq horns are fantastic.

JS: What are some of the reactions from your club members?

GG: Eighty percent of the reactions are very good and we get repeat customers all the time. The others will complain about some sounds that even I feel shouldn't be on the list, but it's everybody's club and the sounds come from member's contributions. I'll steer them in a better direction and they'll get help from me. I was going to make a rating system (1-5)...it's all a matter of time and money.

JS: Let's hit some sounds!

All of the sounds bank titles reviewed are listed in capital letters and are currently in the M.U.G. library. The number in

parenthesis is my rating from 1-5. A rating of 5 is professional quality.

BACK TO "BASS"ICS.

7 MIDI BASSES (3+) include two great slap basses and couple of other nice basses. Three samples were recorded at low levels. All samples have excellent loops.

SYNTH BASS (3+) is a great sound with four usable variations. No loop is provided...you're on your own!

LOG BASS (3) is a DX sound reminiscent of a sound on Ensoniq disk #2, Lower 2.

ELECTRIC BASS (2) is a single slap bass sample without a loop. The variations are uninspiring -- this sound needs a lot of work.

ANNA BASS (3) uses the whole lower memory and has a muddy lower range. It has a nice loop and turns into a very nice synth sound when it is transposed across the whole keyboard.

CHORUS BASS (3) is a nice electric bass sound with some punch on the attack. The loop is workable. The programs are average.

"KEYS" TO SUCCESS.

HAMMONDS (4-) is seven nice organ sounds accessed with each different wavesample (Parameter 27). Each wavesample is looped and features a different drawbar selection.

ORGAN (2) is another average Hammond sample which uses half of the upper memory. The other half is another sample which has severe medical problems.

BELLBOTTOM (2) and BELL (2) are some more DX type sounds which were recorded too low and are not looped. This is a very lazy effort.

FINGERED GLASS (4+) isn't really a keyboard sound, but nevertheless, this glass rubbing sound turns into a very ethereal and excellent synth sound. The loop is slightly noticeable. Try transposing this sound up an octave or two -- very nice!

KALIMBA (3) has two useful samples which are not looped (this sound doesn't usually sustain anyway). Over half the memory on this keyboard half is wasted -- remember folks, let's trim samples and use every ounce of 64K!

ACCORDIAN (4+) hits the mark. The single sample covers just over 3 octaves very well. The loop is workable. Anyone for a polka?

ETHEREAL PIANO (2) sounds like a synth sample with a quick attack and a long filter and DCA release.

FUN PIANO (4-) is a fascinating sound with four nice variations. Be warned, however, this sound uses multisamples with various short loops which drive the processor fruity and may lock up your Mirage. These loops violate suggested loop rules as defined in the Advanced Sampler's Guide.

JUST FOR FUN "FX".

HURRICANE/RIP (4-) is great for a scene setter. No loop is set, but I found several good long loop points. The second sample RIP, sounds like a reversed sound. Transpose it down and it turns into a nice laser blast.

LAV WATER and RUNNING WATER (3+) are very effective sounds of water dripping. They might be used as a subliminal suggestion to your beer drinking audience to hit the facilities at the end of the set.

AIRPLANE (4) uses a low sample rate to get a long sample of a large jet flyover (doppler effect). This sound is great for staccato stabs with a quick filter and DCA release and gobs of reverb.

SPEEDWAY (4) is another long sample. A day at Daytona -- speed 200 mph.

CYBERGONG (3) is a weird gong sound from a recent sci-fi hit on a five-year mission to save whales.

FX DOWN (3) sounds like an analog synth laser sound with a falling pitch and low frequency modulation.

Sound effects on the Mirage are a lot of fun and M.U.G.'s FX catalog of dozens and dozens samples is a great resource.

LEFTOVER SPREADS AGAIN.

These sounds spread across the entire keyboard.

STRATOCASTER GUITAR (4) is a great picked and processed guitar sound featured in a recent Michelob ad. This sound uses a similar looping technique as in FUN PIANO mentioned above.

SHAKUHACHI (4) is a beautiful sounding Japanese flute. The loop creates a pitch bend at the loop point which adds a lot to the sound at the lower keyboard range. At the upper end of the keyboard the loop sounds out of tune with the sample.

Gordon has just completed some work on the new Ace Freiley's Comet album. A lot of the M.U.G. samples are featured on it, so if you are into guitar and Mirage...check it out.

On that note, our visit with M.U.G. concludes - having found a large resource of sampled sounds and a network for trading them. I am impressed with the quantity and quality of many of these samples. However, they should not be considered finished products. Most of the sounds will either have to be looped, trimmed, or set-up correctly for proper use. If you're not into sampling or simply don't have the equipment or time, M.U.G. can provide the raw samples for your own customization. As Gordon mentioned, the more people who join, the lower the cost of samples will be. That can only be a good thing. If you're interested in being a M.U.G. member, check out the ad in the *Hacker*. ■

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



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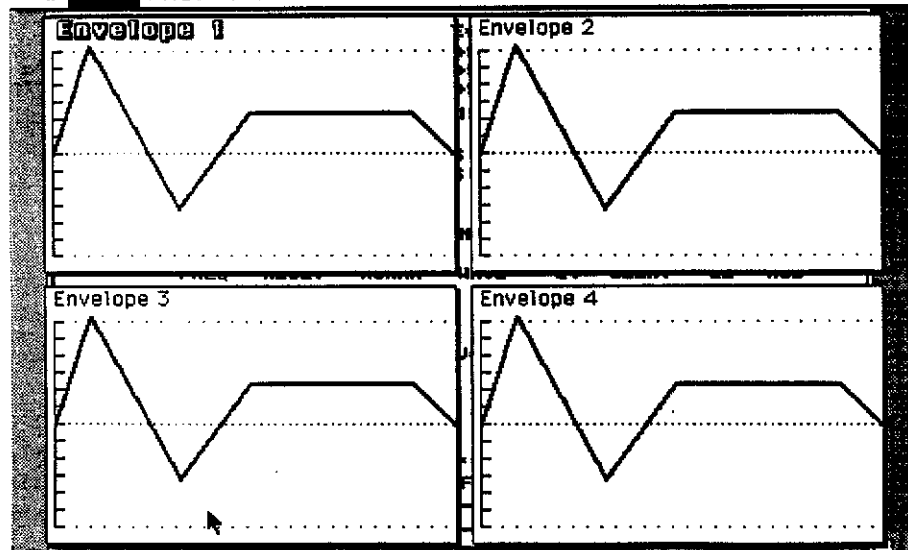
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DCA 1	55	ON	ENV2	0	LF01	0		
DCA 2	0	ON	ENV3	1	LF01	0		
DCA 3	23	ON	ENV3	16	KBD	40		
FILTER	0	0	63	ENV3	61	LF01	0	
DCA 4	63	8	LF01	0				
ENV 1	-6	0	0	63	0	0	6	63
ENV 2	63	50	45	0	0	0	50	63
ENV 3	47	0	0	26	0	0	18	0
ENV 4	63	63	63	8	0	8	29	52

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STI	LAVI	Bank Vol.1-A	HHHS 4
KEY			DRP 1 24
STI			DRM*RS 25
ST			HORN'S 45
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VOX			HR/STR 46
VOX			E HAT 27
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			E TOM1 31
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			KICBAS 52
			ELPAN2 33
			KICK 2 53
			ELPAN3 34
			KICKME 54
			ELPAN4 35
			KIEV 55
			ELPAN5 36
			KIKSNR 56
			ENGLIS 37
			LANDNG 57
			EP*STR 38
			LATIN 58
			ERINBR 39
			LAYERL 59

VALHALA PATCH REVIEW

By Chris Barth

FOR: ESQ-1
PRODUCT: ROM 3201
PRICE: Was \$169.95, Now \$139.95
FROM: Valhala, PO Box 20157-TH, Ferndale, MI 48220.
1-800-648-6434.

While searching the mailbox in vain for the new issue of Keyboard, I came upon 320 new ESQ sounds from the folks at Valhala. How do they fit so many in that little box?

The memory cartridge has a little button on the top right side, and two small lights on the top left. The lights can indicate any one of four groups of sounds (both on, both off, one on and one off). By pressing the little button, you can toggle through four groups of eighty sounds. The main drawback is that the cartridge may not be overwritten. This means that you may not edit the cartridge sounds and save the results on the cartridge; each sound is permanently stored in its original configuration. If you need to edit a sound, you have to retrieve it into the internal memory of the synth (by using the WRITE command), and then save it to a new location, which could be a computer librarian, the internal memory bank of the ESQ-1, or another cartridge which permits write operations.

Do you need to edit these sounds? Well, Jim Johnson and others have recommended that you bring down the volume of loud patches like organs and synth pads to the level of your quieter patches so you don't destroy your speakers as you switch between sounds. No one bothered to do that with the Valhala cartridge, and the difference in levels is extreme in a lot of cases. So, if you have to save voices elsewhere to get the volumes right, it lessens the value of buying them on cartridges where you can't adjust the volume.

If you're picky about the sounds you use, it would seem preferable to purchase sounds on data cassette first. After you've auditioned them, and maybe edited them a bit, you can save them to RAM cartridges. Purchasing ROM cartridges, which don't permit you to edit or save voices, may be cheaper in the short run, but it can get expensive and wasteful, especially if you are only using some of the voices you've purchased and can't adjust the volumes on others.

Before we start the review, I'd like to comment on what we're trying to accomplish here. We've all heard Ensoniq and others say something to the effect that "the value of a sound depends on the context in which you're using it", which is true, and also like saying "beauty is in the eye of the beholder". That means that reasonable people can disagree on what constitutes beauty. But how is it that people do seem to agree that Bo Derek is beautiful, and the Bride of Frankenstein is not? Every patch I've ever heard can be worked with to make it useful in some context, but some patches are striking for their color and complexity and depth and motion and other patches just sit there. When I rave about a sound, it's because it strikes me as beautiful all by itself, without reverb or delay or other aural makeup. So just consider me an aural talent scout, alerting you to the best I hear and trying to explain what I think is missing with the rest.

With that out of the way, let's listen to the sounds themselves. When I first turned on the drum machine and auditioned the cartridge, something struck me as odd about the sounds I heard. I've auditioned hundreds of ESQ-1 patches in the last year or so, and this cartridge didn't seem to fit in with the rest.

Then it struck me: these are Casio patches that I'm listening to! I don't mean that literally; obviously, there are major differences between the way Casio and Ensoniq produce sounds. Casio uses a process called phase distortion to produce the Casio sound. Personally, I don't think the Casio sound comes close to the Ensoniq. It's strong on special effects and spacey synth sounds, but too often, it's thin and wimpy. Not cool and bright, as in digital, but thin and wimpy, as in Casio.

