

TRANSONIQ HACKER

The Independent Ensoniq User's Newsletter

REVIEW: THE MIRAGE MULTI-TEMPERAMENT DISK

BY DON SLEPIAN

PRODUCT: The Mirage Multi-Temperament Disk
PRICE: \$29.95 plus \$2.50 postage & handling.
FROM: Dick Lord, UPWARD CONCEPTS, Bennett Road, Durham, NH 03824
FOR: Mirage

The Temperament disk is a new version of Mirage Operating System 3.2. Sampling has been disabled and several new performance oriented parameters have been added. The disk performed exactly as advertised, and following the clear and simple instructions I was able to tap the full power of the disk quickly and easily. Inside 10 minutes I knew this package was an excellent value for the money. Inside 20 minutes I was busy with my Triton disk utility copying this new operating system onto all my show and performance disks.

In all the products I've reviewed I've rarely seen such a "sleeper" as this one. Hidden behind its esoteric title and intent is a transposition utility so useful and powerful that no Mirage owner should be without it. When the Temperament OS is loaded, parameter #76 allows you to instantly transpose the entire keyboard into any key, regardless of whether you are in standard or any alternative temperament. This facility alone is well worth the price of the disk. When accompanying singers you can toggle parameter #76 until the music fits their vocal range perfectly. I know you transpose readily at sight, but I and a few others really could use the help. When working with guitar-based music, the Mirage can be transposed into the common guitar keys of "E" and "A", making more effective use of the range of the keyboard. Any Mirage sequence residing in the on-board sequencer can also be transposed, including the pitch of percussion sequences.

This disk also has the most authentic Harpsichord and Pipe Organ samples I have heard. The five sequences, little snippets of Bach, are also very good.

The last unadvertised special involved setting parameter #74 to value 14. This produces a most unusual "temperament", with the keyboard inverted inside of each octave. By inverted I mean the pitch gets lower as you go up the keyboard. Since this can be done in an instant, I'm sure it will be the source of many spectacular practical jokes.

Now for the main course: 13 different historical temperaments. The Mirage is now unique among widely available commercial instruments with this new facility in demonstrating and instantly comparing these temperaments based on any key. I was fascinated, entertained, educated, and enlightened. At the end of my playing session I was left with a reatly heightened appreciation of Equal Temperament, the standard we all take for granted. The historical temperaments were fresh and useful in their home or closely related keys. Go further than three sharps or flats harmonic distance and the "wolf" tones start to bite. Like many modern composers, I have a penchant for capricious modulations. I could change keys at any moment. My cadences are deceptive, my sixths, Neopolitan, my sampler: the Ensoniq Mirage. Just as a strong spice enhances only a few dishes, the different historical temperaments demand special musical treatment in a setting of closely related keys. The best place to start is to play renaissance and baroque pieces in the temperaments in which they were written.

In conclusion, I would have to say that I've never had so much fun with a single Mirage disk ever. This is truly an example of the power of software ingenuity. I look forward to more OS extensions, particularly micro-tonality. Much credit goes to Dick Lord of Upward Concepts for an outstanding product.

UPWARD CONCEPTS "MIRAGE MULTI-TEMPERAMENT DISK"

A SECOND OPINION

By Kenn Lowy

It's an unfortunate trait that Americans have [I don't think we're alone, though], we think we know everything and whatever we do is always the correct way to do it. Consequently, music should have twelve notes, a twelve-note scale, equally tempered, and so on and so forth. Sit down with a Balinese musician and you will hear quite a different story about the musical scale. Sit down with a Chinese musician she may tell you another story altogether - and don't even ask about some of those eighteenth century composers. So the fact of the matter is this: the good old musical scale as you know it is not the be all and end all of musical ideas. Thank god for that!

Upward Concepts new operating system [it's really a revised Mirage 3.2 operating system] will allow you to use fourteen different scales. It is quite easy to get to these scales and make good use of them [as I'll explain soon enough]. But why would you want to do that? Well, I'd love to tell you that it's a waste of your time, and not to bother with it. I'd like to tell you that because it's something I've been waiting a long time for, and I don't want everyone using these scales. But really, why bother with these "other" scales when we're so used to our own equal tempered scale. "Used to" is the phrase to beware of here. You're used to it, I'm used to it, it's all we hear around us, and maybe we know it a little too well. Musicians [artists in general] are supposed to be open to new ideas [I don't want to get into a discussion about this, just take my word for it]. So a new musical scale shouldn't frighten any of us [but if it does frighten you, don't worry about it. Stick to the safe route]. Using new scales may actually give you new and fresh ideas about music. I can't see how it can do you any harm [but of course I'm no doctor. Maybe it can and will do you serious mental harm, and you'll never be able to write normal music again].

A few years ago I was using a synthesizer/sequencer package called 'Alpha Syntauri'. It consisted of a couple of oscillator cards plugged into an Apple II computer [and a keyboard plugged into another card]. In some ways this synthesizer was ahead of its time. My only real reason for mentioning the Syntauri is that it had one great advantage - you could get into the configuration section of the program and tell it how many notes you wanted per octave [C to C]. You could, in essence, create your own scales. The Syntauri was wiped out by MIDI, and I have missed these strange scales. But back to the topic at hand.

So, how do you get at these new scales and tunings on the Mirage? What Dick Lord has done is to mangle the Mirage operating system a bit [to our benefit of course]. Since you won't be doing any sampling while you're composing, he's disabled some sampling parameters [73-sample time adjust, 74-input filter frequency, and 76-sampling threshold] and re-assigned them to the tunings module. So when you go into Parameter 73 you'll be able to pick which key you want to use [C, C#, D etc.]. You can now transpose the entire keyboard by using Parameter 76. This is quite handy and something I will definitely use. Parameter 74 is the one you really want hear about since that's where the tunings are hidden.

Now, about those fourteen 'different' scales. There's the old stand by, equal temperament, and then there are those 'other' scales. Pythagorean, Van Zwolle, Meantone, Silberman I & II, Rameau, Wekmeister III, IV, V, VI, Kirnberger II & III, Italian 18th Century, and Inverted Equal - which is exactly what you'd expect from the name. Not terribly useful, but then again, not completely useless. So your next question is probably, how different are they? That's difficult to answer - I'll explain. Dick has included a very useful sequence on his disk. In the enclosed instruction sheet he advises you to load a sequence and play it with the tuning set for 'Meantone'. Sounds great.

He then asks you to switch keys [Parameter 73]. Now it sounds awful. So what does this mean? As Dick informs us, "An equal-tempered scale sounds the same in any key, but the other scales on this disk do not". Yea, yea, but what does this mean to the average musician? It means that you can get some very [VERY] pure sounds out of your Mirage. The difference, however, [when you're in the correct scale] is pretty subtle to the average listener. In fact, some people may not even notice the difference. They'll notice it if they're listening to a radio and the next song is in equal temperament whereas yours was in meantone or something else. It'll sound less pure - almost like subliminal advertising. I really shouldn't be telling you this.

This may not be the kind of thing you're going to pick up in an hour. It takes quite a bit of experimenting to find what you're looking for. One interesting effect I found was to load a Mirage piano sample and then to play with the keys and temperament settings. Eventually I was able to duplicate an out-of-tune piano which sounded very amusing [the jury is still out on what my neighbors thought of this].

At first I was quite disappointed that the scales all sound similar [but certainly not identical as you'll hear when you play the same sequence using different temperaments]. There aren't any of those cool Balinese scales I want, but Upward Concepts has hinted that they have more operating system tricks up their sleeves. For now this'll keep me occupied. By the way, if you're wondering who Silberman and Rameau are, there's a little bio on each one that comes with the disk and explains the basic difference between each temperament. Van Zwolle, for example, "modified the Pythagorean scale by placing the comma between B and F#. This moved the thirds to D-F#, A-C#, E-G#, and B-Eb, which were more useful". One would assume to Van Zwolle.

The one thing I haven't mentioned yet is that there are also three samples on the disk. There's a very nice harpsichord sample and two organ samples. The organ samples are not very good, but I didn't buy this disk for new samples anyway. Getting a nice harpsichord sample was a nice surprise.

The disk costs \$29.95, which isn't too expensive, but then again this is a whole new arena for Mirage owners. Considering what some people are charging for samples, I suppose this is a pretty reasonable price. There are several serious problems that I can think of, however with regard to these new operating systems that are just now becoming available. To use this new operating system, you have to boot the Mirage from the Upward Concepts disk. There are no backups provided, so what happens if your disk dies? Also, the new memory expansion systems that have just come to market also have their own operating system. The way things are right now, if you get the expansion kit, you have to load their operating system. It is then impossible to use the new temperament system because if you load that system, you've unloaded the expanded memory system. I think these are very serious problems. I mention them because I assume that someone out there will find a way to get around them. [Ed. - someone is.] Otherwise these tools may be worthless [especially on stage - which is where a lot of us use the Mirage]. Now if only I could decide how many notes are in my scale.

[Kenn Lowy is a composer/performer who was a founding member of 'Wrinklemuzik'. He plays e-bow-guitar, stick and various synthesizers. He has written articles for TROUSER PRESS MAGAZINE and record reviews for the ROLLING STONE RECORD GUIDE. He also runs for the Central Park Track Club.]

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RND (♪♪♪)

HOME TOWN BOY DOES WELL. Hacker's own Clark Salisbury has an article being published in the April Electronic Musician. When we first found Clark he was living in an empty piano crate under an exit ramp off I-5 trying to eke out a living at a local music store. Now, he's rich and famous. This could happen to you - write for the Hacker!

* * *

Speaking of famous; you might remember the free issue of the Hacker that came with your Mirage or ESQ - the one with the little subscription form hiding inside. Well, we're in the process of jazzing that up a little bit, and we thought it would be nice to add a few recommendations and endorsements. If you're a BIG NAME (to any degree - even on a local level), we'd really appreciate it if you could drop us a post card with a few words about how we've made your life worth living.

* * *

Last month we were in such a frenzy to use our new software (the page composition package with laser printer drivers) that we made a few glitches in Don Slepian's article. Now, they didn't really affect the content (so we're certainly not going to point them out if you didn't notice them), but we would like to publically apologize to Don. Sorry, Don.

* * *

On a related subject, we recently acquired a rack Mirage with the "Slepian Mod" installed (in an instrument swap), and we find the difference in noise level to be substantial. I suspect that the differences reported by our two reviewers last issue might be a subjective difference dependent on whether they started with an early (pre-noise-reduction) Mirage or a later version. Don Slepian has more on this in "The Interface."

* * *

Next month, we should have a report on the installation and evaluation of the "Turbo Mirage" memory upgrade being offered by Virtual Engineering of Victoria, BC. The expansion allows you to jump from sample to sample at the touch of a button. It got here a little too late for this issue, but it has been installed and early reports are that it's "Professionally done, well-constructed, easily installed, and does what it claims to do." Looks pretty exciting.

* * *

We've received a few queries regarding just what set of patches was Larry Church reviewing on page 12 of Issue 19. Sorry about that. It really wasn't too clear in the article, but the subject of the review was "ESQ-1 SOUNDS" from The MIDI Connection. (They usually have an ad somewhere near "Hackerpatch" for more info.) Anyway, we've started a new policy of listing What, Who, How Much, and What For info at the beginning of each review. Something we should have been doing all along. Still learning.

* * *

Ensoniq's been doing a lot of growing lately. They're presently scheduled to be moving into a new 71,000-sq-ft facility in mid-March. The new building should be able to hold all of what's currently spread over three different sites, plus, allow room to grow. One of the new areas being put together is a dealer-training area. Look for improved support from your local dealers.

* * *

More Ensoniq news: rumor has it that the IC wizards at Ensoniq are putting in some long hours developing a "new Q-chip" (for lack of a better name). The Mirage currently dominates the "low-middle-end" of the sampler market. With its recent price cut, this domination should be even more complete. I suspect that Ensoniq has some surprises planned for the higher end of the market. Big news is expected around mid-year.

Still more Ensoniq news: At the recent NAMM show, Ensoniq announced to their dealers that they're devoting more resources to improving the reliability of their instruments. Evidently, it's not as high as they'd like it to be. They've set themselves some high goals and are implementing plans to meet them.

* * *

Speaking of reliability - we've recently received a spate (well, a Small spate) of letters regarding power-up problems with the ESQ. These will appear in next month's Interface with a more complete response from Ensoniq, but, for now, what seems to be happening on a fair number of ESQ's (including ours) is that the first time you power up you have about a 50% chance that it will come up weird. A second power-up is 100% ok. Evidently, some gate gets to chose its state before the capacitors get charged or something.

