DISK REVIEWS

By Erick Hailstone

Well, picking up where we left off last issue, let's look at some more disks floating around out there for the Mirage.

DISK 10

BANK 1

L1 - Tablas and Bayan drums - Indian percussion instruments.
U1 - Sitar/Tamboura. The bottom section of this sample is the sympathetic resonating strings and the rest is for playing melody. Rather than go into great descriptive detail - if you've ever heard Ravi Shankar or seen a 60's Peter Fonda acid trip movie, you've heard these sounds before.
L2/U2 - The bass is a low muted drum that sounds like a log drum as you go higher. Higher up it sounds like tablas again and in the upper range like a mallot instrument with a very quick decay.
L3/U3 - Same as last but chorused.
L4/U4 - Same as 3 only with a slight ressonant filter sweep.

BANK 2

L1/U1 - Harp. The bottom half is a harp being arpeggiated. From there up it is a harp being plucked a single note at a time.
L2/U2 - The bottom octave is being arpeggiated only an octave lower than L1. U2 seems to be the same as U1.
L3/U3 - Same as L1/U1 only chorused.
L4/U4 - No arpeggiation on the bottom octave. A softer attack makes it sound like a wind instrument grafted to a soft organ - slight chorusing.

BANK 3

L1/U1 - Bottom half is a bass harmonica like the Harmonicats used to play on Ed Sullivan. Top half is your standard harmonica. Depending on how you play it, it'll sound like a Chicago blues player or Stevie Wonder/Toots Theilman chromatic.
L2/U2 - Slow attack, filter sweep - makes the bottom sound like a pump organ. This is not so pronounced on the top - just makes it a little less aggressive an attack.
L3/U3 - Filter sweep and chorused. Same attack as L1/U1. Makes it sound a little synthesized.
L4/U4 - Similar to L3/U3 only the bottom half is thinner sounding and the top has a more pronounced filter sweep. Again, even more synthesized.

Two more disks that, while they aren't much to listen to, are very important are the formatting programs. These will allow you to go to your local computer store and buy mass quantities of disks (single-sided, double density - Ensoniq strongly recommends Maxell) and store samples at about $3 a whack. The first one to appear was from Triton, whose ads appear in these pages (and a few other places). It will perform two tasks. First, it will format blank disks so they can store samples. Second, it will also allow you to take the operating system from one disk and embed it on another. With this feature you can include an operating system on a formatted disk that would otherwise have none and you can update all of your other disks by putting the latest (or whichever you prefer) operating system on them. (NOTE: Formating a disk that already has your samples on it will wipe them out. However, at least in our experiment, replacing the operating system leaves the samples alone.) You have to be careful with the legal implications in this (the operating system is copyrighted), but if you're not selling copies of the operating system, you should be ok. I sure found this to be a very desirable feature. There is a certain security in knowing that everything will react the same no matter which disk is booted up. I also just had to try to make a backup of this disk. Using a Macintosh and Copy II I (which works for many copy-protected programs) I was unsuccessful. That Mac dropped dead (temporarily) and as of yet I still haven't found a way. The copy business must breed paranoia. (I wonder why?) By the way, the Triton disk presently sells for $40.

Following close on Triton's heels, Ensoniq has come up with their own disk. It will only format blank disks. You can not copy operating systems from one disk to another. It does, however, copy itself to the newly formatted disk - giving you a backup every time you use it. At $19.95, it will definitely save a few nickels.

Once armed with these disks, be sure to check in on occasion and buy an Ensoniq disk with the latest operating system. Don't want anyone going without.

That's all we have room for now. (Editor's trying to keep the page count to match the budget.) There are some demos floating around most dealerships and I'll be reviewing them in the future.

Erick Hailstone studied composition and arranging at the University of Nevada and at Berklee College of Music. He has been involved with synthesizers and related technology for the past seven years. Primarily a guitarist, his orientation has been in performing and recording with these devices.

Let's Make An Electric Piano (sort of)
by
Duane L. King

Have you spent $50.00 on MASOS and you still can't make samples that sound as good as the 'factory' sounds? So did I, but do not despair! You didn't waste your money! MASOS opens up the doors to all kinds of sound experimentation, not just making your own samples. For starters you can mix different samples from your 'factory' disk collection to create new sounds. Or you can fade from one factory sound into another, or add waveforms together, or sandwich small segments of several samples together. The point is- look at your collection of 'factory' samples as **raw material**, not as a final product.