Anyway, lots of programmers will approach a new synth by trying to duplicate the sounds of a couple of old ones. There's nothing wrong with this, and I raved about the Moog patches on the VOICE CRYSTAL a few months ago. Well, I can't prove it, but the Valhala cartridge sounds all the world like someone duplicating the best Casio patches onto the Ensoniq.

How about some evidence to back up my suspicions? Well, for starters, Bank 2B contains absolutely stellar synthesized patches for electronic and space music. Sure enough, the patches are named ISAO, CARLOS, WENDY, TOMITA, etc. (For the uninitiated, Wendy Carlos and Isao Tomita are two of the greats in synthesizer history - particularly Casio history). The sounds are expressive, spacey, and quite unique. They also sound like Casio patches, except that for my money, the Valhala patches are much better - partially due to programming, and partially because the ESQ-1 is a better sound generator than most Casio machines.

Scattered through Banks 1A and B are some great special effects, and again, they bring to mind the Casio sound. WLWIND is a windstorm where you can control the apparent speed by adjusting the mod wheel. I also liked SPACE, which falls in a science fiction category and sounds like the noises made by the control panel on the spaceship. These patches remind me a lot of the Weinbeck special effects patches, which are also in a horror/science fiction mold.

Banks 1A and B have the best mix of special effects and usable new sounds for solos in a rock band context. Buried in with the rest of the synthesized and special effect patches in these two banks is GUIT 2, which is the best simulation of a nylon string classical guitar I have ever heard. Unfortunately, the banks also contain ten percussion patches which are not very convincing and spoil an otherwise well-crafted set of patches in these banks.

Leaving the special effects and synthesized space sounds for a while, we come to the analog section, which should be roped off to prevent its accidental use by unsuspecting musicians. As fat analog patches go, this is the worst set I've heard yet. They sound like "realistic fat analog Casio" patches! AARGH! Well, at least my theory still holds up. First, they listened to some Casio space music patches, then some special effects patches, and then analog sounds. Well, as strong as the Casio can be on space music and special effects, in my opinion, it's the pits for fat analog sounds. Somehow, Valhala managed to duplicate the sound of a Casio trying to sound like an analog synth, and believe me, it's a shock to hear how wimpy the ESQ-1 can really be. All of the things I dislike about Casio are magnified to the nth degree in these patches for the Ensoniq. Some of the patches are grating to the ear and among the worst I've heard yet. They're thin, not in the digital sense, but more like they're off in the distance somewhere. I thought great string patches were a piece of cake on the ESQ-1, but

these people have proved otherwise.

Let get particular: the nine alleged imitation Moog patches have only one usable voice in the bunch, and it doesn't sound much like a Moog, either. The others are a joke. Patches named SYN LD and 5THLED sound like little cheap plastic imitations of real synth sounds. The violins and strings and alleged symphonies are simply not up to usual ESQ-1 standards, and some are horrible. The prize winners are ESQBAS and MOOGBS; the former is grounds for a lawsuit and no jury in the world would convict Bob Moog if he murdered the author of the latter. I've never been so disappointed with a set of sounds before.

Reading the above, I'm not so sure I would have felt this way a year ago, when ESQ-1 patches were as common as a Prince video on MTV. But I've heard hundreds of patches in the meantime, and these force me to revise my opinion of the others upward.

The organ, clarinet and flute patches in Bank 2A are pretty good, although they're similar to patches I've heard from other sources. There are fifteen or so bass sounds in Bank 3A, but only one of them stood out as something I'd keep. The rest have no depth or warmth to them. They sound like snapshots of real bass sounds - two dimensional. The bass patches which appeared in Hackerpatch are much better, and they were free. The one bass patch I liked has the same faults as the others, but there is a repeat built into the sound, similar to what digital delay experts refer to as a multiple tap, and that gives the patch a machine-like quality which I found interesting.

Banks 4A and 4B are mostly acoustic and electric piano simulations. I had some problems with low octaves on some of these patches being muddy or sounding somewhat out of tune.

After I finished writing this review I received some additional material from Valhala in the mail, which included the review by Jim Aiken in the July issue of *Keyboard* magazine. First, the review in *Keyboard*: I couldn't disagree more with Jim's conclusions. He liked the electric piano imitations and basses and pads, whereas in my opinion they rank at the bottom of all the patches I've ever reviewed. I ran a comparative listening test with my regular group of studio musicians, and each one preferred either the factory preset over Valhala. Some expressed amazement that anyone liked the Valhala synth pads or basses at all (one accused them of being MY patches, and he didn't score any points for that!) Then I ran the same test using the Valhala space sounds and special effects, and achieved the opposite results: Valhala won every time (and no one suggested they were my patches - I guess I should hold some new auditions.)

What amazes me is that Jim then proceeded to review Volume I of the Voice Crystal (Valhala didn't send me this part of his review, but I read *Keyboard* too) and raved about its percussion sounds. Here we have a superb collection of piano and synth pads, by far one of the best I've heard yet, and Jim likes the only sludge in the set. He doesn't like the Valhala GUIT 2 patch, which is impressive, and glosses over the phenomenal Moog sounds in the Crystal. Honestly, I am really mystified how the two of us could listen to the same patches from two vendors and come to absolutely opposite conclusions regarding the value of the sounds.

However, I do note that Jim ends his review by stating "describing sounds in words is next to impossible". Is this true? If I say that one piano patch is tinny and slightly out of tune, and another one is rich with an accurate reproduction across

all octaves, are you really unable to fathom what I'm talking about? If I say that one ESQ-1 Moog patch is indistinguishable from the sound produced by the original Moog machine, and another Moog patch sounds like it went through a long distance telephone line before you heard it, are you really lost? Unable to figure out what I've been listening to?

If describing words in sounds is next to impossible, why isn't the same true when describing visual events? If I said I lived in a house that looked like Beaver Cleaver's, or my wife looked like Susan St. James, you'd know what I meant, right? You're not deaf and blind, are you?

If the people at Valhala are wondering why I'm off on this tangent, it's because they sent me the *Keyboard* review. Readers, you should listen to demo tapes before you buy. Programmers, beware - if you don't offer demo tapes, you're particularly vulnerable to the Aiken/Barth syndrome.

According to the Valhala promotional material, a demo tape is available, but they neglected to say what it includes and how much it costs.

It may be time to start grading some of these patches so you can make informed purchase decisions. In my mind, I would give Valhala an A for special effects (found mostly in Banks 1A and 1B), an A for the organ patches (Bank 2A), an A+ for synthesized spacey sounds (Bank 2B), a C for the pianos and basses, and a D for the analog synth copies, strings and brass. If you know someone who uses Casio equipment, get them this cartridge and an ESQ rack mount for Christmas.

If you're not inclined to spend \$170 for the 320 voice ROM cartridge, though, your purchase decision is going to get really complicated. The other material Valhala sent me outlines how they divided the 320 sounds in the big ROM cartridge into eight banks of 40 voices which are available separately. So now the great assortment of synthesized spacey sounds from Bank 2B of the 320 Voice ROM cartridge is scattered among seven or eight banks, and the horrid analog and synth copies outnumber them four to one.

Don't take this too seriously. With a lot of effort and some signal processing gear, lots of these sounds could be improved. And someone married Joan Rivers, which proves every pot has its lid.

Be forewarned that the bank locations for the big cartridge which I described earlier are not the same locations for the eight 40 voice banks which are sold separately. You'll simply have to listen to them all to find what you're looking for. It really disappoints me that I can't encourage you electronic music buffs to get the special effects and synthesized space sounds unless you're willing to pay \$170 to get only 20 or 30 of them. If I worked at Valhala, I'd assemble one bank consisting only of these sounds and offer them for sale as a specialty item along with the rest. Instead of trying to cover all the bases, they could excel at one and fans of both Jim and Chris could have their way. ■

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

RANDOM MIRAGE TIPS

By Dave Caruso

MIX MODE PAIRING

Tip one: I was moving wavesamples the other day (I do this a LOT), and came across an interesting idea. Could I put a non-mix mode sound and a mix mode sound on the same keyboard half with P28 ON? Well, sample-movers everywhere, take heart. It CAN be done.

As you probably know, mix mode pairs wavesample one with wavesample two, three with four, five with six, and seven with eight to make one sound with each pair of wavesamples. A non-mix mode sound only fills one wavesample, so if you play a sound not intended for mix mode with P28 ON you'll hear another wavesample playing with it anyway. The solution is to assign both wavesamples in a pair to the same section of memory. For instance, if for wavesample 1 (W1) 60 = 00 and 61 = 2F, then make W2's P60 and 61 read the same way. Now W1 and 2 constitute your non-mix mode sound and you can pair off the rest of the wavesamples for mix mode as you like.

Here's another use for this tip - kind of unusual but it may be of some use to someone. I have a particular song we play live where I need to jab at a certain key on the Mirage with only a split second to do it in - to play a sound effect assigned to that key. My accuracy sometimes isn't. In a live show you can't afford to miss, right? I assigned wavesamples one, two and three to the same area of memory. Then I assigned W1 to two or three keys, W2 the next key to the right, and W3 getting two or three keys after that. Now turn P69 (Relative Amplitude) to 00 for W1 and W3. The keys assigned to those wavesamples won't make any noticeable sound, and you can swing wildly with your eyes closed and not miss that one key on W2.

THINK AHEAD TO YOUR NEXT MOVE

Tip two is really two tips. If you are ever moving a lower memory sound to another wavesample location in lower memory, you must know that you have to send it to upper memory temporarily first. Tip 2A: Save it in upper memory after you move it there. Throw it on a blank disk and label it. You'll never know when that sound will come in handy on the opposite keyboard half, and considering the time it took to do it, you'll be saving time later. Tip 2B: Don't save wavesamples and then throw the memory map away. Again, you may need to move that sound again. Copy the form from the back of the ASG and just record the settings you require for now. You can fill in the other parameter settings if and when you need them.

EASY PROGRAM COMPARISONS

Tip three: After moving a sound, you'll want to set the program parameters according to the sound's new home. If there are changes to be made, I like to keep the original sound loaded in the opposite keyboard half so I can make instant A/B comparisons. When you get close to what you want but you want to play around some more without losing the work you've done, save the new sound's program to program 1, copy it to program 2, and work on whichever you prefer, leaving the other as is for quick comparisons.