TRANSONIQ-NET

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

ESQ-1 QUESTIONS - Tom McCaffrey, Philadelphia ESQ-1 User's Group. (215) 750-0352, before 11 p.m. Eastern Time.

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

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

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

MIRAGE COMPUTER BULLETIN BOARD - Provided by John Connolly of Portland, Oregon for information exchange and file transfer. Phone (voice): 503-641-6260. Phone (BBS/computer): 503-646-2095. Free messages & e-mail to the Hacker. Yearly membership for upload/download: \$25.

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

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

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

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

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

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

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

BACK ISSUES

Back issues are \$2. each. Issues 1 through 8 and number 11 are no longer available. ESQ-1 coverage started with Issue Number 13. Our 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 our first 17 issues.

HYPERSONIQ NEW PRODUCT RELEASES

Beaverton Digital Systems of Portland Oregon Announces ESQ-1 File, a Patch Librarian for the ESQ-1 and the Apple Macintosh. Users of this program can transfer both banks and voices from their ESQ-1's to the Macintosh and back again. You can store up to 95 banks on a 400k disk, and 190 Banks on an 800k disk. If you save individual voices only, you can store 3825 voices on a 400k disk and 7650 patches on an 800k disk. Suggested Retail Price is \$49, contact Beaverton Digital Systems, P.O. Box 1626 Beaverton OR 97075 (503) 641-6260. Dealers Inquiries Welcome.

Turtle Beach Softworks announces a free update to all registered ESQ-Manager owners. This update corrects MIDI timing problems that can occur when using the ESQ ROM Version 2.0 and certain computer configurations. If you have registered, you will be contacted directly. If you haven't registered, you probably should. The Turtle Beach Softworks customer support line number is (717) 741-4972.

Alexander Publishing has just released a new "MIDI Learning System" (i.e., a book) called GETTING THE MOST OUT OF YOUR ESQ. Over a hundred pages of profusely illustrated, plain-English info on using your ESQ. Much of the book is written in tutorial form - what to do next in such-and-such situation. (We hope to do a review on this in the near future.) \$19.95. Alexander Publishing, 14536 Roscoe Blvd., Suite 110, Panorama City, CA 91402.

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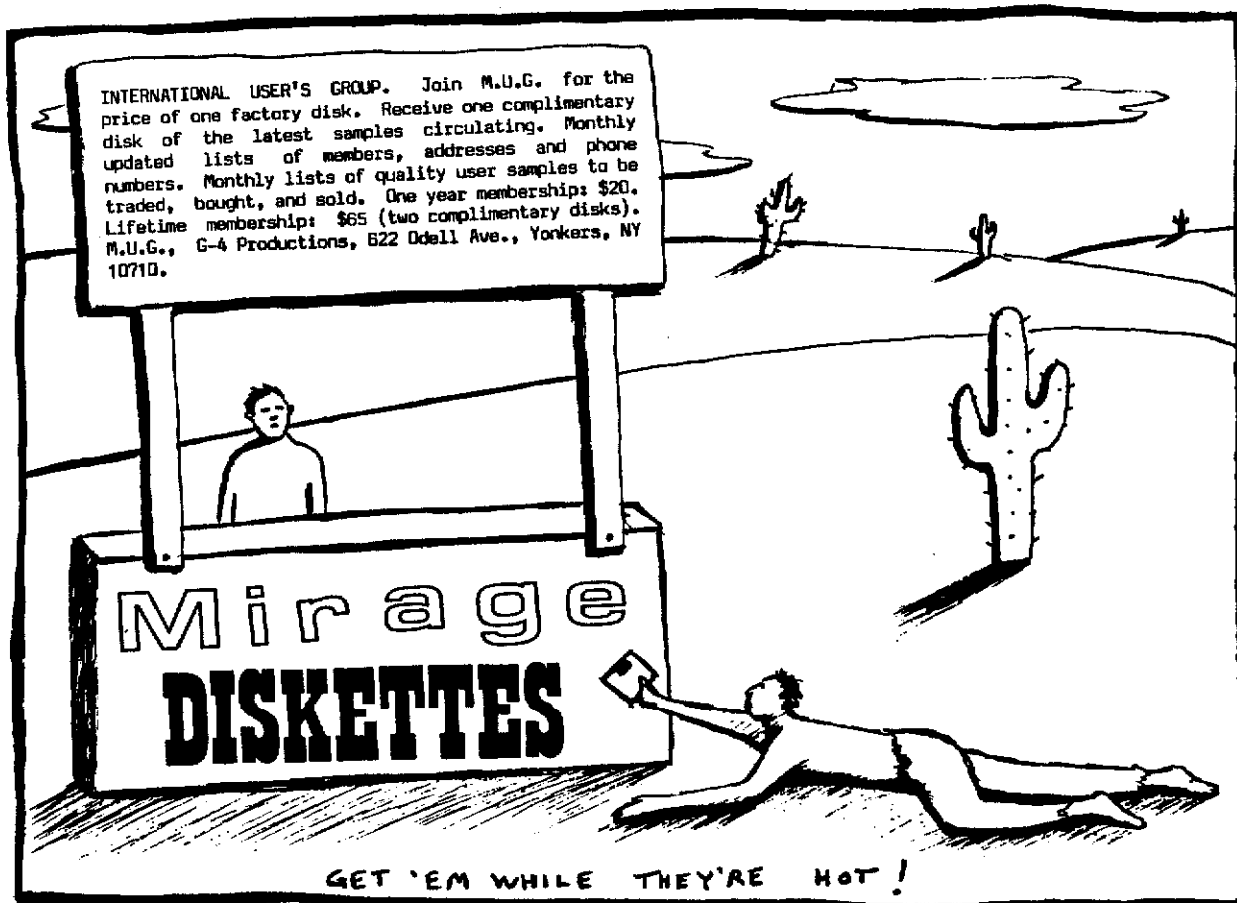
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from Dick Lord - UPWARD CONCEPTS
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MIRAGE WAVEFORM EDITORS

The chart below contains a summary of the major features of the presently-available waveform editors for the Mirage. The information was gathered directly from the manufactures. Corrections, updates, and new editors are happening constantly. This chart will be revised and reprinted as the need arises. This chart is current as of March, 1987.

Name of program & version number:	SOUND DESIGNER V 1.12	VISION V 1.2	VISUAL DISPLAY SYSTEM	DSKIS V 2.00	SYNTHASSIST V 2.0	APPLE VES V 1.1	MVES --	SOUND LAB V 1.1
Company & Phone:	Digidesign Inc. 415-494-8811	Turtle Beach Softworks 717-757-6344	Enharmonik Productions 916-443-0373	Jeffrey Richter 215-672-4425	Northeast Visions 518-439-0967	Ensoniq Corp. 215-647-3930	Ensoniq Corp. 215-647-3930	Blank Software 415-863-9224
Retail price:	\$395.00	\$349.95	\$100.00	\$199.95	\$299.00	\$299.95	\$149.95	\$399.95
Demo disk (y/n & \$):	Yes - \$15.00	Yes - \$10	No	No	Yes - \$12	No	No	No
Update policy & price:	Yes - Usually \$25	Yes - \$5/update for one year	Yes (if registered) - \$10	Yes - Price varies	N/A	No	Yes - Cost of disk + postage	Yes - No charge
Computer system required:	Apple Mac with 512k & two disk drives	IBM PC/XT/AT 320k, Graphics adapter	C64 or C128, Disk drive	IBM-PC	IBM-PC	Apple II or + 80-col card	C64 or C128	Apple Mac with 512k or Mac+
MASOS included:	Yes	Yes - 2.0	No	No	No	Yes	Yes - C, V 2.0	Yes - 2.0 (2)
Compatible MIDI Interface(s):	All current Mac-MIDI interfaces	Roland MPU-401 Octave OP-4001	Sequential, Passport	Roland MPU-401	Roland MPU-401	Roland MPU-401 Passport	Passport	Any Mac MIDI interface
Copy protection (y/n & type):	Yes	Yes - 3 copies allowed	No	No	Yes - Key diskette	No	No	No
Hard disk installation:	Yes	Yes	No	Yes	Yes	Yes	No	Yes
User interface:	Mac icons & menus	Function keys	Menu driven	Menus	Menus	Menus, commands	Menus	Mac icons & mouse
On-line help:	No	No	No	Yes	Yes	Yes	Yes	No
Keyboard display:	Yes	No	No	--	Yes	No	No	Yes
Notation (hex/dec/other):	Either	Hex	Dec with hex/dec conversion	Follows Mirage conventions	Dec	Hex with hex/dec conversion	Hex with hex/dec conversion	Hex
Number of screens:	Up to 3 independent	7	23	8 + Help	6	8	8 main 3 sub	8
Mirage parameter printout:	Yes - screen dump	Yes	Yes	Yes	Yes	No	No	Yes
Graphic display of filters & envelopes:	Yes	Yes	No	Yes	Yes	No	No	Yes
Wavesample printout:	Yes - screen dump	Yes - screen dump	No	No	Yes	No	No	Yes
Save wavesample to computer disk (y/n):	Yes	Yes	Yes	No	No	No	No	Yes
Perform Mirage disk functions:	No	Yes	No	Yes	Yes	No	No	Yes
Max amount of wave-sample displayed (No. of pages):	Entire (256 pages)	Entire (256 pages)	Entire (256 pages) (envelope only)	Entire (w/scaling) 2 pages (without scaling)	128 pages	1 page	1 page	Entire (256 pages)
Max amount of wave-sample in memory (No. of pages):	Entire (256 pages)	Entire (256 pages)	1 page	Entire - Both halves (2 x 256 pages)	200 pages	1 page	1 page	Entire - Both halves (2 x 256 pages)
Benchmark (time to scroll target point through 100 pages of wavesample):	Depends on scaling - can immediately position cursor anywhere	38 sec on std IBM-PC	2 minutes	--	10 minutes	N/A	100 sec	35 sec
Zooming capability (Min):	Single sample	1 page	1 page	2 pages	1 page	1 page	1 page	1 page
Simultaneous Max & Min displays	Yes	Yes	No	No	No	No	No	Yes
Send "Play Note" command to rack	Yes	Yes	No	Yes	--	No	No	Yes
Simultaneous view & play	Yes	Yes	No	Yes	No	No	No	Yes
Editing mechanism (cursors, commands, etc.):	Mouse, cursors, "cut & paste"	Cursors, keys	Commands	Cursors, joystick	Menu-driven	Joystick, cursor keys, Koala pad	Joystick, cursors, game paddles, Koala pad	Mac style - with mouse & cursors
Looping aids:	Yes - visual, window, cross-fade	Yes - animation, 3D view, loop screen	Zero-crossing search	None	Graphic display	Loop splice display	Yes - Loop splice screen	Yes - Real time loop splice display
Interpolation supported:	No	Yes	No	No	No	No	No	Yes
Wavesample synthesis (y/n & method):	Yes - Karplus/Strong	No	Yes - Karplus/Strong, additive, waveshaping, FM	No	No	No	No	No
Ability to exchange samples from other samplers:	Yes - Emu II, Emax, Prophet Korg, Akai	Indirectly	No	No	No	No	No	No
Size of manual (pg size/pg count):	Approx. 110 pgs. 8 1/2 x 11	110 pages, 8 1/2 x 11	41 pages, 8 1/2 x 5 1/2	Approx. 25 pgs. 8 1/2 x 11	30 pages, 8 1/2 x 11	57 pages, 8 1/2 x 11	49 pages, 8 1/2 x 11	76 pages, 8 x 10
Special features:	Digital mixing & merging, FFT analysis, digital peak/shelf equalizer, sequencer, multi windows	Written in Pascal & assembly for speed, audio fade mode, interpolation for double resolution	---	Sequencer, Fast scrolling, scaling of wave, instant parameter update	No hex, on-line help for all parameters, perform ALL Mirage functions	Fast data transfers, ALL MASOS functions from computer	Freehand drawing of waveform	Ram based for speed, stores "templates," 3-D time-domain display, freehand drawing

VISUAL EDITORS FOR THE MIRAGE AND IBM: A COMPARISON

By James Willing

DSKIS: \$199.00, DSKIS, P.O. Box 8303, Cherry Hill, NJ 08002.

SYNTHASSIST: \$299.00, \$12.00 for demo disk. Northeast Visions, 68 Manor Drive, Glenmont, NY 12077.

VISION: \$350.00, \$10.00 for demo disk. Turtle Beach Softworks, P. O. Box 5074, York, PA 17405.

FOR: Mirage and IBM-PC.

Note: SYNTHASSIST and VISION are also available direct from Ensoniq.