I like the factory disks, but I had decided that I wasn't going to pay $40 for a diskette of samples. Now that the price has come down I've succumbed to the temptation. But I'm still not satisfied with some of the sounds! All that means is I need to modify them to suit my taste and musical needs. So I'm exploring. I'm writing down every parameter for every program and wavesample on every disk in my collection. This is very time consuming! I'm not finished yet but I've already made several discoveries. For example, on **Sound Disk #1**, wavesample 3 of the Wooden Flute is a pure sine wave. Doesn't sound interesting yet? Keep reading. You see, I'm a piano buff. All kinds of piano-type sounds interest me. One day I decided I wanted to try my hand at making my own electric piano sound, just to see what would happen. What I ended up doing was using MASOS to combine one of the upper piano samples with the sine wave and play them in mix mode. In doing this I learned a lot about mixing wavesamples! Now I'm telling you what I did and how I did it to help you get more out of your Mirage. (I'm hoping some of you out there will make some neat discoveries and share them with me so my library will continue to expand...)

The first thing you need is **Sound Disk #1.0**. If you recently purchased your Mirage, you may have **Sound Disk #1.2**. I know that the piano samples are GREAT compared to the 1.0 disk, but I don't know what else has changed- so proceed with caution (when your machine gives you different parameter values from what I list here, always go with what is on your display-- check my work!). You will also need MASOS and a blank diskette. I will be referring to the **Advanced Sampler's Guide**, so keep it handy. We are going to make an upper keyboard sample by moving the sine wave sample and one of the piano samples so they are next to each other. Then they can be played in mix mode.

In "Part II - Mirage Parameters" of the **Advanced Sampler's Guide** (ASG) in the discussion of parameter [28] (mix mode- page 13 in my copy...), a seemingly innocent statement is made- "If Mix Mode [28] is on, then

wavesamples are assigned in pairs, and only every other Top Key is considered." This sounds straight-forward enough. But, Top Key isn't the only parameter in the second wavesample that gets ignored. Further on in "Part II - Mirage Parameters" in the section "Relative Tuning, Amplitude and Filter Parameters" (page 21), a cryptic note appears, "Note that in Mix Mode, only one set of relative parameters is used; they are applied to both wavesamples. Oscillator 1's wavesample parameters are active; Oscillator 2's are ignored." This means that the following parameters for the second wavesample will be ignored: [67] Relative Tuning Coarse, [68] Relative Tuning Fine, [69] Relative Amplitude, [70] Relative Filter Frequency, and [71] Maximum Filter Frequency. The values for these parameters will be obtained from the first wavesample and used to control both oscillators! In practical terms this means that you must pick two wavesamples having the **same pitch** if you want the mixed wavesamples to be in tune to each other. This is the first **getcha**! Once I got past this hurdle I was staring the second **getcha**! square in the face- I didn't have any idea what pitches were sampled for the sine wave or the piano samples! The solution? You don't need to know what pitch was sampled if you make one assumption- **all the 'factory' wavesamples are tuned the same**. (They aren't on **Sound Disk #2.0** but so what.) There is only one sine wave sample so I had to find a piano sample tuned to the same pitch as the sine wave. The sine wave's Coarse and Fine Tune parameter values are 5 and 80 respectively. If the Fine Tune parameters of two wavesamples are the same then they are the same pitch. Fortunately I had four upper piano sounds to choose from: wavesamples 1,2,5 and 6. If you configure the mod wheel to mix the piano wavesamples you will discover that the even wavesamples are 'sharp and thin' and the odd wavesamples are 'soft and thick'. I decided to use piano wavesample 1 because I liked it better. You might want to use one of the other candidates. Refer to tables 1 and 2 below.