A SAMPLING TEMPLATE

Tip four: I found that having two MASOS disks is nice as far as backups go, but you can get more out of the situation than

that. Very carefully, turn bank one of your spare MASOS disk into a more personalized sampling template.

Suggestions: Change LW1's P72 to 31 and UW1's P72 to 61. Then change upper and lower W1's P61 to FF. Now, when you sample a sound that you don't know how much memory it will take, you'll be at the maximum limit. (You have to adjust P61 after sampling anyway, so why waste the time adjusting it beforehand, too?) In addition, you can now hear what the sound will be like over half the keyboard instead of only a quarter of it. Now the spoken MASOS message on Bank 1 will say "One, two" on the disk, but you'll know it's only because those two sounds are now combined into one and it's not serving the same purpose anymore. Other possibilities are changing filter and sampling parameters and saving to disk that way. After all, the original settings are all stored in the ASG should you wish to return your "new" MASOS disk to "normal". Naturally, this template could be saved to a blank formatted disk just as easily but you'd still have to boot up with the MASOS disk to get the operating system portion of its memory.

I've enjoyed passing on this stuff. See you later - I've got an appointment with my hex chart. Hopefully, the results will yield some strange and wonderful ideas.....

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NEO-SYNC LABS' MIRAGE-AID 64

By Steven Fox

FOR: Mirage and Commodore C-64
PRODUCT: MIRAGE-AID
PRICE: Was \$65.00, now \$40.00
FROM: Neo-Sync Labs, PO Box 522, Chenango Bridge, NY 13745.
(607) 722-8885.

Mirage-Aid 64 is a visual editor program for the Commodore-64 and a PASSPORT or compatible MIDI interface. There is also a version of Mirage-Aid available for the Apple II+.

Mirage-Aid has been advertised as the "Affordable VES" with "64 pages of sample storage". Don't confuse "64 pages" with "64k". 64 pages equals only 16k, which is only a quarter of the maximum sample size in the Mirage. Mirage-Aid's main feature seems to be helping with loops, especially long loops. However, on this point, it fails miserably, due to the fact that samples larger than 16k cannot be examined.

Once a waveform has been loaded, it can be displayed on the screen in the typical, hi-res graph form. The waveform start and end points, and the loop start and end points are shown in hex. The signal level at the loop points is also shown but it is, oddly, shown in decimal. Two vertical lines over the graph show where the loop points are. The lines can be moved using the computer keyboard. Despite the nice looking graph of the waveform, it would be nearly impossible to try to find a loop point using this screen.

Two other screens can be shown. The "ZOOM" screen will show either 8, 4, or 2 pages of the waveform around the loop points. This gives a much closer view of the loop. The start loop point is shown on the top of the screen, and the end loop point is shown on the bottom of the screen. You can change the loop points from this screen, but as the loop points are not visually "connected" it is still hard to tell whether the loop will work or not.

To see the loop points back to back, you must use the "SPICE" screen. It shows 128 samples on either side of the loop points, with the end of the loop and the start of the loop meeting in the middle. This can give you a clear picture of whether your loop is going to work or not. Since this screen is only made up of unconnected dots the display can sometimes be totally indecipherable. Also, you cannot change the loop points from this screen. You would have to go back to the "ZOOM" screen and change them, then return to the "SPICE" screen to re-view.

The good points? The documentation is helpful in its explanation of how to get the best loops. The program will dump the hi-res screen of the waveform to a printer. MASOS commands can be set up and executed from a separate screen. For rack-mount owners, a MIDI note-on and note-off can be sent by the program.

Overall, I'd give Mirage-Aid 64 a thumbs down. With a little more effort on the part of its authors, Mirage-Aid could have been a superior program. From the point of view as a sampler, and as a programmer with quite a bit of experience on the Commodore-64, here are some things I would like to see changed:

1. The program should be able to examine a sample larger than 16k. Most of the samples I wanted to look at which

needed help with looping, were larger than 16k.

2. Changing the loop points on the screen doesn't change them in the Mirage. Instead, you have to manually enter all the parameters from the Mirage keypad. Parameter changes could have easily been implemented by using the MASOS "keypad" commands.

3. Loop end fine tuning (Parameter 64) is not used properly by this program. It skips every four samples. What if your loop point happens to be between the four samples? There is just no way you can make a perfect loop without using the loop end fine tune function correctly.

4. The program crashed on me many times, in many different situations either from accidentally entering the wrong information, or sometimes the program would just break with an ILLEGAL QUANTITY ERROR message or something. Pressing "B" instantly resets the computer without verifying that you want to quit the program. All these problems are simply bad program design and could easily be fixed.

5. The screen layout and visual appearance, although not unpleasant or hard to read, is unimaginative. There is plenty of room on the screen to use the full names of the parameters, instead of cryptic lines like "LV=-008", or "EL PG=BF".

6. My main gripe is that Mirage-Aid did not make looping samples any easier than before. If I were a beginner at sampling, and had never used any other visual editor, Mirage-Aid probably would have made looping even more difficult and confusing than it already is.

Mirage-Aid 64 could potentially be a good visual editor, but until the problems listed above are cured, I can't recommend it.

Postscript - Shortly after this review was written, Neo-Sync Labs released Mirage-Aid 64 Version 2.0 which features a Karplus-Strong algorithmic waveform generator and also fixes some of the problems I mentioned above. All parameters are now changed in the Mirage as they are changed in the computer. The Loop-End Fine Tuning can now be adjusted by one sample (instead of every four). The bugs that caused the program to crash and the instant reset problem apparently have not yet been fixed - it "will be done" says Mirage-Aid author Bob Damiano. Bob also emphasizes that the Apple II version is "glitch-free." I'm happy to see these improvements. However, I'd still like to see it edit samples which take up the 64k. It CAN be done on a C-64. Check out my review of Steinberg's Mirage Terminal Editor in Issue #26. ■

Bio: Steven Fox has been a professional personal computer utilities programmer for several years both in the US and England. His latest venture is LEAPING LIZARDS which he co-founded with his girlfriend Cara Villalobos. They sell computer software and trendy jewelry.

ESQ-1 DATA STORAGE USING THE YAMAHA MDF1 DISK DRIVE

By Larry Church

FOR: ESQ-1 Version 2.3
 PRODUCT: MDF1 (MIDI Data Filer)
 PRICE: \$345 (Disks - \$5 - \$6 each)
 FROM: Yamaha Corp., DMI, 6600 Orange Thorpe, Buena Park, CA 90622.

Two customers recently brought in their ESQ-1s for software updates specifically to enable communication with the Yamaha MDF1 disk drive. When both of these customers reported back saying the drive would not save their sequencer data due to a buffer overload error, I wanted to check it out myself. An associate on the east coast (Hi, Tom) has one of these devices and we were due to send him some new sequences for evaluation so I borrowed a unit from our friendly neighborhood Yamaha dealer and commenced to give it a road test. The perfect opportunity for a thorough orientation.

The first memorable details of the experience had to do with purchasing some disks. The MDF1 uses the 2.8 inch quick disk format. I called several places looking for a deal on them without much luck. Lots of places have never even heard of it, and the only places found in Portland that stock them are music stores selling quick disk based devices like the MDF1. Expect the retail price to be about \$6 per disk.

The machine is fun to operate. All functions are easy to learn AND remember. The disk formatting routine is built into the operating system, and formatting takes about 10 seconds a side. Be sure to enable system exclusive data transmission on the Master MIDI page of the ESQ-1 to allow communication with the MDF1. From there on, operator choices are limited to a minimum, reducing chances for user error. When saving new files for example, the disk drive scans the disk to find the number of the last file, then automatically assigns the next number to the new file. Only the last file number may be erased.

Disk access and data transfer time is quite good - about the same as using a Mirage, (15 or 20 seconds for average length sequence files), except that you can't read the data from disk and have it waiting in the buffer for the precise moment that you want to execute the transfer. Also you always have to load patches and sequences as two separate operations.

To store data, press the save data button. This prepares the buffer to receive incoming information. Then, initiate a system exclusive data send from the ESQ-1 (send internal banks or seq to ESQ). After the buffer receives the file, the data must still be saved to disk. The buffer capacity is about the same as the disk capacity. If a file just barely fits in the buffer, you will need an empty disk to store it on. Quick disk is a double-sided format, but the drive will only see one side at a time. The disk must be removed, flipped over, re-inserted and formatted to use the other side.

To load data, just select the desired file number and execute a load command. When loading sequences, the data will get to the ESQ-1 no matter what page is selected (with the sequencer stopped). If the file is internal bank data, an internal bank page must be selected to enable data transfer.

I expected there to be some interruption of normal keyboard function while the patch file was being dumped to the ESQ-1. This was not the case. You can play the keyboard through the entire data transfer and not know anything went on as long as

the patch you are playing is the same in both banks.

Up to nineteen files can be stored on a disk, however this is of little significance to the ESQ-1. If you have a sequencer memory expander installed, and the memory is more than about 91% full, the file will overload the MDF1 buffer, and the unit will not allow you to save the file.

The exact figures as tested with version 2.3 are: a memory with 2,928 bytes free (initializes to 32,524 bytes free) will cause a buffer overload. Erase one note for 2,933 bytes free, and the file will transfer and save to (an empty) disk. If you check the directory for remaining space on this disk it says 0 space. I tried to add one set of patches and got a disk full error.

Some of our longest sequenced compositions use all but four or five thousand bytes. There was no problem saving these sequences plus one set of patches to each side of a disk. Searching through the collection of files, there were several songs short enough to be saved along with their patches, two to a side on a disk. I wound up with eleven songs on four disks for a storage cost ratio of about \$1.80/song. Even buying these disks wholesale it will cost a buck a shot to store sequence files. This is the one single most significant thing I can say about using the Yamaha MDF1 for ESQ-1 data storage. ■

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RE-INITIALIZING THE ESQ-1

Ensoniq

Since June of 1987, information describing the ESQ-1 reinitialization process has been included with each ESQ-1 shipped from the factory. This same information appears below.

What is Reinitialization?

The great power and flexibility of the ESQ-1 lies in the fact that it is really a computer - a computer disguised as a keyboard instrument, but a computer nonetheless. The software that operates the ESQ-1 is a 64k program that runs inside the ESQ-1 (the Operating System code). If you have ever used a computer, you're familiar with the need to occasionally re-boot your system when you get an error message, etc. Well, reinitializing the ESQ-1 is the equivalent of re-booting your computer.

Why Reinitialize?