This month we are going to compare three of the current versions of visual editors that run on an IBM-PC. They are Version 2.00 of DSKIS from Jeffrey Richter, Version 2.0 of SYNTHASSIST from Northeast Visions, and Version 1.2A of VISION from Turtle Beach Softworks.

All of the programs were tested on the same system, an IBM AT running at 6 MHz under PC-Dos 3.20, equipped with the Roland MPU-401 MIDI processor and IBM-IPC interface card.

I'll start with a brief review of the features of DSKIS.

DSKIS is the lowest cost package of the three and the newest. The program operates from a main menu page and available functions are spread over nine pages which are selected via the function keys. Graphics are used very sparingly and only found on two pages (program parameters and waveform editing).

The first page is the "Diskette Functions" page and provides access to the Mirage disk for saving and loading sounds. Curiously; this is the only program to provide a reboot Mirage function.

The second page is "General Keyboard/MIDI Configuration" and provides access to the general keyboard parameters (21-25) and MIDI configuration parameters (81-84). The user multisampling parameter (77) is found here as well. (I would have expected this to be in the sampling page.)

The third page, "Program Parameters," provides access to the wavesample parameters (27-29, 31-38), and the filter and amplitude envelope parameters (40-59). Envelopes are displayed in small line graphs near the top of the screen in an APDSR format. (APDSR: Abbreviation for Attack, Peak, Delay, Sustain, and Release which are the 5 states of the Mirage envelope generators.) Only the static envelopes are displayed, however. No display is provided for the velocity sensitive changes to the envelopes.

The fourth page, "Wave Memory Configuration," provides access to the primary wavesample parameters (60-65), and the relative tuning, filter, and top key parameters (67-72). Parameters for all 16 possible wavesamples are displayed.

The fifth page, "Sampling Configuration," allows access to the sampling configuration parameters (73-76), and the External Input Filter Frequency parameter (93).

The sixth page is "MASOS Functions." This page provides access to the standard MASOS functions and their related parameters (85- 90, 94-96).

The seventh page is "Sound Wave Display/Editing." This page graphically displays the currently selected wavesample

(see figure 1), and allows access to the primary wavesample parameters (60-65). The waveform can also be edited either from the keyboard or an optional joystick. The amount of success you will have editing a waveform with a joystick will depend a lot on the type of joystick you have. Response on my system was very jittery, and since the program provides no waveform smoothing it is very difficult to control the final result. The screen can be scaled to display from 2 to 256 pages.

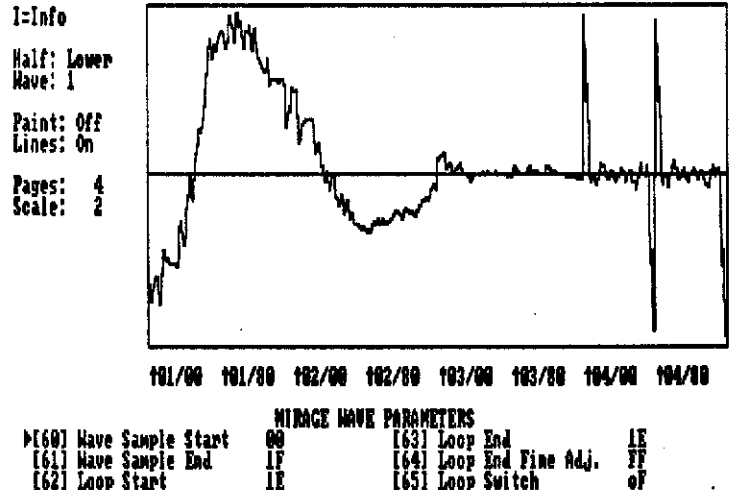


Figure 1.

The eighth page is "Printer Functions." From here you can generate two reports. The first is Memory Program Parameters (27-59), and the second is Wave Memory Parameters (60-72). The reports are generated in a table format and provision is made to enter a title line and up to three comment lines.

The ninth and final page is the "Remote Sequencer." Not a sequencer actually, but rather this allows you to setup a single sequence of up to 17 notes to be played back from most of the other pages to allow you to hear the effect of your editing. The sequencer does not appear to be available from the Display/Editing page, although the info page claims that it is.

SYNTHASSIST is the mid-priced package of the group and curiously the only one to provide a reference card, a nice thing to have sitting on your keyboard for quick reference. SYNTHASSIST also provides an on-line help facility. At most places in the program where a parameter input is required, pressing the F1 function key will present a help window with a brief explanation of the selected parameter and its acceptable range of values.

SYNTHASSIST is organized into six pages which are selected by entering the first letter of the desired page or moving a pointer to the page name (displayed at the bottom of the screen) and pressing the return key.

The first page is the "Wavesamples" page. Displayed on this page is a graphic of the Mirage keyboard, and immediately below it the split points for all active samples are displayed. Both the lower and upper half splits are shown even though you can only actually work with one half of the keyboard at a

time. This is a very useful reference. Below the keyboard graphic are displayed the primary wavesample parameters (60-72) for all eight possible waveforms in the selected half. Editing on all pages is done by moving the edit pointer with the cursor keys to the parameter that you wish to change and using the '+' and '-' keys to increment/decrement the displayed value. The keyboard graphic is updated when needed to reflect any changes.

The second page is the "Programs" page (see figure 2). This page provides access to the filter and amplitude control parameters (32-38, 40-59), plus initial wavesample (27), mix mode (28), and monophonic mode (29). The filter and amplitude envelopes are graphically displayed as line graphs at the top of the screen in an APDSR format. A slight criticism here; both the static envelope and the velocity-sensitive envelope are displayed together and if they are very similar it is very difficult to tell which is which without referring back to the displayed parameter values on the screen. The VISION display rates a bit better here although slight changes to this screen (color perhaps?) would make it much better. As with all graphics in this program, any parameter changes are immediately reflected in the graphics.

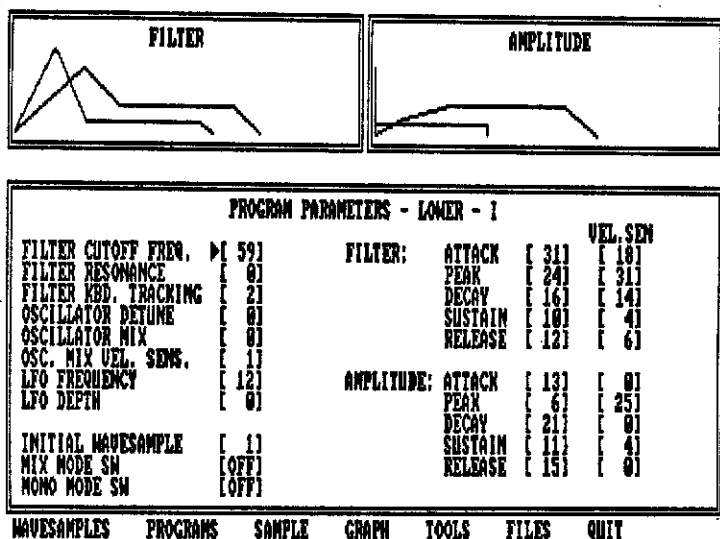


Figure 2.

The third page is the "Sample" page. Here you have access to all of the sampling configuration parameters (73-77), external input filter parameter (93), plus the general keyboard parameters (21- 25) and MIDI configuration parameters (81-84). Based on the parameter settings, the program will display a suggested sample tone and the maximum length of the sample. By pressing the F9 function key, you can have the computer generate the sample tone to allow you to tune the instrument (or sound source) that you wish to sample to match the suggested sample tone. Once you are satisfied with the setup you have selected, you prepare the Mirage for sampling by pressing the space bar on the computer keyboard.

The fourth page is the "Graph" page. This page allows you to graphically display from 1 to 128 pages of wavesample memory on the computer's screen. It is interesting to note that, of the three programs we are comparing, that SYNTHASSIST is the only one that does not allow waveform editing. Also, this version of the program cannot deal with a sample over 128 pages in length. You are allowed to select the wavesample to be displayed, the keyboard half to display, starting page of the display and number of pages to display. Starting and ending pages of the selected sample are displayed as are the loop-start and end points. The program

will not allow you to display past the start or end point of the selected sample.

The fifth and sixth pages are not really pages at all, but "pop-up" menus that will appear over the current page when selected. These are the "Tools" and "Files" pages.

The "Tools" menu provides access to the standard MASOS functions. Once you select a tool, another menu appears which prompts for any needed parameters. Once all parameters are set, pressing the space bar on the computer keyboard executes the function.

The "Files" menu allows you to load and save sounds from the Mirage diskette. Again; the menu will prompt you for the required parameters.

Finally; VISION is the most expensive of the three packages, and, perhaps not surprisingly, is the only one that will allow you to store sounds to the computer's disks. This feature by itself might make the added cost worthwhile to many of you, as you won't have to invest in an additional librarian program.

VISION is also the only program of the three that provides a utility to customize the package to your computer. A number of different graphic displays are supported and you are given the opportunity to select the displayed colors (if you have a color display). There is also a speed selection to adjust the program's timing so that it can function properly on faster systems (like my AT). A utility like this would be much appreciated on the other programs. Also; VISION was the only program of the three that operated properly on a dual-display system, operating from the text-only display for most functions and switching to the color-graphics display when needed. The program will also operate strictly from the color display if you wish.

VISION is organized into seven pages, which are selected by holding down the "ALT" key and pressing the first letter of the page you want to select. You can also play one of four notes (defined in the setup utility) by pressing the F9 function key in combination with the Alt/Shift/Ctrl keys. This is a useful function for previewing sounds as you work with them, but the key sequences are rather awkward and the four-note limitation seems odd.

The first page is the "View" page, which provides access to the primary wavesample parameters (60-64, 69, 70-72). While you can set the loop control parameters (62-64) from here, it is much more convenient to do this from the "Loop" page (description following). Also graphically displayed are all of the waveforms for the keyboard half currently selected, and a selected memory page (called the "View Page") in a larger part of the display which can be edited. The View Page can also be animated for a visual illustration of the complete waveform and loops (if any). You can also display a three-dimensional graph of the waveform which provides a nice illustration of the wavesamples development over the length of the sample.

The second page is the "Enhance" page, and from here you have access to all of the standard MASOS sample manipulation functions and their related parameters (source start/end, destination start/bank, # of samples to rotate). Additionally, and unique to VISION, two more functions (called enhancements in the manual) are provided. The first enhancement is an Interpolate function. This function doubles the resolution of the current waveform by averaging in intermediate values and producing a new waveform. This has the effect of producing a smoother waveform, but requires twice the memory of the original sample. The resulting sample will also be transposed down by one octave. The second enhancement is a Mute function, which fills the source

range with silence (values of 80 hex). Not immediately useful you might think, but helpful when creating waveforms from scratch.

The third page is the "Loop" page (see figure 3), and this may be single most useful page in this package. Getting a good loop is one of the hardest things you must do when creating a sound, and VISION provides the best method for doing it. This page graphically displays the Loop End Page and Loop Start Page, allowing you to visually align the loop to the best matching point. Fine tuning of loops is made easier as the graphics are updated with each change you make. A "Null" reference line and "crosspoint" display can be displayed if desired. The crosspoint display provides a quick reference for matching the start and end of the loop to assist in reducing the 'click' often heard as a loop cycles.

View Enhance **Loop** Sample Modifiers Keyboard Disk Quit Lower 1 WS 5

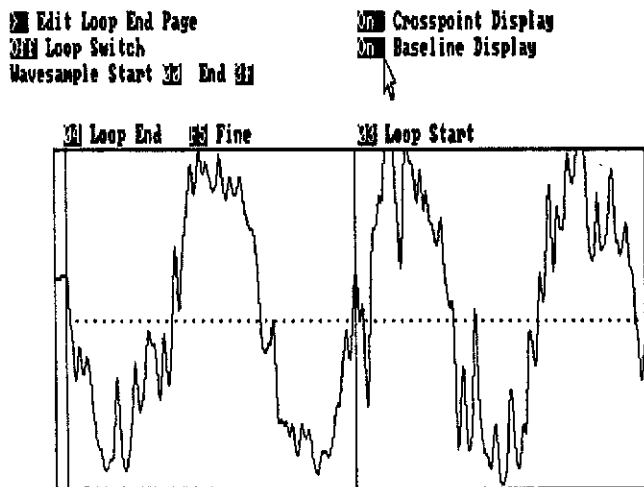


Figure 3.

The fourth page is the "Sample" page. From here you have access to the primary sampling parameters (26, 60-64, 70-77) and the External Input Filter Frequency parameter (93). Parameter settings for the 8 possible waveforms are displayed in a table format. Sample time and Input Filter Frequency are also displayed - both as their parameter value and frequency in Hertz.