Now you are ready to follow my footsteps and find out how I made my very own Electric Piano (sort of). First turn your Mirage off (if it was on) and take out the diskette that was in it (or take the diskette out and turn it off), put in the **Mirage Advanced Sampler's Operating System** disk and turn the Mirage on (or turn it on and then put the disk in...). When the disk light goes out, eject the MASOS disk and put in **Sound Disk #1.0**. Press [LOAD UPPER] [1] [START]. When the upper piano sound is loaded, take out the disk and put your blank disk in. Press [12] [?] [START] to save the upper piano sound on your blank disk (replace the '?' with a 1, 2, or 3 to save the sound as upper 1, upper 2, or upper 3 respectively). (Make sure you pull the write protect tab

down so that it covers the little hole or the machine won't let you save the sound on the disk.) When that finishes, remove the blank disk and insert **Sound Disk #1.0** again. At this point I was caught by the third **getcha!**- how do I get the sine wave sample from upper 3 into memory at the same time as the piano sample that I just saved on my blank disk? You can't get there from here- you have to go some place else first. Suddenly it hit me-- move the sine wave to the lower keyboard, reload the upper piano sample, and copy the sine wave to the upper keyboard! This is why you must have booted the Mirage from the MASOS disk- it's the only way to copy wavesamples between keyboard halves. Press [LOAD UPPER] [3] [START] to load the flute sound. Select program U4 (it plays the sine wave like a xylophone). Now we are ready to copy wavesample 3 to the lower keyboard half. Press [26] [VALUE] and press [ON ^] as many times as necessary to make '3' appear in the display. Now press [17] [2] [START] to copy upper wavesample 3 to the lower keyboard half as wavesample 2. This puts the sine wave in the correct wavesample position, but in the wrong keyboard half. Now you can play the sine wave in the second octave. Take out **Sound Disk #1.0** and put your blank disk in. Press [LOAD UPPER] [?] [START] to load the upper piano sound back in (replace the '?' with the number you used when you saved the piano sound). Now you can play 'one' in the first octave, the sine wave in the second octave, and the piano on the rest of the keyboard. Now play an A with the piano sound and an A with the sine wave. They are supposed to be in tune with each other. My next worry was keeping the sine wave sample from colliding with the piano when I copied it to the upper keyboard half. This is the fourth **getcha!** The sine wave is on pages 7E and 7F. The particular piano sample I'm interested in (wavesample 1) is on pages B0 thru FF. So in this case I don't have a problem. Select program L1. Press [26] [VALUE] and press [ON ^] as many times as necessary to make '2' appear in the display. All you have to do now is press [18] [2] [START]. Now when you play in the fourth octave you can hear the sine wave behind the piano! Select program U1. Press [26] [VALUE] and press [OFF V] as many times as necessary to make '1' appear in the display. Press [72] [VALUE] and hold down [ON ^] until '61' appears in the display. Now wavesamples 1 and 2 cover the entire upper keyboard. Press [12] [?] [START] to save the upper keyboard sound (replace the '?' with the number you used the first time you saved the piano sound).

Here's a summary of the procedure we just used to combine upper wavesample 3 of the Wooden Flute with upper wavesample 1 of the piano:

1. Turn the Mirage off and remove any diskette.
2. Put in the MASOS disk and turn the Mirage on.

3. Eject the MASOS disk and put in **Sound Disk #1.0**.
4. Press [LOAD UPPER] [1] [START] to load the upper piano sound.
5. Eject **Sound Disk #1.0** and put in your blank disk.
6. Press [12] [?] [START] to save the upper piano sound.
7. Eject the blank disk and put in **Sound Disk #1.0**.
8. Press [LOAD UPPER] [3] [START] to load the Wooden Flute sound.
9. Select program U4.
10. Press [26] [VALUE] and make '3' appear in the display.
11. Press [17] [2] [START] to copy the sine wave to the lower keyboard.
12. Eject **Sound Disk #1.0** and put in the blank disk.
13. Press [LOAD UPPER] [?] [START] to retrieve the piano sound.
14. Select program L1.
15. Press [26] [VALUE] and make '2' appear in the display.
16. Press [18] [2] [START] to copy the sine wave back.
17. Select program U1.
18. Press [26] [VALUE] and make '1' appear in the display.
19. Press [72] [VALUE] and make '61' appear in the display (Top Key).
20. Press [12] [?] [START] to save the Electric Piano.