There are a number of things that can happen to the ESQ-1 which might scramble the system software - voltage surges, power failures, static electricity, etc. And as with any computer, very infrequently some unforeseeable event or combination of events can cause the software to become confused, with strange and unpredictable results. Some of the ESQ-1s which are brought in for factory service have no hardware problem, just corrupted data in the internal RAM. In these cases, all that is needed is to reinitialize the unit.

When to Reinitialize

If your ESQ-1 malfunctions in one of the following ways, try reinitializing the unit before you seek factory service:

- * Tempo or other values jump around
- * Pitch wheel reads -48 to -60

- * Screen goes blank
- * When you select save track *YES*, no message returns
- * Sequences will not play or record
- * Sequence audio is OK, but no sound from local keyboard

Warning: When you reinitialize your ESQ-1 all your sounds and sequences will be lost, therefore good backup habits should be an important part of your routine. Save any important data to tape, cartridge or disk before reinitializing the ESQ-1. Also, you should always tune the filters in your ESQ-1 after you reinitialize to reset the proper filter values.

To Reinitialize the ESQ-1:

1. While holding down the Record button in the sequencer keypad, press the soft button in the top left corner above the fluorescent display.
2. The following message will appear: "ERASE ALL MEMORY AND REINITIALIZE"
3. Select *YES*. The version number screen will appear and initialization is complete. Press any button to continue. After reinitializing, you should tune the filters.

To Tune the Filters:

1. While holding down the Record button in the Sequencer keypad, press the Filter button in the voice architecture section.
2. The following message will appear: "Filters Tuning". Filter tuning can take several seconds. The Filter Tuning is complete when values for all eight filters are displayed. Press any button to continue.

If reinitializing your ESQ-1 does not correct the problem, contact an authorized factory service facility.

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PEDAL STEEL GUITAR AND THE MIRAGE

By Ned Selfe

When I got my Mirage Multisampler a few months ago, I planned on using it in my home studio for song writing and demos. Not being much of a keyboardist, I've been relegated to playing the parts into a sequencer and then it's "heavy quantize" time again, which is great since I wouldn't be able to play keyboards at all without autocorrection (unless of course, I had continued with those childhood piano lessons...). But I was still feeling pretty left out when the guys in the dressing room all started talking about "velocity sensitivity" and "aftertouch," I mean, I knew what it was and all that, but I was embarrassed that my puny technique was far from achieving those lofty heights of synth/sampler use.

You see, my problem was obvious - I'm a pedal steel guitar player. That's right, I'm not ashamed to say it, now that those lovely folks at Digitech and IVL have developed a steel guitar MIDI interface called the SteelRider. NOW I've got a chance to apply the technical skill I've developed on my axe to the world of synths and samplers, and in addition to being like a kid in a candy store, I've also gained a great deal of respect for the Multisampler as a live performance tool. Since I often get called to play casuals with local country bands, usually with no rehearsal, I needed to pick samples that would be appropriate to the material (most country singers can throw a look-that-kills at anyone foolish enough to play rock/pop in a song about Mamas and Cowboys). So the acoustic piano (Disk #14, OS 3.2) sounds great right out of the box and will work with just about any country tune, but what other sounds could I use? I figured I could safely work the draw bar organ in on a tune or two, and of course, the marimbas if for nothing else but the solo on "Margueritaville." But if we're spending the evening singing about prisons and trains, what could be better than some good old harmonica, right?

Unfortunately, although the harmonica sample on Disk #10 is great, I didn't care for the 'bass harmonica' in the lower keyboard half (and who plays bass harmonica, anyway?). I use the standard E9th steel tuning (consisting of 10 strings tuned from B3 up to Ab5), but because the break point between the upper and lower keyboard halves falls right on the 4th string (open E - same note as 1st string of a regular guitar), it sounds a little weird (to my ear) to hear the sound jumping back and forth between the voices or when played together. So my two options were to use the steel MIDI converter to transpose up an octave (which effectively moves most, but not all, of the bass harmonica below the steel fretboard's reach), or gasp!, get in there and start customizing the disk sound. Since the first option is a bit of a hassle in a live performance situation and we want to eliminate as much of that as possible, it was time to wade into MASOS for some editing.

Before you start this, you should have a blank formatted disk or two and the write protection tab on the original sound disk should be in the open position to prevent accidental erasure and so you'll be able to start again if you get lost.

The first part of the procedure is taken directly from Steve Coscia's article "Copying Current Wavesamples to Another Location" in Hacker Issue #6 and also available in Reprint Series #1, "Mirage Operations." For those who don't have access to that article, I'll briefly summarize it:

- 1) Boot-up with a MASOS disk, load lower 3 from MASOS and upper 3 from disk #10.
- 2) Using Parameters [60] and [61], make a 'memory map' of

upper wavesamples 1-8. You should end up with this:

Upper Wavesample #	1	2	3	4	5	6	7	8
Wavesample Start[60]	10	40	00	40	80	C0	3C	BC
Wavesample End [61]	3F	7F	3F	7F	8F	FF	3F	BF

3) Create a mirror image of this map in lower wavesamples 1-8 by adjusting the values of [60] and [61] to correspond.

4) Copy upper wavesamples 1-8 into lower wavesamples 1-8 using Parameter [17].

5) Set Topkey values for lower wavesamples 1-8 to the following values:

Wavesample #:	1	2	3	4	5	6	7	8
Lower Topkey:	17	17	29	29	29	29	29	29

6) Copy upper programs 1-4 to lower programs 1-4 using Parameter [15].

We now have the same sample duplicated on both halves of the keyboard. The only problem is that when we go from note 29 (topkey of lower half) to note 30 (bottom key of upper half), the tone drops two octaves and we start up the scale again, which is not what we set out to do. The solution? Use [67], Relative Tuning-Coarse, to spread the two halves out!

First, press SEQ PLAY (we're in MASOS, remember?), then press #1, select Parameter [67], select value and adjust it DOWN one octave. Repeat the procedure for lower wavesamples 2-8. Then press SEQ REC (for upper wavesamples) and press #1, select [67], select value and adjust it UP one octave. Repeat the procedure for upper wavesamples 2-8 and Viola! you have a harmonica sample that plays from top to bottom with no tonal difference between the two keyboard halves. Use [13] to save both keyboard halves to a convenient location on your "live performance" disk, and save it again on a different safety disk in case your gig disk gets eaten by a hungry roadie.

Due to the difference in the tuning range between guitar and steel (and steel players often use wide variations in tuning just from player to player), the question of where the split between voices occurs may or may not be a big problem for you, but this seems to be a useful way to spread out a single multisample over the whole keyboard.

My advice to guitar players (and steel players, if there are any out there) who feel uncomfortable about manipulating these initially foreign concepts like parameters, etc., is to just go ahead and dive in and see what happens. As long as you keep a safety copy of the original sound, you can't really screw up - the worst that can happen is that you'll have to start over again. Go through the Hacker and try out the various procedures with a hands on approach. Even if you don't come up with a result that seems useful to you at the time, just going through the motions will greatly increase your knowledge of the operations and make you aware of some of the ways you can tweak a sound to achieve your particular musical goal. For instance, while guitarists don't have access to the modulation wheel per se, a little creative adjustment to Parameters [28]

(mix mode), [34] (oscillator mix) and [35] (oscillator mix-velocity sensitivity), can give you sounds that vary with how hard or how soft you play.

PEDAL STEEL GUITAR BASICS

You've probably seen a pedal steel guitar before, usually with a country group (he's the guy off to the side and looks like he's playing an ironing board or some such), and they're also showing up on MTV these days, but don't worry if that's all you know about it. The standard pedal steel is like a ten string guitar flipped on its back with legs attached. The strings are raised about 1/2" above the 'fretboard' (which doesn't have frets, but uses position markers painted on where the frets would be), and the player sits down behind it and uses a steel bar in the left hand that acts as a 'movable fret', picking the strings with the right hand. The pedals and kneelevers stretch or bend the

strings to various other pitches, thus making it possible to achieve different chord formations while the bar remains in one position. Though the number and tuning of the basic strings vary widely (common ones are E9th, C6th, Bb9th 'universal', A6th, etc, and can have anywhere from 6 to 12 (or even 14) strings), the basic set-up is usually listed in a chart (called the 'copedant') like the one below for the standard E9th tuning, showing the open strings and the variations available by pushing the pedals and the kneelevers. ■

Ned Selke is a recording and performing instrumentalist and songwriter based in San Francisco. He has written articles for Steel Guitarist magazine and is a former president of Steel Guitar West, the West Coast pedal steel association. He is currently working with his own band, "Robin & The Rocks" and can be heard on their BMMIE award nominated album, "Unknown Lover".

E9th PEDAL STEEL COPEDANT

String #	Note	Scale Tone	Pedal 1	Pedal 2	Pedal 3	LKL	LKU	LKR	RKL	RKR
1	F#	9								G
2	Eb	maj 7							D	
3	G#	3		A						
4	E	1			F#	F		Eb		
5	B	5	C#		C#		Bb			
6	G#	3		A						
7	F#	9								
8	E	1				F		Eb		
9	D	b7								
10	B	5	C#				Bb			

LKL=left kneelever left
 LKU=left kneelever up
 LKR=left kneelever right

RKL=right kneelever left
 RKR=right kneelever right

String 10 = B3 (one octave below middle C)
 String 3 = Ab5 (one and a half octaves above middle C)
 Highest note = A7 (3rd string at 24th fret)

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THE HACKING PART...

This month we're looking at a Hackerpatch called "HPSC84", provided by Michael Carnes.

This patch by itself is quite good. What I have done is use it as a basis for creating my own variation. Maybe this will give you a feel for my approach and methods.

After playing with the original patch long enough to get it in memory I started listening to the available Harpsichords at my disposal - samples by Dick Lord and Kaleidasund. After some listening, I decided that I'd like my patch to be thinner sounding - grittier.

These are the first changes I made. I started experimenting with different waveforms, changing OSC 1 and 2 to PULSE 2 and PULSE. This thinned things out considerably. I wanted a slightly different harmonic content so I started changing octave registers and fine tunings. I ended up with OSC1 like so - OCT: 0, SEMI: 0, FINE: 1. OSC2 the same with only the PULSE wave change. OSC3 - OCT: -1, SEMI: 7, FINE: 0. This spreads OSC1 and 2 an octave apart and detunes them slightly. OSC 3 is now a fifth higher than OSC2. These changes yielded the harmonic interaction I wanted.

The only other changes, which are slight and give it a little more brightness, are in the filter settings. I have FREQ as 26, Q = 4, and MOD1 off.

Creating this sound in this way was much easier than starting from scratch. Recreating an instrument that is so distinctive and has been around for centuries can be more difficult than making up a new sound. You have a very definite model that you're after and can't stop just because you find something you like. You really have to try to nail it. Starting with a patch this good gave me all the correct attack, sustain, and release characteristics.