The fifth page is the "Modifiers" page. This page provides access to the filter and amplitude envelope parameters. Three graphics are displayed on this page: filter response and envelope, and amplitude envelope. Standard filter and amplitude envelopes are displayed as line graphs in an APDSR format, overlaid with a bar graph illustrating the effects of the velocity-sensitive parameters. Filter response is displayed as a graph with a vertical bar indicating maximum frequency, and a line graph representing overall filter effect on the wavesample.

The sixth page is the "Keyboard" page, and the name seems to be a bit misleading since a number of other parameters are found here as well. General keyboard parameters (21-25, 29), initial wavesample (29), oscillator control parameters (28, 31-35, 79), and MIDI configuration parameters (81-84) are found here. You can also select lower or upper program, and program number from this page.

The final actual page is the "Disk" page. This page allows access to both the Mirage disk for load/save functions and to the PC's disk. A directory function is also provided for listing your files on the computer's disk without exiting the program. Only the files that match the current lower/upper program selection are displayed. Two additional features that are provided on this page are a copy-diskette function (for the Mirage) and a function

to print out the current program parameters. Two tables are generated, the first for the 4 possible programs and lists parameters 27-59 for each. The names of each parameter are also printed. The second table covers the 8 possible wavesamples and lists parameters 60-76 for each. A line is generated for noting the patch sampled for each wavesample and a space for comments is provided. You are also prompted to enter a sound name and disk name to be printed at the top of the report. The copy diskette function provides a means for copying sounds without endless button punching on the Mirage console. But, it only copies sounds - it can not copy sequences or operating systems.

Summary: Even after spending time with each of the packages, I can not say that any one is without its faults or that any one will suit everybody's needs, so let me end with some general observations.

Manuals: Our review copy of DSKIS did not come with a manual so I can't comment on it, but the manuals for SYNTHASSIST and VISION are quite well done. The SYNTHASSIST manual is 34 pages long and is liberally illustrated with screen images and explanations of functions and frequently used terms. The first part of the manual also covers, in some detail, the procedures for setting up the program on your system - very handy for users who are new to computers. Making backup disks is also discussed, but SYNTHASSIST is copy-protected and you must always have your "key" disk at hand (see following text on copy protection). The VISION manual is 63 pages long, with 18 pages of appendices and 23 pages that are reprinted from the Ensoniq visual editing program for the Apple series computer. While this manual does not make as much use of graphics as the SYNTHASSIST manual, the author has gone into great detail in covering program functions and parameter settings. Troubleshooting is covered in one of the appendices as is installation of the program. Both manuals recommend that you keep your copy of the Advanced Sampler's Guide close at hand and I would agree with them.

Performance: None of the reviewed packages functioned perfectly on the IBM AT. DSKIS was so unstable as to be practically unusable. I suspect this to be primarily timing problems due to the faster operation of the AT. All three of the programs seemed to be affected by the higher speed in one way or another. While this may seem a nitpicky point, as computers continue to become faster and less expensive it is a problem that will have to be dealt with.

SYNTHASSIST functioned properly in all aspects except a tendency to lock up when a command was issued to the Mirage to load or save voices. I was able to discuss this problem with the author of the program and he indicated that they were aware of the difficulty and would provide a patched version of the program to any user who required it. Also; though not related to the type of machine it is running on, the current version of SYNTHASSIST can't graph any sample longer than 128 pages. If you attempt this the system responds with a "Waveform too large to fit in memory" error message. I also discussed this with the author and he indicated that this would be fixed in the next release.

VISION was the most well-behaved of the three programs - as might have been expected. Once properly set up on the system, it performed flawlessly during my tests when run from diskettes. I say "properly" since when I first started the program (without reading the manual or running the setup utility) it proceeded to load its MIDI driver, which then terminated with an error message and left my system firmly locked up. Also, I was unable to get the program to function from my hard disk, or to reliably access the hard disk for sound storage while running from diskettes. Part of this may be caused by the revision of the MIDI interface card that I am using, but SYNTHASSIST showed no such reservations about being run from the hard disk.

Copy Protection: It must be noted that two of the three programs (SYNTHASSIST and VISION) are supplied on copy-protected diskettes. Due to the type of copy protection used with SYNTHASSIST it cannot be used without use of the "key" diskette when the program is first started. VISION, on the other hand, uses a form of copy protection that allows installation to a hard disk or floppy disk and operation without a key disk - but the program would not operate when installed on the hard disk of my AT. Also, VISION seems to be keyed to the version of MASOS supplied with the VISION package (labeled MASOS-I). Since the Mirage has no inherent method of copying the operating system on disks, if your MASOS-I disk should be damaged you are dead in the water. To be fair though, two copies of the MASOS-I disk are supplied.

Strictly from a point of functionality, VISION is the best of the three programs in most respects. The Loop Page alone would justify its purchase to many people, and the ability to store sounds to the computer's disks is a very useful feature. Some other aspects could be improved upon. Specifically, I would have liked to have seen a graphic more like SYNTHASSIST's keyboard display for indicating the split points of multi-samples. But really, there is no clear "winner" here. Each program has some feature that stands out.

Overall; I would not hesitate to recommend either SYNTHASSIST or VISION to anyone who was looking for a visual editor. DSKIS has the potential to be a very good package, but it will need quite a bit more work.

ensoniq

ESQ-1 Owners ...

ESQ Manager

by Turtle Beach Softworks

Sound and Sequence librarian for the ESQ-1 and IBM compatible computers

ESQ Manager provides librarian functions for programs and sequences, allowing copying and cataloging of sounds. Banks of programs and/or sequences can be saved using the PC's disk storage for unlimited capacity. An ESQ-1 program view page is provided which shows all parameters of a sound on one screen, which can be printed or saved to disk. ESQ Manager also provides a live performance oriented "loader" for moving program banks or sequences into the ESQ-1 during performances. ESQ Manager requires DOS 2.0 or greater, 256k memory and a MIDI interface. List price is \$99.95 and ESQ Manager is available at Ensoniq dealers worldwide.

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ESQ'1 SOUNDS

THE TRANSONIQ HACKER'S OWN
CLARK SALISBURY AND ERICK HAILSTONE
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Specify Mirage disk or cassette tape.
Allow 3-5 weeks for delivery.

HACKERPATCH

HACKERPATCH is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Once something's published here, it's free for all. Be warned: care is taken in printing these patches, but not all of them can be tried out beforehand - but then, they ARE free.

PROGRAM: COMORG (COMBO ORGAN)

By Erick Hailstone (MIDI Connection)

Here's your typically cheap 60's combo organ. Sounds just like the Farfisa and Vo+ organs of the past. Perfect for high school reunions where you'll play songs from Question Mark and the Mysterians and Paul Revere and the Raiders.

PROGRAM: SYNCH+

By Bob Hoke (Turtle Beach Softworks)

This patch recreates some of the "MODULATED PHASE SYNCH" effects that I used to do on my old ARP analog synthesizers. The ESQ-1 has SYNCH turned on and the oscillators are pitch modulated by ENV3. For some fun variations, try changing the waveform of OSC1 (particularly to Noise 3) and experiment with ENV3 settings.

PROGRAM: 3PIANO (THREE PIANOS)

By Jim Grimes

This patch will give three distinct and separate pianos played one behind the other (not an echo). You can control the delay period by altering ENV1 T1 and ENV2 T1. The same technique of wave following can be applied to any sound - harp sounds very good this way.

Note that this works fine for Split on the bass keys and stands out nicely Layered with "AIR," CELLOS or SYNLED. I added LFO1 and 2 so you can add a bit of modulation by using the wheel. Adding too much wheel will muddy the sound.

PROGRAM: TPIANO (TACK PIANO)

By Nick Longo

A tack piano is an upright piano with thumbtacks inserted in the hammers. It has a distinctive honky-tonk twang. I came upon this sound by accident, so I think my karma will benefit if I share it. All I did was modify the factory ROADQ sound by changing the waveform of OSC 1 and 2 to PIANO. That's it! OSC3 is already set to SYNTH1, with a fast envelope, giving a characteristically metallic tack sound. Try it with your best Jerry Lee Lewis chops.

ESQ1 PROGRAM SHEET PROGRAM: COMORG

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	1	0	0	4 OCT5	LFD1	1	ENV1	2
OSC 2	-1	0	1	OCT+5	LFD1	1	ENV1	6
OSC 3	2	0	2	4 OCT5	LFD1	1	LFD1	0

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	On	ENV2	0	LFD1	0
DCA 2	63	On	ENV2	0	LFD1	0
DCA 3	63	On	OFF	63	KBD	40

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	27	18	63	OFF	21	LFD1	0

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	58	8	LFD1	0

	FREQ=	RESET=	HUMAN=	WAV=	LI=	DELAY=	L2=	MOD=
LFO 1	21	Off	On	TRI	63	0	63	Wheel
LFO 2	1	Off	Off	SQR	0	1	20	Wheel
LFO 3	-16	Off	Off	NO1	0	1	20	Wheel

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	-6	0	0	63	0	0	6	63	20	9
ENV 2	63	50	45	47	0	0	50	63	20	9
ENV 3	49	21	0	15	0	0	10	42	20	63
ENV 4	63	55	63	0	0	0	29	52	4	9

	SYNC=	AM=	MONO=	GLIDE=	YC=	ENV=	OSC=	CYC=
Modes	Off	Off	Off	0	On	Off	On	Off

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

ESQ1 PROGRAM SHEET PROGRAM: 3PIANO

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	11	30	PIANC	OFF	0	OFF	0
OSC 2	-1	7	1	PIANO	OFF	0	OFF	0
OSC 3	-1	0	0	PIANO	OFF	0	OFF	0

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	0	On	ENV1	+63	LFD1	+47
DCA 2	0	On	ENV2	+63	LFD2	+10
DCA 3	0	On	ENV3	+63	OFF	0

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	42	3	26	ENV4	+63	OFF	0

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	63	8	OFF	+8

	FREQ=	RESET=	HUMAN=	WAV=	LI=	DELAY=	L2=	MOD=
LFO 1	25	On	On	TRI	6	6	3	Wheel
LFO 2	20	On	On	SQR	6	6	3	Wheel
LFO 3	25	Off	On	TRI	0	3	63	OFF

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	0	+63	0	0	9	36	0	44	45	0
ENV 2	0	+63	+48	0	9	30	0	32	44	0
ENV 3	+63	+54	+50	0	9	0	28	32	41	0
ENV 4	+63	+58	0	32	33	0	15	46	47	0

	SYNC=	AM=	MONO=	GLIDE=	YC=	ENV=	OSC=	CYC=
Modes	Off	Off	Off	0	Off	On	On	On

	Split/Layer=	Split/Layer Program	Layer=	Layer Program	Split=	Split Program	Split Key=
Split/Layer **	Off		Off		Off		

** NOTE: GOOD AS BASS KEY SPLIT AND/OR LAYERED ON ENTIRE KEYBOARD WITH "AIR", CELLOS OR SYNLED

ESQ1 PROGRAM SHEET PROGRAM: SYNCH+

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	00	01	SAW	LFD1	+4	ENV3	+00
OSC 2	-1	00	00	SAW	LFD1	+4	ENV3	+63
OSC 3	-1	00	00	SAW	LFD1	+4	ENV3	+00

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	On	ENV2	+63	ENV2	+51
DCA 2	63	On	ENV1	+63	ENV4	+63
DCA 3	63	Off	ENV2	+63	LFD1	+00

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	18	0	0	ENV2	+63	KBD	+27

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	+63	8	LFD1	00

	FREQ=	RESET=	HUMAN=	WAV=	LI=	DELAY=	L2=	MOD=
LFO 1	22	Off	Off	TRI	0	1	18	Wheel
LFO 2	16	Off	Off	SQR	0	1	20	Wheel
LFO 3	16	Off	Off	TRI	0	0	20	Wheel

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	+63	+8	+20	0	0	14	50	63	22	9
ENV 2	+63	+47	-14	26	0	0	8	35	22	9
ENV 3	+42	+17	+0	0	1	22	32	63	0	0
ENV 4	+63	+63	+63	63	63	0	0	22	15	0

	SYNC=	AM=	MONO=	GLIDE=	YC=	ENV=	OSC=	CYC=
Modes	On	Off	Off	0	Off	Off	Off	Off

	Split/Layer=	Split/Layer Program	Layer=	Layer Program	Split=	Split Program	Split Key=
Split/Layer	Off	INT 1	Off	INT 1	Lower	INT 1	60

ESQ1 PROGRAM SHEET PROGRAM: TPIANO

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	00	00	Piano	LFD 1	+04	OFF	
OSC 2	-1	00	03	Piano	LFD 1	+05	OFF	
OSC 3	+1	07	00	Synth 1	OFF		OFF	

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	On	OFF		OFF	
DCA 2	63	On	OFF		OFF	
DCA 3	51	On	ENV 1	+40	OFF	

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	27	00	27	ENV 3	+43	ENV 2	+15

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	58	08	LFD 2	+47

	FREQ=	RESET=	HUMAN=	WAV=	LI=	DELAY=	L2=	MOD=
LFO 1	20	Off	On	TRI	00	01	00	Wheel
LFO 2	12	Off	Off	TRI	63	00	20	Off
LFO 3								

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	+63	+00	+00	63	00	00	08	00	00	01
ENV 2	+63	+00	+00	00	00	00	00	00	00	00
ENV 3	+63	+30	+01	41	22	00	28	47	37	15
ENV 4	+63	+47	+00	36	63	00	41	63	19	09

	SYNC=	AM=	MONO=	GLIDE=	YC=	ENV=	OSC=	CYC=
Modes	Off	Off	Off	00	Off	Off	On	Off

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

SOUND FILE FOR THE ESQ1 - A REVIEW

By Jim Johnson

PRODUCT: Sound File
PRICE: \$99
FROM: Blank Software, 1034 Natoma St., San Francisco, CA 94103
FOR: ESQ1, C-64

Following the tradition established with the Mirage, Ensoniq is now releasing a series of librarians for the ESQ1. These librarians are being written by outside software companies with Ensoniq's endorsement, which allows Ensoniq to concentrate on the hardware end of the business. The first of these to be made available is Sound File for the Commodore 64, from Blank Software. The current version of this program has a good share of handy features, as well as some omissions and disappointments.

Sound File is actually a program and sequence management program, which allows for editing banks and libraries of sounds, as well as merging songs. Banks are groups of forty sounds which are loaded into the ESQ's internal memory, while libraries are sets of up to 117 sounds grouped together under a single heading, such as strings, brass, etc. Programs can be moved from one bank or library to another, which gives good flexibility when making up sets for a live performance or for fast access in the studio. Sequences can only be saved as songs or sets of songs, or in sequence block form (a set of songs with the internal patches). Individual sequences cannot be saved, or otherwise organized, which is too bad; keeping track of those quick little one sequence ideas is tough without this feature. Individual songs can also be merged into a single file for simultaneous loading, within the ESQ's memory limitations. This is a great help when putting together sets, even if you use tape for data retrieval at gigs.

The operation of the program is done entirely with the joystick, utilizing a Mac-like system of pull down menus and window. Some may like this arrangement; other reviewers have waxed ecstatic about similar Commodore programs, but I found the system to be clumsy and imprecise. The pointer moves very slowly across the screen, with the result that executing a command takes substantially longer than on a program which uses keyboard commands. Too often I would attempt to load a bank (called Opening a bank, using terminology borrowed from the Mac) only to have my finger slip off the firing button at the wrong time and accidentally Save a bank. Joysticks also require two hands for effective operation, which is a real drag in most situations. While this is not mentioned in the manual, a conversation with Blank's representative revealed that the program is designed to work with the new Commodore compatible mice now becoming available, and that newer versions of the program (I have version 1.0) will have improved mouse driver software that will speed up the operation of the program when the mouse is used. This combination would remove many of my reservations about the user interface. Updates will be made available to registered owners of the program, which, contrary to what the manual implies, is copy protected.

Within the confines of the joystick operating scheme, the program is pretty well designed. All functions are handled by selecting an item from one of four pull down menus, covering disk functions, bank and library editing, transfer between the ESQ and the computer, and for determining which of four banks and two libraries in the computer's memory are active.

Editing is performed by first selecting one or more patches from a library or bank with the joystick, then selecting an operation such as Cut, Paste, or Copy from the Edit menu. The ability to select multiple programs simultaneously allows moving big chunks of a bank to a library, without having to move many patches individually. Another useful feature is Autosend, which allows for sending individual programs from a list to the ESQ by pressing the computer's Commodore key. Very handy for quickly auditioning all of your string sounds while the rest of the band is impatiently waiting.

The owner's manual is very complete, but some aspects of the program are not covered very well. The manual fails to mention that the ESQ must be in patch select mode when a single patch is sent from the computer, so many users may have some difficulty getting this to work. My discussion with Blank Software revealed that this is why they recommend that you get ROM version 2.0 for your ESQ1, since this version supports remote button pushing through MIDI, which allows the program to handle this automatically. This explained why I was unable to get the program to work when the ESQ was set to any MIDI channel other than channel 1, a fact that was also overlooked in the manual. Aside from this, the manual does a good job of explaining the program's operation, with step by step directions for all operations, plus a reference section summarizing the commands.

Commodore 64's are notorious for their slow disk drives, and because of this, Sound File is no speed demon. Loading the factory demo sequences in from disk takes about 1 minute 45 seconds, compared to 3 minutes 45 seconds for tape. This is a substantial improvement, but whether it justifies bringing a C64 system to a gig is open to question. According to Richard Wolton, the program's author, the program should be compatible with any ROM based disk accelerator such as Flash! or JiffiDOS, though this has not been put to the test. Selecting songs with the joystick also slows down the loading process; again, a mouse would help here. The combination of an enhanced SX64 (the portable version of the C64) with this program and a mouse should be a decent librarian for live use.

As you can probably tell, I have mixed feelings about this program, but considering that I did see version 1.0, and that Blank Software seems to be willing to consider making some enhancements to the program, I would say that overall the program is a success. For studio use, it is infinitely better than cassette, especially if you have a C64 or SX64 sitting idle. In the standard configuration (a stock C64 with a joystick) Sound File is not at all suited for live use; but quite honestly I don't think I've ever seen a music program on any computer that was optimized for performance, so this point is moot. The ability to organize sounds and merge songs will make the \$99 list price acceptable for many ESQ1 and C64 owners.

Bio: Jim Johnson, electrical engineer, has played synths in several Phoenix, Arizona bands in the last few years. He's written for Electronic Musician, Keyboard, and - yet more - co-wrote Dr. T's Algorithmic Composer package. He is the owner of Jamos Music, a MIDI programming and consulting firm.

MIRAGE SOUND DISK REVIEWS

By Erick Hailstone

PRODUCT: DISK #6.
PRICE: \$19.95 each.
FROM: Sampleware, POB 182, Demarest, NJ 07627
FOR: Mirage.

SAMPLEWARE DISK #6

SAMPLE 1

Lower & Upper: Acoustic guitar

L1/U1: The range starts an octave lower than a normal guitar. You could actually use this to play bass guitar parts. The rest covers the normal playing range of an acoustic guitar. The loop points are noticeable. In the lower range it appears as a slight drop in pitch. In the upper range it almost sounds as if the note were reattacked, sort of like a pick with a slight stutter. The lower notes sustain longer than the upper notes which for me makes it hard to get natural chord voicings. There is also some digital noise as the note decays. This sample works best in the middle range played staccato. The accompanying sequence demonstrates this sound at its best.

L2/U2: Chorusing is added which gives it a 12 string guitar quality.

L3/U3: The release time is longer so the notes hang on briefly after you release the key. The filter is opened up a bit giving a more metallic quality to the lower notes, not seeming to effect the upper range as much. The upper notes seem rounder.

L4/U4 Seems to be the same as L1/U1 but with very thick chorusing.

SAMPLE 2

Lower: Power Guitar
Upper Solo Electric Guitar

L1/U1: Here we have 2 different rock guitars, the lower being brighter than the upper. The range of the lower sound makes it more suitable for playing roots and fifths in typical rock style. The upper sound is your solo rock voice. Accompanying sequences generally show these sounds at their best. This one apparently does and it is nothing spectacular.

L2/U2: This sound sustains for about 3 seconds taking away any guitar characteristics it might have had. I would use it more for adding background texture to a piece of music.

L3/U3: This is the same as L2/U2 with the addition of chorusing.

L4/U4: L4 and U4 differ in settings. L4 has incredibly long sustain/release times with a slow sweep from a high filter resonance. U4 releases quicker with a slight wah to it.

SAMPLE 3

Lower: Muted guitar
Upper: Picked guitar

L1: This is a muted guitar sound, decaying very quickly as if you had the palm of your hand muting the note while you picked it. This is the type of sound you would use for funky ostinato patterns.

U1: A picked guitar sound with a medium decay. If you play staccato the notes drop off immediately. It would be the back pickup on a 2 pickup guitar.

L2: L1 only more muted. The note snaps off immediately if you hold it down.

U2: Although these notes are very short in duration there many different articulations possible by how you play. If you play staccato it's as if you struck a string and then muted it. A long note sounds as if it were slightly muted to begin with.

L3: Here we have a higher filter resonance making it sound much brighter. Playing staccato the filter envelope snaps shut very fast creating a plucked-like attack; sounds kind of like "THUNK".

U3: The release time is longer allowing the notes to ring out for about a second after you let go. They will continue to sustain if you hold them down. Chorusing is added and a slight drop in the filter as the note finally decays.

L4: This is similar to L1. It is chorused and has a slightly longer release time giving it a rounder sound.

U4: Is similar to U3 but has a higher filter resonance that sweeps down slowly with the release of the note.

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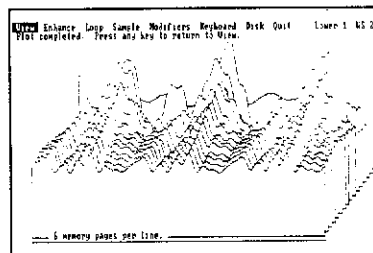
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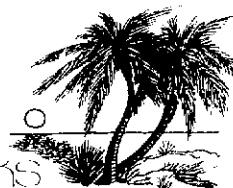


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ESQ-TIPS: THE ESQ'S NOISE WAVESHAPES

By Jim Johnson

For a programmer, the ESQ1 is an exciting instrument to work with for a number of reasons. I have always felt that one of its strong points is that its design is really an extension of the same techniques used for years in analog synthesizers, with improvements in just about every module which makes up the synthesizer's "voice". One area that stands out on the ESQ are the additional waveshapes on the oscillators, and particularly the noise waveforms. On older analog machines noise was provided by overloading a transistor and amplifying the resulting variations in the voltage on the transistor, which produced a totally random waveform but gave little control over the "color" of the noise. The three noise waveforms on the ESQ1 are all variations of traditional analog noise, but because of the ESQ's voice architecture, a wide range of noise sounds can be achieved.

The reason for this, as near as my ears can tell, lies in the way the noise was sampled. Apparently the ESQ's noise waveforms were sampled at a much lower rate than the other waveforms, with the result that significant aliasing occurs whenever the noise oscillator is tuned to the upper two thirds of its range. (The Q-chip's method of changing pitch by skipping and repeating samples may also have something to do with it, but it doesn't really matter.) On a pitched waveform such as sawtooth or piano this would be disastrous; but since this is a noise waveform, the aliasing can be put to good use. Depending on the parameter and modulation settings of the noise oscillator, a variety of effects such as distortion, traditional white noise, and metallic sounds can be achieved.

One side effect of the aliasing is that the tone color of the noise oscillator is affected differently by these settings than you might expect after working with the pitched waveforms. For example, modulating a noise oscillator's pitch from an LFO or an envelope doesn't result in a change in the noise waveform's apparent pitch, as you might expect; instead, it seems to further randomize the sound. Sometimes, increasing the oscillator's frequency leads to a decrease in the apparent pitch.

This can be confusing at first, but if you take some time and experiment with a noise oscillator in isolation, you'll soon get a feel for what effects are obtained with what settings.

Let's start by looking at the settings for traditional white and colored noise. This is the type of noise found in analog synthesizers, and is used for effects like wind and surf. Start with the ESQ's BASIC patch, turn off OSC2 and OSC3, and set up OSC1 and LFO2 as follows.

```
OSC1 - OCT=+3, SEMI=0, FINE=0, WAVE=NOISE2, MOD1=LFO2,
      DEPTH=+6, MOD2=KBD2, DEPTH=-63
LFO2 - FREQ=60, HUMAN=ON, WAV=NOI, L1=63, DELAY=0
```

The modulation from KBD2 keeps the oscillator's tuning close to constant across the keyboard, while LFO2 adds a little extra randomness to the sound. Note that with the NOISE2 waveform, the quality of the noise doesn't change much when you vary the oscillator's tuning with the OCT and SEMI controls in the upper four octaves of its range, though there is a pitched component which shows up at the low end. On the other hand, if the waveform is changed to NOISE1, varying the oscillator tuning creates many different effects. Try OCT=+1, SEMI=7 for white noise, or OCT=+3, SEMI=0 for a dirty pink noise, and be sure check out the effects of other tunings as well.