By the way, experiment with ENV4. I found by changing it a bit I was able to create a great reedy pipe organ.

Erick Hailstone
The MIDI Connection

THE PATCHING PART...

PROGRAM: HPSC84

By Michael Carnes

This patch is modeled after the mechanical action of the harpsichord, with three sets of strings individually plucked. The "thunk" of the jacks falling back into place is missing, but could be done with a layered voice. (TH: See Erick Hailstone's HACKERPATCH HACKING PART for some more commentary on this patch.)

PROGRAM: WAHORG

By Doug Fietsch

In this patch the upper octaves have a wah wah pedal effect. It sounds kind of crummy in mono, but in stereo it's a semi-univibe, ala Hendrix.

PROGRAM: REVERB

By Jim Johnson, JAMOS MUSIC

This is a lonely sort of sound which adds distance to other, punchier sounds when layered. LFO1 modulates DCA3 providing a twittering effect in the background. It's an ambient pad - good when layered with horns.

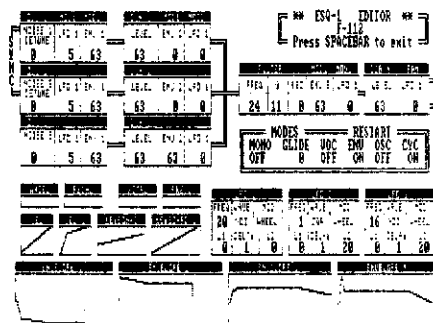
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By Alan Goldberg, STILL VOICE AUDIO

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ESQ-1 PROG HPSC84

BY: MICHAEL CARNES

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	1	BASS	LFO2	1	OFF	0
OSC 2	-1	0	0	BASS	LFO2	-1	OFF	0
OSC 3	0	0	1	BASS2	LFO3	1	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	ON	ENV2	63	OFF	0
DCA 2	0	ON	ENV1	63	OFF	0
DCA 3	0	ON	ENV3	63	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	26	4	56	ENV4	19	OFF	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	KBD2	13

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	4	OFF	OFF	NOI	2	0	1	OFF
LFO 2	2	OFF	ON	NOI	2	7	1	OFF
LFO 3	11	OFF	OFF	NOI	5	7	3	OFF

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	63	55	53	0	0	0	4	1	28	0
ENV 2	0	63	58	0	0	6	0	5	46	0
ENV 3	0	63	56	0	0	2	0	8	14	0
ENV 4	63	6	0	0	0	0	39	24	24	0

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

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

ESQ-1 PROG WAHORG

BY: DOUG FIETSCH

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	OCT+5	ENV1	0	OFF	
OSC 2	-1	0	2	OCT+5	LFO2	0	OFF	
OSC 3	-1	0	0	ORGAN	LFO1	2	OFF	

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	58	ON	OFF		LFO1	0
DCA 2	51	ON	ENV3	63	LFO1	0
DCA 3	55	ON	WHEEL	0	OFF	

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	56	27	0	LFO3	-26	LFO1	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	45	8	LFO3	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	OFF	OFF	TRI	0	63	0	WHEEL
LFO 2	0	OFF	ON	TRI	63	0	63	WHEEL
LFO 3	6	OFF	OFF	TRI	63	0	63	WHEEL

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	63	0	0	31	0	30	0	0	0	9
ENV 2	63	63	0	0	0	30	0	0	0	63
ENV 3	63	63	0	0	0	0	63	0	0	0
ENV 4	63	63	63	0	0	0	0	63	10	9

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

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

ESQ-1 PROG REVERB

BY: JIM JOHNSON

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	REED	LFO2	-1	OFF	0
OSC 2	2	0	6	NOI1	LFO2	0	LFO2	0
OSC 3	1	7	0	4 OCTS	OFF	2	LFO2	-1

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	55	ON	KBD2	-28	OFF	0
DCA 2	59	ON	LFO1	-5	LFO2	-13
DCA 3	36	ON	LFO1	43	KBD2	14

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	31	5	33	KBD2	0	ENV2	57

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	48	8	LFO2	-10

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	24	ON	OFF	TRI	1	31	33	WHEEL
LFO 2	9	ON	ON	TRI	32	30	34	OFF
LFO 3	13	ON	OFF	TRI	7	37	6	LFO2

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	10	-13	54	17	43	30	18	33	37	12
ENV 2	-12	-14	9	51	54	22	21	31	10	33
ENV 3	-14	-33	-26	29	61	16	15	20	35	5
ENV 4	40	63	63	24	13	14	35	23	42	63

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	ON	OFF	OFF	5	OFF	OFF	ON	OFF

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

ESQ-1 PROG VIOLIN

BY: ALAN GOLDBERG - STILL VOICE AUDIO

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	0	SAW	LFO1	1	ENV1	63
OSC 2	0	0	0	SAW	LFO1	1	ENV1	3
OSC 3	0	0	0	FORMT2	LFO1	1	ENV1	3

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF		OFF	
DCA 2	63	ON	OFF		OFF	
DCA 3	42	ON	OFF		OFF	

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	10	0	43	ENV3	45	OFF	

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	61	8	OFF	

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	22	ON	ON	TRI	3	21	7	WHEEL
LFO 2	-							
LFO 3	-							

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV 1	9	0	0	30	0	6	0	3	20	9
ENV 2	62	16	25	21	22	0	32	46	20	37
ENV 3	51	61	43	18	28	29	23	63	26	9

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

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

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

MR. WAVESAMPLE. Novelty - Special Effects - Animals. DX7, Prophet, and other keyboard samples now available. A disk full of original samples: \$9.95. Send a SASE (39 cents postage) for a complete list of samples or call 201-264-3512 after 6 p.m. (EST). Jack Loesch, 162 Maple Place, Keyport, NJ 07735.

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INSTRUMENTS

For sale - Rack Mount Mirage. Like new. Used very little. \$795 plus shipping. For details, contact: Bud Snodgrass, 1742 Monte Vista Ct., Alamogordo, NM 88310. (505) 437-6547.

MIRAGE DSK8. All sound disks, Triton formatter, filebox, foot switch, portable stand, clear cover, cables, manuals. Mint condition. 9 months new at \$16.00. MUST SELL. Try YOUR price on me. (813) 866-2762. (FL).

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Have Passport "Mastertracks", "MIDI 8+", and "Musicshop for MIDI" for the C-64. Will trade for Mirage editor or librarians or input sampling filter. Make an offer!!! Call Don Boomer, (209) 734-1513.

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ESQ-1: DRESSED TO DISTURB! HEAR PSYCHE SHRIEK'S 80 Uniques: (213) 656-3515. DEMO TAPE: \$3.00. OWN 80: \$30 on cassette, \$80 on RAM cart. Includes tips, hints, adoption papers! Check/money order: Don Peake Music, Inc., 3960 Laurel Canyon Blvd., Suite 353, Studio City, CA 91604. YOW!

I am looking for ESQ-1 users in the Burlington, Vermont area. I would like to exchange sounds, sequences, patches, ideas, ... If interested, call or

write. Bryan Moore, 1-802-863-5100. 12 Waybury Rd., Colchester, Vermont 05446.

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

PATCH UPDATES

VOICE CRYSTAL Upgrade #1-A3-1.1

Model: VC1

Patch: BANJO

Location: Bank A3

OSC 1: MOD#1=LFO 1, DEPTH=00

OSC 2: MOD#1=LFO 1, DEPTH=00

FILTER: Q=00, MOD#2=WHEEL, DEPTH=+24

ENV 1: T4=20

ENV 3: T1=32, T4=00

ENV 4: T4=20, TK=44, LV=28

Note: Wheel now controls overall brightness.

SEQUENCES

For expanded ESQ-1 and Drumulator format drum machine. ^ Frank Sinatra standards - That's Life, Summer Wind, Tramp, Kick, Strangers, and Come Fly. 2 Dumps of data on cassette: US \$40.00. Also other 50's and 60's lounge tunes, all hits. P. Sturges, 6544 Imperial St., Burnaby, BC, Canada USE-1M8.

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

ACCESSORIES

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

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

INSTRUCTION

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

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THE INTERFACE

Letters for The Interface may be sent to any of the following addresses:
U.S. Mail - The Interface, Transoniq Hacker, 5047 SW 26th Dr., Portland, OR 97201
Electronic mail - GENIE Network: TRANSONIQ, CompuServe: 73260,3353, or PAN: TRANSONIQ.

Hacker,

I'm in need of help with this problem.

I want to hook up my Mirage with a Prophet 600 in such a way that the Mirage will be the clock for itself and the Prophet's sequencer. How can I do it?

Thanks,
Jack Loesch
Keyport N.J.

[Ensoniq's response - Unfortunately, such a hook up is not possible; the Prophet 600 does not respond to external MIDI clock messages.]

Dear Hacker,

While attending an Ensoniq clinic with Area Representative Mike Lundin I heard some interesting things that raised some questions.

On the ESQ-1:

He mentioned the possibility of having the c/v pedal control the mix allowing for fade in and fade outs. This must mean that with software adjustments the mix levels will change during the course of a sequence. I would like to be able to change the tempo from the c/v pedal during the course of a sequence and then have it play back with those tempo changes - in general, to be able to change any variables mid-sequence would be nice.

On the Mirage:

Digidesign's Softsynth is supposed to let the Mirage do things a Fairlight series III can do. I have not heard any sounds created by Softsynth. Can anyone fill me in?

Will the factory disks ever use Softsynth?

Where can I get my Ensoniq tee-shirt?

Thanks for listening.
John Adams
Elmhurst, IL

[Ensoniq's response - As of the release of ESQ-1 software version 2.3, there is a command on the MASTER page which allows the user to designate the c/v pedal as a Modulator or a volume pedal. The pedal can then be used to record volume changes of a selected track during a sequence. The pedal cannot, however, be routed to control tempo and cannot record tempo changes within a sequence.]

While Softsynth is certainly a powerful sound creation tool, Ensoniq's in-house sound development philosophy has been to focus primarily on creating samples of instruments that the average working musician is unlikely to have access to. We currently have no plans to include Softsynth sounds on factory disks.

We do not currently sell Ensoniq T-shirts directly to customers but we are looking into it.]

Dear Transoniq Hacker:

One month ago I purchased an ESQ-1. Being used to analog synths, this machine was a real eye-opener - it can do almost anything. I have never been so pleased with any product I ever bought; nothing has ever surpassed my expectations so much. I've definitely got ESQ-1 fever: I eat, sleep, and dream ESQ-1 patches, sequences, and ideas. Being rather isolated, I have only the Musician's Manual and the Hacker to provide assistance, and I must say the two issues of the Hacker I received have been of great help--Thanks! (I liked "Vibes" in the July issue, and the patch reviews and performance tips have been indispensable.) But still being rather green at this, perhaps you could answer a few questions...

1) Several times I have attempted to build a sound from scratch. I do this by selecting any patch; since I intend to change ALL parameters, waveforms, etc., should it matter? I then shut off DCA 2 and DCA 3. This should silence OSC 2 and OSC 3, but just to be thorough I set all modulators to OFF. In fact, I set all modulators in the entire patch to OFF, including DCA 1. This should leave only the OSC 1 page to work from. Since the mods on this page are off, all I can adjust is the octave, the fine tuning, and the wave form. Yet when striking a key, the resulting sound has a definite ADSR. Where are these parameters coming from? Are the envelopes in action? This is driving me crazy! Please advise.

2) Do the LFOs produce any audible sound or are these "ramps" just a way to assign ADSR values? (I'm trying to understand these things from what I (marginally) know about), just as the envelopes do?

3) Are there any products available that would let me save to disk patches and sequences, aside from a Mirage?

I am also interested in exchanging information with anyone in the Albany, N.Y. area.

Thanks again to you people at the Hacker -- the information you provide is not only useful, but essential with such a complex instrument. We all want to utilize our synths to the max, and your publication is an integral part of our ESQ-1 experience.

Sincerely,
Stephen J. Munro
Box 782
Altamont, N.Y.
(518) 861-8708

[Ensoniq's response - We're certainly pleased that you've joined the growing group who have caught "ESQ-1 Fever". On to your programming questions...]

1. The envelope modulation you are hearing is coming from ENVELOPE 4, which a fixed modulator of DCA 4 (the final volume). Envelope 4 cannot be turned off and you will always hear its effect on a program. To minimize the effect of ENVELOPE 4, set all 3 levels (L1, L2 and L3) to 63 and set T1 to 0. Keep in mind, however, that any modulators assigned to a filter will also affect the program.

2. An LFO (Low Frequency Oscillator) operates by definition at sub-audible frequencies and is used to create periodic modulations such as vibrato and tremolo.

3. There are a number of commercially available ESQ-1 Librarian software packages and MIDI disk drives which allow you to store and manage large numbers of patches and/or sequences.]

Dear Transoniq,

I purchased an ESQ-1 about 4 months ago. While it is not my first keyboard, it is my first synthesizer, and I am thrilled by all this thing can do. The sequencer allows so much more creativity than I have had before. Entire songs can be recorded, and I have heard the ESQ-1 played with a drum machine--the possibilities are almost limitless. But this brings me to my problem.

The "KICK" and "K+SIMS" programs are certainly not good for every drum application, but I cannot afford a drum machine just now. Programming new drums is an option, but I can't figure out how to program anything with the ESQ.

The manual does a good job of telling what buttons do what. But I can't figure out when to use WHAT or WHY to apply WHAT to WHICH and by HOW MUCH! This goes for every sound I have tried to produce from drums to flutes to jet engines. I ordered the Keyboard issue for programming but that didn't help. I followed the example they gave for a "Pole Position" engine program and ended up with something that sounded like a harpsichord with bronchitis. Can someone draw me a picture of what these waveforms look like and what different modulations do to them and what that sounds like? Or at least suggest a book that is written for the ESQ-1 that will help. I think pictures of waveforms and paths they take through the modulators, etc... will help me and others more than words and numbers.

In the meantime I'll just keep kick'in and k+sims'in. Y'all keep up the good work.

Sincerely,
Robert L. Reynolds
Birmingham, AL 35205

[TH - Bob Wehrman, from Ensoniq, has written a book explicitly for ESQ owners available from Alexander Publishing, 7361 Topanga Canyon Blvd., Canoga Park, CA 91303, which may likely be of use to you.]

[Ensoniq's response - Because of obvious space limitations, it was necessary for the author of the ESQ-1 Musician's Manual to assume a certain level of understanding regarding basic synthesizer concepts. There are a number of excellent publications available at your local music store which cover these concepts and these will surely provide you with the background you are looking for.

Because of the multi-sampled complexity of the ESQ-1 waveforms, a picture of the waveforms would likely be abstract and of little use. In general, we feel that the value of such illustrations is overrated and we suggest that you simply let your ears be your guide.]

Dear Transoniq Hacker,

I have recently subscribed to the Hacker and do not own a synth yet. I have reviewed all the synths in my price range and some above it. I was given an advertisement on the Mirage and I thought it seemed like it would be the best for the amount of money I will be spending.

The only problem is that when I went to price it I was told that they stopped making the Mirage and now only made the Mirage DSK. The differences appalled me. I know that they had to

lower the price to become more competitive but did they have to lower the quality that much? Anyway, I thought I would go ahead and look and see how you could bring up the quality to make it do as much as the Mirage. I found by reading Hacker and consulting with the stores in my town that you could bring up some of the features such as memory expansion and you could buy the disks that they took out of the package, but I am interested in hacking. The part that concerns me the most is that I've been told (and I don't know if it is true), that the DSK will not run the MASOS software. Is this so? Even though you can bring the quality up the price skyrockets over the price of the original Mirage. I would like to know if there is any way to get the original Mirage through Ensoniq, and if not, is there anybody out there who has the Mirage who is interested in selling it. If so write me.

Steve Swanson
6845 Kern Dr.,
Riverside, Cal. 92509

[Ensoniq's response - While we have no idea what your sources are, your comments indicate that you have received a great deal of misinformation.

First and foremost, we strongly disagree with your assertion that the development of the Mirage DSK represents a compromise in product quality. In point of fact, the re-engineering and cost reduction applied to the earlier Mirage constitutes what we believe is a significant enhancement in quality. This is in keeping with our strong commitment to continually improve the quality, features and value of our products. While we did lower the price of the product in order to maintain our competitive edge, this only served to increase its value, not decrease its quality.

Having stated our overall philosophy, we would like to respond to some of your specific comments regarding the DSK-1.

While the DSK did eliminate some rarely used hardware elements (Sync jack, expansion port), improvements in the layout of circuit boards have actually resulted in a quieter machine (at least 6 dB better signal-to-noise ratio). In addition, the inclusion of enhanced stereo outputs improved the overall performance capability of the product. While the introduction of the DSK brought about the re-packaging of the Ensoniq Sound Library, a reduction in the price of individual disks has resulted in a savings of over \$450 to those buying the entire library. Finally, your information regarding the use of MASOS software with the Mirage DSK is inaccurate. MASOS is 100% compatible with the DSK.

Ensoniq does not manufacture or sell the original Mirage. The rack-mount version of the Mirage (model DMS-8), however, remains unchanged. If, after you have read all of the above, you are still interested in owning an original Mirage keyboard, it is possible that at least a few of the over 25,000 Mirage owners might be interested in selling theirs.]

Dear Sirs,

I'm a Mirage DMS-8 and ESQ1 user living in Japan. I'm involved in producing "urban contemporary" music here and would like to correspond with other users. If you could publish my name and address perhaps some of your readers would be kind enough to write.

Thank you.

Yours truly,
Danny Zelonky
542 Osaka, Minami-Ku
Minami Sumiya-Machi 43
Avenue Shinsaihashi 403
Japan
Tel. (06) 212-2173

Dear TH.

I think I've tried just about every bit of pre-packaged sound available for the Mirage. I've come to the same conclusion again and again. Quality! Ensoniq has it all over the competition. Why? Well, usability is a key word here. I am a working musician doing clubs, parties, weddings, anything that I can do to use my Mirage. I do not use a non-Ensoniq sound.

The problems with the others? Tuning for one. How about a great sounding one page Vocal loop. Right! One company even protects their sounds with a hacked OS version that you have to boot up with to play their sounds. And there's the company I ordered two disks from and haven't heard from in 7 months. In the next letter I'll mention their names.

Now back to Ensoniq. I've never had to tune an Ensoniq sound, ever! And that's a bargain in itself. I can go to my dealer, buy an Ensoniq disk, load it, and play. I've had my Mirage (and my TH subscription) for a year now, and I still get a chill up my spine when the instrument is booted up. And I have a secure feeling knowing I have the best library available.

Happy sampling everyone,
Eric Marczak
Scotia, N.Y.

Dear Hacker;

Thank you for a great newsletter and most of all, thanks for an inexpensive place to advertise. I would like to direct the following comments to Ensoniq, but I would certainly like to hear from everyone who shares my views.

I just bought an ESQ-1 for the purpose of a master programming keyboard. I fell in love with the synthesizer part of it, but as a Master Keyboard, I feel it lacks a few features. I recall a letter in the Interface a few months ago where a reader wrote in asking why the ESQ didn't have a thru jack on it. Ensoniq's response was that they intended the ESQ to be a Master Keyboard and so it didn't need one. Well, if it's supposed to be a great master keyboard, it ABSOLUTELY needs to have: 1) a Local on/off function in the straight synth mode and 2) the ability to send and receive on two separate MIDI channels. Sure the ESQ has a great sequencer, but there are lots of us who are using very high-end sequencers in our studios; and if the ESQ is to be used as a programming keyboard, we NEED these functions! So please include these two software functions in a future rev. Except for these, it makes an ideal master keyboard - thanks!

P.S. If Ensoniq doesn't add these features, is anybody out there working on alternate operating systems for the ESQ as they are for the Mirage? If so, then please include these features!

Bob Damiano
Neo-Sync Labs
PO Box 522
Chenango Bridge, NY 13745
(607) 722-8885

[Ensoniq's response - Both of your suggestions concerning "master keyboard" features for the ESQ-1 are excellent ones. In our effort to produce what we at Ensoniq feel are instruments of unmatched quality of sound, features and dollar value, however, certain compromises are obviously necessary. We appreciate any and all input from our customers concerning current instrument features as this input plays an important role in the design and development of new products.]

Dear Transoniq Hacker,

My compliments for a fantastic publication. You have helped many of us on more than one occasion and I hope you can do so again.

I am currently using my Mirage (version 3.2 software) as the master keyboard in a computer-based system which consists of an XT clone with a Voyetra

OP-4001 interface running Texture 2.5 sequencing software feeding the Mirage and several other outboard MIDI sound modules. I have been setting parameter 30 (Local Mode) to the off position to allow the Mirage keyboard to be used without sounding the internal voices and parameter 81 (Omni/Poly Mode) set to Poly mode so that I can specify the Mirage's transmit channel using parameter 82 (Channel Select).