Turning off the oscillator's pitch modulation yields a metallic tone from all three noise waveforms. For a constant timbre

which doesn't vary across the keyboard (much), try these settings:

```
OSC1 - OCT=+2, SEMI=0, FINE=0, WAVE=NOISE3, MOD1=KBD,
      DEPTH=-63, MOD2=KBD2, DEPTH=-48
```

OSC2 has some special noise capabilities due to the fact that it can be synched to OSC1. Since synching forces OSC2 to track the pitch of OSC1, the resultant wave is a pitched sound with a very rough and nasty edge, at least as long as no modulation is present. This is useful for distorted guitar or similar effects. See the "NASTY" patch at the end of this article for an application of this technique. When modulation from a continuously varying source such as an LFO, ENV or any of the performance controllers is applied to OSC2, the tone breaks down into a sort of resonant noise. While experimenting with this, I came across a setting that sounds a lot like the sound a trumpet player makes when blowing the spit out of the instrument. When properly enveloped and mixed with the other oscillators, this type of noise contributes a lot to the realism of any brass sound.

```
OSC2 - OCT=+3, SEMI=0, FINE=0, WAVE=NOISE3, MOD1=KBD2,
      DEPTH=-63, MOD2=LFO2, DEPTH=+16
LFO2 - FREQ=63, HUMAN=ON, WAV=NOI, L1=63, DELAY=0
MODES - SYNC=ON
```

By now you should have a good idea of the range of effects that can be obtained with the ESQ1's noise waveforms. The ESQ1 is the only synth I know of that allows the programmer to use controlled aliasing as an element of the final sound, and this contributes a great deal to the unique character of the ESQ's sounds. I've only scratched the surface of the possibilities inherent in the noise waveforms, so there's plenty of unexplored territory here for the adventurous programmer. The rest is up to you.

PROGRAM: NASTY*

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC1	-1	0	0	SYNTH3	LFO2	-1	*OFF*	0
OSC2	3	0	9	NOISE1	ENV1	0	LFO3	5
OSC3	0	7	5	EL PNO	LFO2	-1	LFO1	0

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA1	46	ON	VEL	13	LFO1	34
DCA2	30	ON	KBD2	0	VEL2	62
DCA3	50	ON	ENV2	0	ENV2	0

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	60	0	0	LFO3	0	ENV4	63

	ENV4=	PAN=	MOD=	DEPTH
DCA4	35	8	*OFF*	0

	FREQ=	RESET=	HUMAN=	WAV=	L1=	DELAY=	L2=	MOD=
LFO1	13	ON	ON	TRI	3	1	22	*OFF*
LFO2	25	OFF	ON	TRI	0	36	0	WHEEL
LFO3	2	OFF	ON	SAW	36	20	19	*OFF*

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV1	-47	11	0	35	0	4	6	10	39	8
ENV2	-20	24	-1	18	55	20	23	30	17	8
ENV3	-23	43	37	9	56	1	20	21	19	37
ENV4	63	42	6	28	43	0	16	61	17	24

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

	S/L	PROGRAM	LAYER	PROGRAM	SPLIT	PROGRAM	SPLIT	KEY=
SPLIT/ LAYER	OFF	0	OFF	0	OFF	0	0	60

NEW TOYS FROM ENSONIQ: A NAMM WINTER WRAP-UP

By Sam S. Mims

Amidst an incredible demo mini-concert, Ensoniq must have stunned other manufacturers of digital sampling keyboards at the Winter NAMM show in Anaheim. Already having stormed the keyboard market with its popular Mirage sampling keyboard and the amazing ESQ-1 synthesizer/sequencer, Ensoniq announced several major hardware upgrades and releases - and simultaneously lopped prices to staggering new lows.

The \$1695 Mirage keyboard has now become the \$1295 Mirage-DSK. It sports a new design, with the disk drive moved in back of the pitch bend and mod wheels, tilted conveniently upward, with disk storage space over the drive. The keyboard is the same, the buttons and parameters are the same, but the back panel shows some interesting changes.

First of all, there is no longer a port for the Input Sampling Filter (ISF). While the rack-mount Mirage still has the port, it was left off the keyboard to get the price down. Ensoniq's viewpoint is that an overwhelming majority of Mirage owners never use an ISF; those who are serious about sampling will probably want a rack-mount anyway, right?

The power cord now plugs into the middle rather than on the end of the back panel. And there are two audio outputs, in stereo. But don't start salivating yet - these are not separate outputs for the keyboard halves, and they are not assignable. They are merely controlled by the operating system to give "rich and spacious sounds." It was an inexpensive and simple addition to the keyboard, and certainly worthwhile. Separate outputs for different wavesamples, on the other hand, would be prohibitively expensive.

An invisible bonus in the Mirage-DSK is an even better signal-to-noise ratio. The new board is about 5dB quieter than previous Mirages - not earth-shattering, but welcome.

The new Mirage-DSK is a slightly better and easier to use keyboard (but with no ISF port), for about three-fourths the price. The rack-mount Mirage is essentially unchanged - except that the price dropped \$200, to \$1195. Amazing.

There is some exciting disk news as well. Version 2.0 of the Disk Formatting program is available now, and is \$5 cheaper (it's \$14.95). It not only formats, it also pops the operating system (always 3.2) onto blank disks. And blank formatted disks now go for a more reasonable \$9.95.

The existing sound disks have been rearranged into 2 sets (A and B) of 10 disks each, offered for \$59.95 per set. There are some new sounds included, such as a "honky-tonk" sound from Roland's MKS-20 digital piano. It's killer! Also new are a snare drum roll, telephone, Mark tree, bell tree, and piano harmonic. And rumor has it that four new sound disks are coming soon. None are complete yet, so Ensoniq cannot say exactly what they will contain, but reps did say that horns will predominate.

While the ESQ-1 is unchanged (still \$1395), Ensoniq did reveal the new ESQ-M, a rack-mount version less the sequencer. I was somewhat disheartened that the sequencer was not included, but this did enable them to price the module at \$995. The large fluorescent display of the ESQ-1 has been reduced to a smaller 16-character display on the module, so you can't see ten programs or parameters at once. A new "scroll" button has been added to step logically through programs and parameters.

The ESQ-M is ideal for turning the ESQ-1 into a 16-voice synth, via the MIDI Overflow mode. When 8 notes are held down on the ESQ-1, subsequent notes would be played by the ESQ-M's voices.

The SDP-1 Digital Piano is unchanged also, and still priced at \$1395. But a rack-mount version of this is also available: the SPM-1, for \$895. Like the SDP-1, the SPM-1 has stereo outs, a headphone jack, a splittable bass section on a separate MIDI channel (if desired), and jacks for sustain and sostenuto pedals.

Ensoniq guys wouldn't say what was in the works now - although they did say that more new and exciting toys were on the way. I asked specifically about a drum machine (I'd like to see a rack-mount one, controlled through MIDI rather than with pads, and with separate outputs for each drum, of course), but was told that it was "possible, but not high priority."

Other manufacturers at the NAMM show presented more sound disks for the Mirage, more software, and a new book on operating the ESQ-1 (it seemed very similar to the ESQ-1 owner's manual), showing that Ensoniq's products are among the best supported on the market. And of course, many manufacturers showed their latest sampling keyboards. But comparing features - and especially prices - they seemed, well, underwhelming.

[Ed. - Next month, space permitting, Erick Hailstone will have a more general overview of other items of interest to Hackers that other manufacturers presented at NAMM.]

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ESQ-1 user group. If there are enough interested parties, I will form a user group on the West Coast and act as a clearing house for all the patch/sequence trades. Patches should be FREE for the asking. Let's develop a great patch library. Jim Grimes, PO Box 365, Harbor City, CA 90710.

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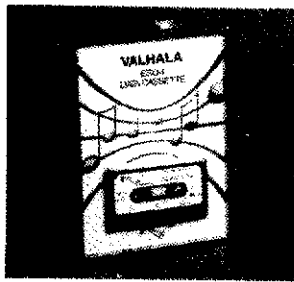
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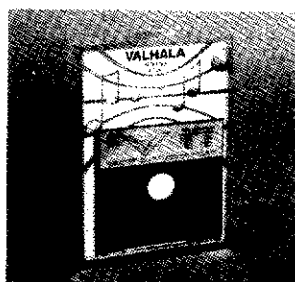
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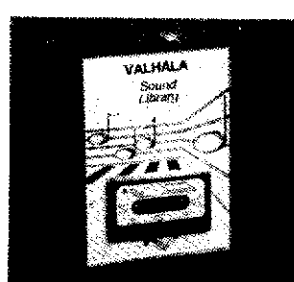
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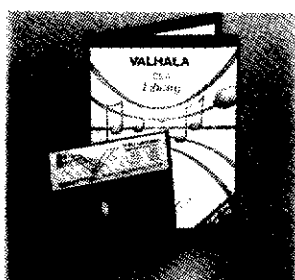
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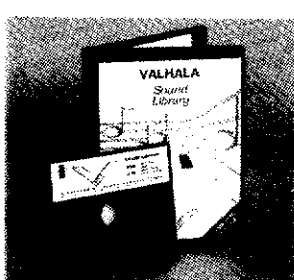
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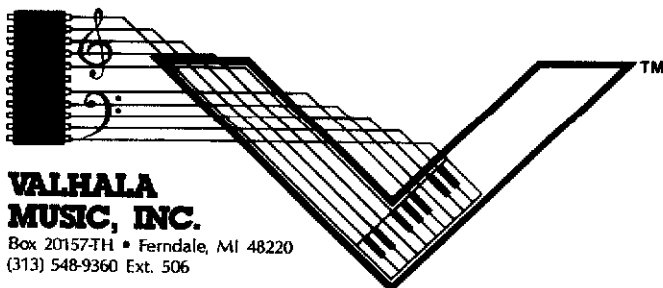
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THE INTERFACE

Dear Hacker:

Really enjoy your newsletter and my Mirage.

I have a simple question that I am unable to answer. How can one go about "stacking sounds" on the Mirage - in other words, incorporate two or more instruments in the same sample?

Thanks,
WJ Quinn
Chugiak, AK

[Ensoniq's response: Since the Mirage does not offer a "layering" function, there is no easy way of stacking two factory sounds. However, there are a number of ways to combine sounds: you could create a Mix-mode sound when sampling, with alternate wavesamples assigned to two different sounds. The mix between the two sounds can be controlled manually, with keyboard velocity or with the Mod wheel, the only limitation being both sounds will be processed through the same Program (envelopes and filtering).

Another method would be to actually combine the wavesample data of the two sounds using the MASOS "ADD" Function. This permanently alters the data, creating a new composite sound. If you want to create a final sound in which one of the sounds has a slow attack while the second has a quick attack, you must start off that way as you can't use the Program envelopes to slow the attack of only one of the sounds once combined. You can always use the MASOS "FADE" functions to alter the attack or decay characteristics of sounds before combining them.]

Dear Hacker,

Thanks for a great newsletter! Every issue keeps getting better. The Hackerpatches have been a nice treat in addition to the other columns (ESQ-Tips, etc.)

It would be nice to have a bit of humor, a cartoon maybe? Whatever, keep up the good work.

B. Weinbeck
St. Louis Park, MN

[TH - We had a couple in the first few issues. Really, all we need is for people to send them in. We'll even pay.]

Dear Hacker:

Please answer the following questions:

1). ESQ-1 version 2.0 software will happen when?

2). When are the following patches going to be featured in Hackerpatch?
Switch - Gogee - Clav 2 - Basplit - Bass 2 - String - Clarnt - Organ/ Comorg - Tweak and Mccho.

3). Glockenspiel - [Layer Program 113] What voice is this - Jan. Issue #19, what cartridge?

Thank you,
Vincent T. Echevarria
Brooklyn, N.Y.

[Ensoniq's response: Version 2.0 software has been available for the ESQ-1 for quite some time - contact your nearest Authorized Repair Station for details. In general, for timely information, you should contact your dealer or a repair station directly.

[TH - It's pretty hard to predict what's going to show up in HACKER-PATCHES. All the patches you mentioned are included in the patch volume for sale by the MIDI Connection - see their ad this issue. The 113 in GLOCKN should have been 0.]

Dear Hacker:

Our ESQ-1 is back at the factory for the third time for repair. Anyone else report problems? Every 8th note will not play.