My problem stems from the Mirage's inability (even with the Local Mode turned off) to transmit keyboard data on one channel while receiving note data on another channel. For instance, if I have a sequencer track set to channel #1 that I want to sound the Mirage's internal voices and then switch parameter 82 to channel #2 to trigger a track using my FB-01, the Mirage's receive channel is also changed to channel #2. This, of course, makes it impossible for the sequencer to trigger the notes intended for the internal Mirage voices and echoes the notes I'm playing on the keyboard that are intended for the FB-01.

The only solution I can think of would be to put a device such as the J.L. Cooper MSB Plus on the Mirage's output to change the transmit channel externally. This would cost about \$500 (roughly half what I paid for my Mirage). I realize my problem could also be taken care of with the purchase of an ESQ-1, but with a wife, one child, and another on the way (NEVER trust a diaphragm) both of these fixes will definitely have to wait.

My questions are:

1. Is the Mirage's inability (with Local Mode set to off) to transmit and receive data on different channels a function of the operating system or would this be hardware dependent? The person I spoke with at Ensoniq thought it MIGHT be a limitation of the hardware since they haven't implemented this function before. He did agree, however, that writing the Hacker for additional input on the matter would be a good idea.

2. If this problem is a function of the software, does anyone make (or would they consider making) a Mirage OS that would allow this configuration? (Are you listening Dick Lord, Leaping Lizards, etc?)

3. Does anyone know of an outboard device that would allow me to change the MIDI channel number of outgoing data that doesn't cost an arm, leg, etc? I just need channel number filtering - no switching or other bells and whistles. I (and probably many other DIYers) would even be interested in a circuit diagram for such a device. This would seem to be a prime area for PAIA, Xerbitron or

one of the other kit makers.

I may be just blowing smoke (if this, indeed, is a limitation of the hardware), but, if the fix could be implemented in software, it seems that the logical solution would be to do away with the current parameter 81 completely. The Mirage could then be placed permanently in poly mode and parameters 81 and 82 could then be used to select the input and output channels respectively. In my humble opinion, for all but the simplest MIDI applications, the omni mode seems to be a joke. I mean, does anyone REALLY want their Mirage responding to everything it sees on the MIDI bus? Maybe I'm overlooking something, but I fail to see much in the way of practical applications for the omni mode. If there is a valid reason for it then maybe it could be included as #17 in the channel assign mode.

I hope that someone can address this situation as everyone I know who has tried to use the Mirage as a master keyboard has been forced to beat their head against this same wall. Anyone who could help should feel free to write directly to me (I'm even willing to reimburse you the postage). Keep up the good work, Hacker, and thanks for the forum.

Darwin Stearns
RR #1, Box 292
Carbondale, IL 62901

[Ensoniq's response - 1. & 2. The MIDI capability you describe could be implemented through a software revision. Due to the inevitable decisions that have to be made regarding allocation of engineering resources, however, we have no current plans to provide the revision. We agree that this may well be a good job for Mirage hackers.]

3. We are under the impression that computer-driven sequencer packages often possess the capability to re-map MIDI channels. Perhaps Texture 2.5 has this capability.]

Dear Hackers,

I have just auditioned the Yamaha MDF-1 2.8" disk drive with my ESQ-1 (2.2 software). It works well but I have two reservations. First the 2.8" Quick Discs have about 60k of available memory, but for some reason, the Yamaha drive thinks the Ensoniq's 32k of sequencer memory (with expander) is 64k. So, consequently, you can't even get a full load on one side of a disk, not to mention a bank of voices as well. Any answers? Secondly, Quick Discs seem to be a potentially extinct medium, and

are expensive as far as the amount of storage you get. If someone knows where to get them cheap, please write in, as that could be the deciding factor between this unit and the 50% more expensive (for us Canadians) I.V.M. 3.5" disk. For Americans, the I.V.M. seems a much better value all around.

Peter Sturges,
Barnaby B.C., Canada

[Ensoniq's response - Unfortunately, due to the nature of the MIDI spec itself, 2 bytes of MIDI data is required to transmit 1 byte of ESQ-1 sequencer data. Hence, the 32K of ESQ-1 sequencer data becomes 64K as it is transferred via MIDI. This phenomenon occurs with most instruments. As a compromise, you may want to avoid using up all of the ESQ-1 memory when storing sequences; we suggest that you leave approximately 3,000 bytes free.]

[TH - Check out Larry Church's review of the Yamaha MDF-1 in this issue for more commentary on this product.]

Dear Hacker.

Thank you for reviewing my book "Getting the Most Out of Your ESQ-1." I appreciate the positive comments Mr. Barth made. I must confess that there are several areas in the review however, that have me quite concerned.

I agree with Mr. Barth that the owners manual is very good. It is, perhaps, one of the best I've ever read. It has answered every question about the ESQ-1 that I've had. However, Ensoniq customer service reps received many fundamental questions that the owners manual doesn't answer. For example: "What is an oscillator?" or "What are wave shapes?" and even "What are harmonics?" The owners manual assumes previous knowledge in these and other areas. And there were certain minor criticisms of the manual: "It skips around too much" of "I just don't understand it." We even got a letter from a well known composer begging us to dispense with the "physics lesson" and to "just tell me how it works."

After giving over a hundred ESQ-1 clinics in the U.S. and Canada, I made a list of the most asked questions and set out to answer them as simply as possible. When the book hit the streets, many of the questions went away.

Mr. Barth says "The most useful performing information not included in the factory manual is contained in the chapter on tweaking sounds...it's only two pages (long)." This comment makes me wonder if he really read the book. For starters, there is no "performing" information in the manual and there isn't any in my book, either. A book with performing information could be called "Making Music with the ESQ-1." Next, this isn't a contest to see how long we can make our

chapters. Stephen King has one paragraph chapters in some of his books. Besides, there are many items in this book which aren't covered in the manual. Here's a partial list:

1. How to program the ESQ-1 (eleven pages, Chris, and over ninety pages in volume two).
2. Program analysis.
3. Using the ESQ-1 with the Mirage.
4. What is an oscillator?
5. MIDI function comparison chart.
6. Historical information.
7. What are harmonics?
8. The harmonics of all 32 wave shapes are spelled out in musical notation.
9. What is a filter?
10. What are envelopes?
11. How do LFO's work?
12. Tweaking sounds.
13. What to do when notes start dropping out while using the sequencer.
14. Step by step sequencing tutorial.

This book is for regular people, not for members of the Synthesizer Elite.

As a member of this latter faction, and I know that Chris Barth is, too, I know how difficult it is to relate to people who aren't. We want to talk about complex synthesis matters and not be bothered by those just starting out. But it is our responsibility and moral obligation to share our knowledge with anyone seeking to learn about synthesis. It is one of my great joys in life to see

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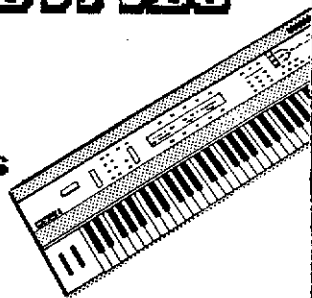
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someone grasp a basic synthesis concept. The look in their eyes creates in me a feeling that cannot be expressed in words. And, remember, we were once beginners, too!

P.S. Volume two, "The ESQ-1 Advanced Programming Guide" has been released. It is available from Ensoniq dealers across the country.

Sincerely,
Bob Wehrman
Boulder Creek, CA

[Chris Barth's response - I agree with Bob that ESQ users (and probably most Hacker readers) fall into two camps, but to identify these two factions as "regular people" and the "synthesizer elite" reinforces the idea held by most of the "synthesizer elite" that the only thing "regular people" need is enough technical information to become members of the "synthesizer elite". For "regular people", I would substitute "performing musicians", and for each technical whiz like Don Slepian conducting autopsies on his disemboweled Mirage, there are hundreds if not thousands of musicians using their instruments to make music, while remaining blissfully ignorant of the little bits and pieces of silicon which make up the instrument. These people don't want to learn about synthesis; they want to learn how to use the synth to make music.

For a performer to get the most out of his ESQ, he or she needs to know how to adjust relative volumes, tweak patches, blend splits and layers, etc. Spelling out the harmonics of all 32 waveshapes is an intellectual exercise and not very helpful to anyone except the small portion of the market which already belongs to the "synthesizer elite". What about club musicians everywhere trying to figure out if they can use the CV pedal as a volume control, or adjusting the relative volumes of splits and layers?

Getting the most out of the ESQ is for me and most others a musical application, not a technical one. The book talks computers, not music. What I like so much about the Hacker is how people like Jim Johnson and Clark and Erick have mastered the art of explaining computer-derived sound production in musical terms. Look, for example, at Jim's great article relating LFO frequencies to musical tempos. For any musician, that article is much more useful than any technical discussion of what an LFO is. If I bought a book entitled "How to Get the Most Out of Your Corvette", I'd be sorely disappointed if all it contained was a history of the wheel and a schematic of the transmission. I'd want it to tell me

how to do wheelies and stuff like that.

I agree with Bob's comment that there is basically no performing information in his book (save the brief material on tweaking sounds - and why he feels tweaking sounds is not relevant to performing music is beyond me), and this is why I think the title is misleading to ESQ owners who are musicians first and computer buffs second. The lack of insight to assist rock and rollers and Holiday Inners is the reason I find it difficult to recommend this book to anyone save pureblooded computer musicians looking to program their own sounds.]

Dear Mr. Salisbury:

I purchased a Mirage DSK-1 one month ago, and a problem has arisen with the unit.

I can push down every key slowly or quickly, and a note will sound immediately, except for the 2nd octave F key. When I press the key (F) slowly, I can bring it all the way down and the note will delay for a second before catching and sounding. When I apply pressure in a rapid keystroke the note will sound normally. Is this little glitch inherent in the Mirage, or is it something that

requires a service/repair center's attention? I inquired at the store where I purchased the Mirage, but they have no idea about problems with the unit and suggest I send it off somewhere to have it looked at. I was quoted 3-6 weeks. Being a performing musician, I can't afford to be without the keyboard for that length of time unless it is absolutely necessary. Could you please advise me about the problem and what should be done.

Thank you,
David Detling
Pensacola, FL

[Clark - If you were a customer of mine, I'd get after Ensoniq for you. Here in Hackerland all I can do is pass it on to the publisher, who'll pass it on to Ensoniq HQ, whose response follows...]

[Ensoniq's response - It is unlikely that the keying problem you are experiencing is a result of a "glitch" in the Mirage; this could be simply be caused by a dirty key contact.

We at Ensoniq are eager to resolve any service problem as quickly and efficiently as possible. Our Customer Service Manager has been given your name and he is anxious to get in touch with you.]

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Dear Transoniq Hacker

I have been a happy Mirage owner for 1.5 years. One day I came to the realization that by not owning an ESQ-1 half of my Transoniq Hacker subscription was going to waste. This has been rectified through the recent purchase of a ESQ-M rack module. I am however somewhat disturbed at the unit's shortcomings when it comes to data storage.

The ESQ-M has been described as a unit with the capabilities of the ESQ-1 without the built-in sequencer. In fact, in the first page of the M's owner's manual it leads the user to believe that this is the ONLY difference. But I was very disappointed to find there was no provision for transferring voice data from the Mirage into the ESQ-M. This was a major selling point with the ESQ-1. Also there is no provision for loading voices from a cassette recorder. There does not seem to be any way to load voice data into these units with the exception of data carts or another ESQ-1.

I feel that Ensoniq should at least do something to advise of this difference in the machines. The dealer I purchased the M from did not know of this problem, and he is extremely knowledgeable in similar misconceptions on the M's data storage capabilities, and most thought the unit could accept data from a Mirage.

My question at this time is whether or not the available ESQ-1 computer librarians will function with the ESQ-M. I currently use a Commodore C-64, and would like to use the C-64 librarian if it will work with the M. Perhaps you could also advise what other alternatives exist regarding data storage of voices with the ESQ-M.

Thanks for your help. I hope you can advise favorably of this problem with an otherwise fantastic unit,

Sincerely,
Mike McAfee
Allentown, PA

[Ensoniq's response - It was never intended that the ESQ-1 be capable of transferring program data to the Mirage per se. The patch transfer capability was included as an added convenience so that internal programs for a given sequence bank could be transferred along with the sequence data. Because of the widespread use of this function for transferring patches to the Mirage, however, a perception has developed that the ESQ-1 has the ability to save ONLY programs in Mirage format. In fact, ESQ-1 programs can only be transferred to the Mirage when they "ride piggyback" on sequence data. Since the ESQ-M does not include a sequencer, it was necessary to omit the sequencer data transfer capability. Unfortunately, this eliminates the Mirage transfer format completely. ESQ-M programs can, of

course, be stored on STC-8 EEPROM Storage Cartridges.

In regards to your to your second comment, any properly designed and written librarian software package should function on both the ESQ-1 and the ESQ-M.]

Dear Hacker

Concerning the use of the Yamaha MDF1 disk drive for mass storage of ESQ-1 sequences - I don't even want to think about having to buy a Mirage just to store songs. The MDF1 has a capacity of almost 60K per disk, which oughta work (doesn't the SQX-10 only have 32K?)

Best wishes,
Charles R. Fischer
Hercules, CA

[Ensoniq's response - Please refer to the responses to the letter from Mr. Sturges. The SQX-10 does have 32K of memory.]

Dear Transoniq Hacker,

1) Is there a way to choose which parameter will appear after booting? Master Tune (P21) isn't as good a choice for my needs as, say, the MIDI parameters.

2) What is the current number of subscribers to the Hacker?

3) Can Wavesample End (P61) be truncated to a smaller increment than the page number? How?

4) I recently read something to the effect that computer disk drives are in better care if a disk is inserted in them before moving them around, say, for shipping purposes. Would the Mirage disk drive benefit from the same treatment between shows (in transporting it from gig to gig)?

5) In issue #4 and #20, a question was asked and Ensoniq couldn't offer much help because they hadn't experienced the problem. I've got an interest in the answer to the question, too, so can we have a reader take a crack at the answer? Here it is again: "Why is the end marker (P61) sometimes (not always) pushed to FF on the transfer (using Wavesample Copy)?" The only thing I want to add is that I'm not using a VES when this inconvenience occurs.

Thanks a lot!
Dave Caruso
Trenton, MI

[TH - Our circulation is steadily growing. At the present, it's about 2300 paid subscribers. Additional copies get sent out as samples to all new buyers and there's a certain amount of pass-along readers. All in all, there's close to eight

or nine thousand readers.]

[Ensoniq's response - 1. It is not possible to change the default or power-up parameter on the Mirage.

3. Parameter 61 cannot be truncated to increments smaller than page boundary.

4. There are four basic options regarding the care of the Mirage disk drive during transport. We recommend ONLY options A and B.

A. No Disk: When the Mirage is transported without a disk in the drive, the heads are sufficiently withdrawn so as not to cause any damage. We have found this to be a perfectly safe and acceptable transporting option.

B. Plastic Sheet: Some disk drives are shipped with a special plastic sheet which is used to protect the drive during transport. This is also a perfectly safe method and may provide additional protection under severe shock.

C. Cardboard Sheet: While cardboard disk sheets are intended to provide the same protection as plastic ones, we do not recommend their use because cardboard fragments can coat the heads and possibly inhibit the proper performance of the drive.

D. Actual Disk: We DO NOT, under any circumstances, recommend the insertion of an actual Mirage disk during transport. This will put the drive heads in direct contact with the disk and threaten both the disk's data and the heads.

5. We have not been able to reproduce this phenomenon at Ensoniq, so we can't provide any further insight at this time.]

Dear Hacker,

I don't know how representative of Mirage owners I am, but I'm what you might call music-smart and product-dumb. I have extensive experience in engineering and music, including tape looping, found sound, and musique concrete as well as more conventional stuff, yet I'm somewhat lost when it comes to truly understanding my Mirage. I have a basic grasp of computers and computer language, but still find plumbing the depths of my Mirage owner's manual to be a rather aggravating problem much of the time. I'd appreciate knowing if anyone's written any articles for people like me, or alternative manuals. Also I'd like to correspond with anyone who enjoys helping out the less gifted samplers like me. Thanks very much for your newsletter. Even at the basic level I'm on, it's a helpful source of information. Love the reviews of samples being offered, too, since - let's face it - some of 'em are losers.

Best,
C.W. Vrtacek
PO Box 337
New Milford, CT

[TH - You might try our Reprint #1 - "Mirage Operations", for \$5. It contains many of the articles that were published when the Mirage first came out and we were all at the bottom of the learning curve.]

To: TH

Dear Readers:

In regard to my article about crossfade looping in Issue 24, I received an excellent explanation of -3db fades from Robert D. Villwock. It seems that I have completely misunderstood the subject of fades. Mr. Villwock pointed out that what the human ear perceives as being of constant amplitude is related to the POWER of the signal. The logarithmic response of the ear is not involved.

As I have been informed, the power of a signal is proportional to the square of the voltage of that signal. Amplitude of Mirage samples is really a measurement of voltage at a particular time. If two signals are perfectly correlated (i.e. have the same frequency and are exactly in phase), a linear crossfade will result in a constant-power signal. If two signals are NOT correlated, a more complicated crossfade involving sine and cosine functions is needed to achieve constant power. Most samples to be crossfaded will only be partly correlated. The value "-3db" refers to the midpoint amplitude of 0.707. A linear fade has a midpoint of 0.5, or -6db

I haven't worked out the math yet, but it looks as if the bilinear crossfade I described in the article will work fine--I got the right answer although I was asking the wrong question. You might wish to try a midpoint of \$B0 instead of \$C0. A \$B0 fade will reduce the chances of clipping slightly. Remember that the two sections of the sample to be crossfaded should be at least partly correlated because you should be trying to match phase (point in the cycle) and frequency (one cycle per page, etc.). If the two sections are well-correlated, you could drop the midpoint to \$A0 or simply do a linear fade.

Thanks again to Mr. Villwock for his notes on -3db fades. Now get sampling!

Walter K. Daniel

Dear Hacker:

Just a quick note on how much I enjoy the magazine each month. While I've been a musician for a long time, my first introduction to synths and MIDI happened when I bought my ESQ in July of 1986. I learned it all from the factory manual and with great help from my

favorite Ensoniq dealer, George's Music in North Wales, Pa. How about the following as ideas for articles:

1) Using the ESQ rack mount in the MIDI overflow mode as a slave for the ESQ controller;

2) Using the ESQ with MIDI Song Position Pointer in conjunction with a drum machine and other synths;

3) A chart translating computer specifications into musical applications. For example, on the left, list things like volume, sustain, vibrato, velocity, attack, splits, etc. and on the right, list the specific command or parameter required to address the item on the left, along with some brief instructions on what to do. I'm surprised this sort of thing isn't sold with each unit. I'm not as interested in what a DCA is as in how I can use it to accomplish musical results. The chart could be updated periodically to include gems such as techniques for adjusting the relative volumes of splits and layers using the mod wheel, and Jim Johnson's analysis of LFO frequencies as they relate to musical tempos.

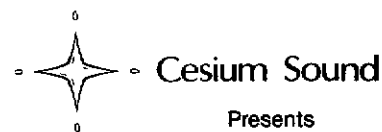
4) A summary of the differences between different releases of ESQ internal software updates. I recently had Version 2.3 installed and I noticed that now I can use my CV pedal as a volume pedal. Also, when reinitializing the machine, 40 internal voices, some of them new, show up in internal memory; apparently, they're burned into the ROM.

5) Use of reverb and delay to improve ESQ sounds, particularly brass patches.

Let me mention that I have been using the 40 Music Bank patches for a while now and I like them very much. In particular, the drum machine patches are very good. There are two tom patches which capture the atomic Simmons sound better than any I've ever heard. The brass and reed patches are also exceptional. They are very realistic and quickly became my favorites. Lots of grittiness. While the set is not really original in terms of creating new sounds, I found it both enjoyable and useful for rock and rollers, and I can't say this about some of the competition. It's rich and warm and provides an excellent analog contrast to the Ensoniq cartridges which are very digital synth-sounding and definitely the place to listen for never-before-heard sounds. The Music Bank set is a very good starter set for home demos and club gigs. By the way, there are only 39 sounds in the set; by error, one of the sounds (CYMBAL) is a duplicate of one of the other percussion sounds.

Keep up the good work!
Chris Barth

[TH - We'd be happy to consider publishing articles on any of the topics on your list. Writers??...]



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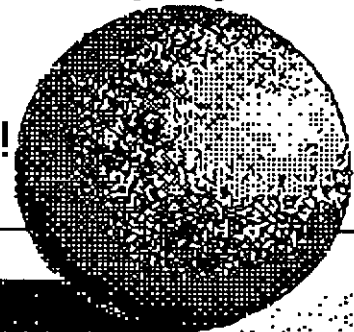
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