Thanks,
C.K. Johnson
Hawthorne, CA

[Ensoniq's response: The most likely culprit is a bad filter chip. We are working closely with the manufacturer of these chips to improve reliability. In the coming months, ENSONIQ will be spending over a quarter million dollars on equipment and personnel to enhance the reliability of our products.]

Dear Hacker:

Is there any way to reboot a disk via MIDI Patch Change information from a controller? We asked Ensoniq directly and were assured it could be done. Their representative sent us a copy of the "Mirage Operating System Version 3 Updates," but after reading through the information we were still unable to access "LOAD/UPPER/LOWER/0 (zero)" through MIDI. The sheet explains how to access the various sounds and programs on a disk, but not how to reboot on a disk and therefore read any saved configuration parameters.

We are very eager to find out more about the new IVM and Virtual Engineering Corp. upgrades that allow you to access more sounds directly and load entire disks at once. In a review of the products we'd like to see: (1) a comparison of the products beyond the number of sounds simultaneously available; (2) an explanation on how complex the modifications are; (3) if and how these mods change the general operation of the Mirage; and (4) information regarding how these sounds are accessed via MIDI program change messages.

Has anyone tried the stereo mod for the Mirage written up in the January 1987 issue of Electronic Musician? Please let us know how you like it! The author of the EM article, Don Slepian, mentioned that it was possible to "tie into the Mute Logic line to mute the sound of the filters tuning themselves up." Anyone (including Don) know how to perform this additional mod? Please write it up for the Hacker. We figure if you're going to void a warranty, you might as well go all the way...

Finally, we would like to praise the Hacker as many before have done. One of the best things about owning a Mirage IS the Hacker. Thanks for your hard work and support. All of us out here cheering you on, and reading every issue cover to cover!

Sincerely,
Gina Temple and Hazlitt Krog
ROLE MODELS
Scarsdale, NY

[Ensoniq's response: Although you can issue disk load commands for sounds via MIDI program changes, you cannot reboot the system. ENSONIQ does not recommend the EM modification for a number of reasons. There is a potential of damaging the Mirage and we feel most users will not be satisfied with the final circuit. Due to the interest in this modification, we will be supplying the stereo output circuit used in the new Mirage-DSK to both the Hacker and EM in the near future. We wish to emphasize that this is NOT a factory authorized modification and will void your warranty, however, if people are going to tear into their Mirages, we would rather they use this new circuit.]

[TH - By now, you've seen our reviews on the stereo mod. There's more info on this later on in "The Interface." We should have a review on at least one of the expansion mods by next month - see RND NOTES.]

Transoniq Hacker:

First off I'd like to say that I'm in charge of the Seattle Area Mirage Users Group - SAMUG - not that this provides much distinction - but for what it's worth...

I started the users group to generate interest and support in this area - to this end it has succeeded. I was one of the first Mirage owners here. I put in my order before the first ones were shipped in Feb. of '85. I have been a subscriber to the Hacker since Issue 1. This is the first time I've written - except for advertising. I am relatively happy with my Mirage - otherwise I probably wouldn't still own one - or be in charge of a users group - unless perhaps it's true that old habits die hard.

I say this because I have had problem after problem with my Mirage. I had it in service at least 8 times during the warranty period. I have had problems with keys sticking, 'loud' buzzing, fuses blowing, disk drive not booting up - or booting erratically, problems with MIDI transmission locking up the keypad, problems with the keypad locking up for no apparent reason,etc.

I've never had as many problems with any other instrument I've owned. The culmination came when, after having problems, I sent it to service before my warranty was up, wanting Ensoniq to deal with these problems at that time. The time my Mirage was in service went over the warranty date, and the authorized rep said he couldn't do anything for me because the problems weren't apparent to him. So I called Ensoniq - and they said to send it in - and because the warranty had since expired to do so on my money - to have them 'look it over with a fine tooth comb.' I did so - and when it came back - there was no receipt of what had been done - and hardly any notice of anything being fixed except one key contact being repaired. Almost immediately I noticed the same problems I'd been having with booting up - and lockup - and I also, within the first week found another key not triggering properly.

My question is this - what did Ensoniq do, if anything, to my keyboard? It did not evidence signs of being 'gone through with a fine tooth comb' as I was told. I'd also like to know what use is extending a warranty unless you are going to fix a machine - or replace a defective, apparently troublesome machine? I would like to point out that my warranty had not expired until after it had gone to service. I had made enough complaints to Ensoniq about my machines erratic, abnormal behaviour for them to realize they were dealing with trouble. I feel they should have replaced my machine with a newer model. Ensoniq, what do you have say for yourselves?

While I'm complaining, I'd like to bring up some grievances with Mirage-Net.

They advertise that you can get 150 Emulator II sounds on your Mirage, and so you can. But are they factory sounds? I doubt it. The sounds that can be transferred from Sound Lab have to be sounds that are originally edited using Sound Lab - that's probably not the bulk of the factory sounds. Also once you have these EMU sounds down on your Mirage - good luck in finding loops of any kind that sound natural. I have found a few useful loops out of the hundreds of sounds I've downloaded. The loops are usually less than a one page loop or more than a one page but less than a two page loop. In other words the loop points fall between page boundaries - one thing the MASOS guide said was a no-no. Now I agree I don't know everything about looping - I'm obviously still learning. But I feel it would have been more honest to say out front that one must locate his own loops for the hundreds of E2 sounds. I feel it would be in the interest of Mirage-Net and its users to publish the loop points in the listing of sounds. n't sampled by M.U.G. at all. I found the mouth drums and scratch drums that were reviewed were sampled by Steven Fox, a person in our user group when he resided in England. I feel everything I got from M.U.G. was either ripped off or badly done - not to mention their documentation quality.

To end I'd like to mention the Hacker. In many respects it has been a source of good information and a place to enlist users groups. For the most part the information has been either too simple - or too complex - with little good in between. I don't like the acceleration of ESQ-1 coverage - but such is life. I hope you don't write me off as too negative - like I said I am still a Mirage owner and have supported many others in this area. I hope to someday write a more positive letter. Thank you for your ears.

Loren Moore
SAMUG
Seattle, WA

[TH - We've passed your comments on to the appropriate targets. Their responses follow. As far as "factory sounds" are concerned, no bulletin board or user group claims to supply copies of them, certainly not in their advertising. This is illegal. Regarding our coverage - our articles come from our readers and reflects their various levels of expertise. Our readership also seems to be divided into the "very technical" computer types, and the "non-technical" performers (with a few technical performer types) - and not too many in-between, although that's probably closest to where we'd put ourselves! If there's a bunch of you out there, how about sending us some articles??]

[Ensoniq's response: We are sorry you have had problems with your Mirage and we want to help you, however you must realize that we cannot "replace"

an older unit with a newer model simply because the older unit has problems. Any purchase in this day and age carries with it the "risk" that the manufacturer will improve or enhance the product in the future. If a company was obligated to provide all customers with free updates and enhancements, then no company would ever improve their products.

We will make every attempt to repair your older unit. If the warranty is expired, any repairs will be at the customer's expense. If you ever feel that you're being treated unfairly, however, please contact our Customer Service department.

When a product is serviced at ENSONIQ, it is put through an extensive final test and burn-in. If you are having problems with the disk drive, please check your disks. Unfortunately, floppy disks are subject to wear. As old as your Mirage is, it is quite possible that your disks are wearing out. Also, be sure you are using OS 3.2 - if you are not, we can't guarantee you won't have problems. There is also the possibility of disk alignment problems if your drive has been replaced - the new drive head may not be aligned to your old diskettes. The only way to compensate is to make new disks.]

[Mirage-Net's response - The sounds in the Sound Lab wavedata file area are mostly samples that were converted from an Emulator II, using a conversion program that I wrote myself. There are two things you need to be aware of: 1) The Amplitude may need to be raised with the MASOS scale function, because the samples were not "normalized" before they were converted, and 2) If the loop start does not fall on a page boundary, you must use the MASOS rotate command to force it to fall on a page boundary. Adjust the loop end accordingly and then use Loop End fine adjust to put the loop end on the precise sample. If there is still a click, then use the scale function to lower the amplitude of the sample at the loop end. The Sound Lab Wavedata format does not store looping parameters, so I will post all the loop points of those files in their descriptions as S=1234 as loop start and E=1235 as loop end. Sorry for the inconvenience. John Connolly, SYSOP, MacMusic.]

[M.U.G.'s response - Loren received only 1 disk from our club (from a library of well over 100 disks) and passes judgement as if he received our whole library. He is also quick to assume Dulcimer and Moog Strings weren't sampled by M.U.G. which they were. I'd like to know how he obtained them from other sources.

The purpose of M.U.G. is to gain access to a large amount of sounds at a low cost. That's what keeps the Mirage alive.

75% of the current library is sampled by M.U.G.'S two studio sources. Other samples are obtained in trades from members. I will not sell or trade sounds from companies like K-Muse, Sampleware, Ensoniq, etc.... I personally own their libraries so I know what sounds are theirs.

If anyone feels I'm infringing on their material feel free to contact me.

Our documentation is getting better each month. M.U.G. is the largest, fastest growing Mirage club in the world. Thank you everyone else for your excellent support.]

Dear Sirs:

Just got a new ESQ-1 and I like the piano sounds but the 2nd from the left G# key on the PIANO-1 buzzes (kind of a metabolic sound) more than any other. It sounds like the piano string was touching something. (It's not quite as bad when the key is played softer).

What is wrong?

Why would only one note on the keyboard do this?

How do I fix it?

PIANO-2 on the Internal factory sound is fine!

P.S. I did reload the internal from the cassette. No good.

Thanks,
Craig Smith
Rockton, IL.

[Ensoniq's response: This is inherent in the sound. Remember, the ESQ-1 is not a sampler. All of its sounds are synthesized by combining oscillators and waveforms. To achieve the effect of strings vibrating on the piano, the digital oscillators are detuned. Due to the detuning resolution limit, there will always be some notes which are not as detuned as others. You can change where this falls on the keyboard by altering the oscillator tuning, but you can't eliminate it entirely without causing additional detuning on some notes (which may or may not bother you).]

Dear Clark,

I think I have a slick solution to your problem of making one-half of the Mirage keyboard totally silent.

First, press [UPPER] [LOWER] [0] [START] to re-load the operating system -- but before the Mirage begins to automatically load upper/lower sound #1, eject the disk from the drive (do this quickly, when the red light goes off after about 3 or 4 seconds). Ejecting the disk while the light is off will prevent upper/lower sound #1 from being automatically loaded, thereby

keeping the keyboard silent. Wait for the flashing "nd" in the display indicating "no disk", then insert the sound disk of your choice and load ONLY the upper or lower sound (whichever you want). The other half of the keyboard will remain silent. The whole process takes me less than 15 seconds.

Incidentally, I came across this method as an aid in trying to figure out the factory sequences. It is much easier to hear the notes being played with only half of the keyboard sounding.

I also have a tip for any Ensoniq piano owners who happen to be reading this. The bass range of the piano sounds can be extended down to the lowest A on a grand piano by setting the bass split point to be the lowest key on the keyboard (see the manual for how to do this), turning on the bass, and then turning the octave transpose on. Instant extendo-bass! The sound may not be quite up to par (because I believe this technique over-extends the intended range of the lowest sample), but it's good enough for me when I need those last couple of notes of bass. I found it interesting that this technique extends the range down only to the lowest A on a grand piano, below which the sample wraps around.

One question -- would it be terribly difficult to retrofit an Ensoniq piano with a MIDI local ON/OFF switch?

Keep up the great job!

Yours truly,
Frank Marousek
Mt. Prospect, IL

[Ensoniq's response: MIDI Local On/Off would require a modification to the operating software - not a trivial undertaking.]

Dear Transoniq Hacker:

I have played keyboards a bit for many years but I am new to synths. I purchased an ESQ-1 a couple of months ago. I would like more info. (tips, techniques, etc.) on how to construct sounds. I attempted to construct a calliope or pan flute (they both have the sound of rushing air) by using a noise and sine waveform and then experimenting with Filter and DCA envelopes. My results were discouraging.

I also would like to know what can be done with a Commodore 64 and the ESQ-1 (I'm pretty new to computers, also).

How about articles in the Hacker on the above items and/or can you suggest some sources of information?

Whose patches are those reviewed by Larry Church in the January Hacker? Are they all Clark Salisbury's and on the batch he is selling?

Hey! someone got a patch for a calliope?

Thanks,
Rob Reid
Seattle, WA

[Ensoniq's response: Synthesizer programming is as much art as science. Although the ESQ-1 is easier to program than many synthesizers, it does have one of the most powerful and complex voice architectures available, sometimes making it overwhelming for beginners. Bob Wehrman of ENSONIQ has authored a book on the ESQ-1: GETTING THE MOST OUT OF YOUR ESQ. It is available from Alexander Publishing (818-891-9831). Also, most music stores offer books on synthesizer programming basics, as do many of the trade magazines. Of particular note is the Secrets of Analog and Digital Synthesis by Steve Defuria of Ferro Technologies.]

[TH - The patches reviewed are indeed Clark's and Erick's (The MIDI Connection). See their ad elsewhere in this issue.]

Dear Hackers:

I have just finished reading the January, 1987 issue of the Hacker and would like to clear up a misconception presented by R. H. Lord in the article entitled "Modifying Mirage Operating System Disks." The Sector Map does not "have a few odd twists." I believe that Lord is under the impression that on each track, Sectors 0 through 5 are all 1K bytes. However, this is not the case. On each track, only Sectors 0 - 4 are 1K bytes in length and Sector 5 is 512 bytes in length. For everybody's reading pleasure, I have included a correct Sector Map of the operating system.

Regards,
Alan K. Smith
Ensoniq Corp.

Correct Sector Map of the Mirage Operating System

Trk:Sec	Load ADDR
00:00	8000-83FF
00:01	8400-87FF
00:02	8800-8BFF
00:03	8C00-8FFF
00:04	9000-93FF
00:05	9400-95FF
01:00	9600-99FF
01:01	9A00-9DFF
01:02	9E00-A1FF
01:03	A200-A5FF
01:04	A600-A9FF
01:05	AA00-ABFF
02:05	AC00-ADFF
03:05	AE00-AFFF
04:05	B000-B1FF
05:05	B200-B3FF
06:05	B400-B5FF
07:05	B600-B7FF

08:05 B800-B9FF
09:05 BA00-BBFF
0A:05 BC00-BDFF

[TH - Thanks!]

Dear Hacker,

Having owned and operated my Mirage for over 1 1/2 years now I have done a number of sampling experiments. My budget has not been able to afford any of the luxuries of ISFilters, Computers, Digital Recorders... Nevertheless, progress has been forged. Here is a gem of a technique if done properly (ie., patience, hi-tech equipment..): (1) Secure a four-track recorder and (2) pick up to four (I chose three) sounds you want to sample. (3) Manage to record each one individually on its own track at the same time. Make sure your sounds are in "unity" tune, ie., A-440Hz. (4) Mix your product for desired volume/balance. (5) Having set all your parameters for your specific "note", sample the mix. (6) Loop or adjust your other parameters and if it's a hit (7) Bask in your new creation of a unique Hybrid, Multi Layered Wavesample!

I have produced two so far. One is a hybrid of Mirage violins, Ac Piano and DX7 electronic piano. The loop is a bit shaky when you play it naked but it is a nice sample overall. I named it "Dianolins." The second is a hit sampled with Parameter 73 = 99 - combined synth brass, a dulcimer, and wind chimes. I call it an "aluminum frassimer!"

Lastly, anyone desirous of trading samples or passing on ideas please write!

Keep up!
Mark Wyar
1121 Middle Ave
Elyria, OH 44085

Dear Hacker,

This is in reference to your recent RND Notes concerning the K-Muse company and the Sound Composer disks.

First off, let me say that I own all of the currently available sound libraries from K-Muse and have purchased same when they first hit the stores.

I personally heard the sounds demonstrated by Kevin Kent (President of K-Muse) at the Cameo Tech Expo here in Los Angeles. (They were not in the stores at that time).

The first thing I told Kevin was, "Turn off the high end EQ." I thought sure there was some monkeying around with the board to get the Mirage to sound that clean and clear. But the board was flat! Finally, the Mirage specs came to life.

I own quite a few of the Ensoniq factory disks as well. None of my factory disks comes close to the fidelity and bandwidth of the K-Muse set. To the readers who wrote in about the looping noises and clicks in the K-Muse library; with the greater bandwidth comes the greater task of sampling and editing with more precision. The factory disks have their share of loop oddities (#17 Tah & Ooh for example) which are partially obscured by the lack of fidelity.

I own a high quality recording studio here and when I checked out the Tech Expo, I was in the market for a better sampler. Hearing and playing these sounds convinced me there was a lot more stuff inside the Mirage that could be coaxed out by a skilled sampling programmer.

As for the Hacker's ad money owed by K-Muse, I don't know of any commercial publication who doesn't get their ad money before the mag goes to press (usually 2 months before). If that favor was extended to K-Muse, it's your responsibility. I'm not saying K-Muse is innocent (I will contact them myself on your behalf), but as an advertiser myself, this is the way the publications out here (and MIX magazine in Berkeley) work. Implement that policy and you will have no more problems in that area.

K-Muse has been extremely helpful over the phone in correcting minor (and some major) sampling errors and has even published update parameter sheets that I have received to correct the problems. Sometimes communications is the answer.....

I enjoy the Hacker immensely and I feel you have started a trend that can only benefit the music industry as a whole.

Musically,
Randy Tobin
Theta Sound Studio
Los Angeles, CA

[Ensoniq's response: We are glad you like the KMUSE sounds and are happy to see people such as KMUSE, Sampleware and others producing sounds for the Mirage. As always, sounds are very subjective. Even the people at ENSONIQ can't agree on them!]

[TH - Actually, our policy IS to require payment BEFORE we run the ad. But, all too often someone will call at the last minute saying, "Pleeeaaase, run my ad or I'll die!" Or words to that effect. And sometimes we give in. Sure, this makes us "responsible." (But we're not exactly overcome with guilt, either.) All we were doing was letting people know what was going on. They can make their own judgements from that. There's been a lot of cases where this sort of thing is an early warning of a company about to go under. As far as communication is

concerned - don't you think we tried before we finally gave up? There were SEVERAL un-retuned phone calls, ignored letters and invoices. We're glad you like their sounds. Our reviews were pretty rosy too, if you recall. But, as has appeared in this column before, some of our readers have had very mixed comments about them.]

Dear Transoniq Hacker,

In response to a comment by Ensoniq in a previous issue of Transoniq Hacker, I do not believe that equipment such as the Mirage or ESQ-1 should be considered a finished product. Finished in the sense of being ready for sale to the public, yes, but when you make such a statement, you imply that you will not find new ways of expanding the product to increase features and flexibility. Already with new operating systems, hardware upgrade, and Input Sampling Filter, you have made the contradictory statement that you will continue to expand the Mirage. As a computer programmer, I make a point of stating that my software can always be expanded according to the users requests. Users often generate previously overlooked ideas.

Software is by far the easiest to upgrade. Already there is a new OS which contains different temperments, and rumors of new MASOSs, which I greatly applaud. And there are software synthesis programs, and memory upgrades. In my opinion, the Mirage is not one to be easily outdated, and I have no regrets about my decision to purchase one.

In terms of a "wish list," my more reasonable wishes include a rack-mount ESQ-1 and for the Mirage, multi-timbral features and a "bottom key" parameter.

Once again, thank-you, Ensoniq, for a great keyboard.

Sincerely,
Andre H. Mehta
Davenport, Iowa

[Ensoniq's response: We agree with your sentiments, however at some point resources must be applied toward developing new products (such as the ESQ-1) in order for the company to remain competitive. At this point we are helping outside developers support and enhance the hardware and software of the Mirage, leaving us free for new products.]

Dear T.H.,

Re: Tom McVeery's letter in February issue -

It's COWELL!! Henry *!#@ Cowell!!
Not CORWELL!!
Not J. S. Barch!

Not Bela Bartork!
Not Phillip Glarss, Steve Reirch, E.
Varerse, Milton Babbirtt; it's
COWELLI!

Sincerely,
Perter Hunrirchr
Spokane, WA

[TH - Thanks! We always like it when
we hit a nerve.]

[Ensoniq: We can't add anything to
that.]

Open letter to the Hacker:

I offer an apology to all the readers of Electronic Musician and the Hacker. My enthusiasm and excitement about the mods I did last summer had to do with the incredible difference it made for my equipment set-up and my stage show. After carefully reading Larry Church's review and going out to see a number of other musicians use their instruments, I see how I fell into a common pitfall. Being both self-centered and isolated, I failed to take a good look at how the other 21,000 Mirage owners use their instruments. Had I done so, I would have tempered my enthusiasm considerably and not put it out as I did. As it is, I am sincerely sorry to have mislead anyone who did the mod and felt they wasted their time.

First, let's talk about the noise. To recreate my measurements, you need a modified Mirage, a Crown real-time analyzer, and a mixer. Connect the RTA to the output of the mixer - because my mod assumes you use a mixer of some sort following the Mirage. Take any sound that has a good sustain, play a pair of octaves and hold down the sustain pedal. First raise the mixer control from the factory output and mark where its setting yields 0 VU at the output. Lower that slider. Take the two sliders from the stereo outputs and mark where they yield 0 VU (they need about 9db more gain). Now release the notes and turn the RTA to the -60db scale and observe the noise floor present in the stereo outputs. Pull down the stereo outputs in the mixer and pull up the factory output to the gain setting previously marked. There is a very large difference in the noise floor.

I am a solo concert artist who performs improvised classical music on digital samplers through an audiophile quality sound system in small concert halls and churches. When I don't touch my Mirage's keys, you would have to stick your head next to the speaker to know my system is on. With absolutely no hiss, hum, buzz, or artifacts, my system achieves better than a 90db real world signal-to-noise ratio without the use of noise gates or expanders. Going to the clubs, where most professional Mirage owners sweat to earn their honest living, I observed the

level of hiss and hum considered normal through standard musical sound equipment, and my noise mod wouldn't make the slightest difference or be noticeable in any way. For most people it would show up only in certain rare situations in a recording studio, when the Mirage was exposed as a solo instrument. That difference in most normal applications would not justify the mod.

In Joseph Palmer's review he made note of the imaging problems with the Stereo outputs, and suggested a solution identical to what I used when I modified my first instrument. The reason I was so blind to this problem is that I seldom use less than three stereo Mirages at a time. With at least two or more stereo Mirages panned hard left and right and mixed together, the random distribution of notes equalize themselves across the stereo field, creating a rich sonic tapestry; an everchanging, balanced stereo image. With a single Mirage, the effect is awkward and distracting. Again, I had done everyone a misservice by not looking outside my own setup.

I had a conversation with Mr. Doug Curtiss of CES, the designer of the CEM 3328 VCF chips used in the Mirage. He recommended doing the mod as Larry Church suggested. That is, soldering the 10K resistors directly to the summing node resistors (R126, R133, R140, R147 ect.) to reduce any chances of picking up stray capacitance. He also felt more comfortable with increasing the value to the added 10K resistors to 20K. This more conservative buffering should have little effect of the gain when going into a typical musician's mixer input impedance of 50K or 100K.

I also have adapted Larry's practice of bussing the wires and using a DB25 connector on the Mirage's case, with both the individual eight channel outputs and the stereo mixed outputs simultaneously available. To date I have never seen or heard of any technical problems caused by the mod.

So, chastized and hopefully a bit wiser, I will take a good look around me before reopening my big mouth. I've packed my mirror shades, taken a little villa in Rio, and given up classical music for a crash course in Salsa. The American dollar goes a long way in Brazil, and with a 100% import duty on Mirages I should be safe there for a long time.

Don Slepian
New Jersey

[TH - We're glad that Palmer and Church did such useful reviews on your mod. It has certainly generated a lot of interest - we're pretty happy with the results. Don, don't wait too long before opening your mouth again - we're waiting for your 8-out ESQ article!]

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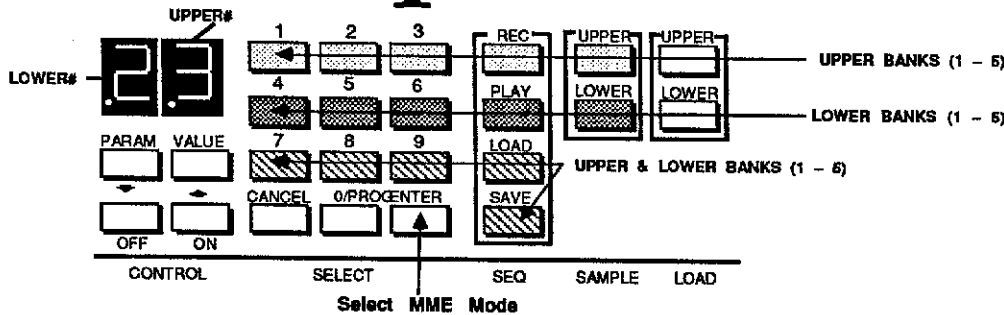
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