At this point you have a usable electric piano sound for the upper keyboard. You can use this with the rock vamp sound- lower 3 program 4 of **Sound Disk #2**, to cover the whole keyboard. You should spend some time adjusting the various parameters of your new electric piano sound until it sounds 'better'. Pay particular attention to [34] Oscillator Mix, [35] Oscillator Mix Sensitivity, and the velocity sensitivity controls for the filter and amplitude envelopes- [45] thru [49] and [55] thru [59]. Program U1 and U2 are the same right now. You will probably want to change at least one of them. Programs U3 and U4 do not use mix mode so you may want to change parameter [29] in these programs.

WAVESAMPLE

1	2	3	4	5	6	7	8	
B0	AE	60	AC	0	AA	C0	E0	[60]Wavesample Start
FF	AF	A9	AD	5F	AB	DF	FF	[61]Wavesample End
FE	AE	A8	AC	5E	AA	C0	E0	[62]Loop Start
FE	AE	A8	AC	5E	AA	DF	FF	[63]Loop End
FF	FF	FF	FF	FF	FF	04	A1	[64]Loop End Fine Adj
ON	ON	ON	ON	ON	ON	off	off	[65]Loop Switch
4	4	3	2	3	4	2	1	[67]Rel Tuning Coarse
80	80	EB	EB	80	80	20	CF	[68]Rel Tuning Fine
56	63	50	63	31	63	63	63	[69]Rel Amplitude
9	9	10	10	8	10	20	20	[70]Rel Filter Freq
95	95	95	95	99	95	95	95	[71]Max Filter Freq
46	40	54	40	61	61	27	31	[72]Top Key

Table 1 - Piano Wavesamples

WAVESAMPLE

1	2	3	4	5	6	7	8	
		7E						[60]Wavesample Start
		7F						[61]Wavesample End
		7E						[62]Loop Start
		7E						[63]Loop End
		FF						[64]Loop End Fine Adj
		on						[65]Loop Switch
		5						[67]Rel Tuning Coarse
		80						[68]Rel Tuning Fine
		63						[69]Rel Amplitude
		0						[70]Rel Filter Freq
		95						[71]Max Filter Freq
		61						[72]Top Key

Table 2 - Sine Wave Wavesample

Duane King is an engineer currently working for SCI Systems, Inc. in Huntsville, Al. Duane has programming experience in several languages and is presently working on adding computer control to his synthesizer collection. This article was hacked on his Mac.

BACK ISSUES

Back issues are available for $2 each. Some back issues are no longer available in their original printed form and a photocopy will be substituted.

CHANGE OF ADDRESS

Please let us know at least four weeks in advance to avoid missing any issues. The Post Office will not reliably forward this type of mail. We need to know both your old and your new address.

RND(♪)

MIRAGE-NET NEWS

As mentioned here a couple of months ago (Issue #5), we're looking for people who wouldn't mind handling a few questions regarding the Mirage and sampling over the phone. [We'll be glad to handle written questions (or feed them to our contacts in Ensoniq's engineering department), but adlibbing over the phone is not our strong suit.] The following people or organizations have already agreed to help with your questions:

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

Sounds - Martin Smith, Lavitae Contrar Studios. Pacific time zone (Vancouver, BC). Business hours. (604) 255-1025.

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

Mirage hardware & firmware - Scott D. Willingham. Eastern time (NY). Days. (716) 477-8089.

Mirage Operating System - Mark Cecys. Eastern time (NY). Days. (716) 773-4085.

We still need people who wouldn't mind answering an occasional question from another Mirage owner. The questions are just about always interesting and quite often you'll learn a lot from each other. (And if you send us the question and answer, we'll print them, send you 4 cents/word, you'll be rich and famous, and other people won't call you up and ask the same question.) Sound OK? We need your phone number, what hours would be OK for calls, what topic you'd like to cover (same as above or new ones), and your time zone. Give us a call. (503) 245-4763.

*   *   *

Sorry to say it, but the photocopying is getting a little ridiculous because of the surprising number of people who want back issues. (Also, our page count is higher than expected.) Anyway, we still want to make them available if you really need them, but to put time and expense in better balance, we're going to have to raise the price on back issues to $2 each.

*   *   *

The rumor reported here a couple issues ago about someone working on a "VES" for the Commodore 64 is no longer a rumor. Be sure to check out our "New Products" section.

* * *

Sweetwater Sound Studio in Fort Wayne, Indiana, presently maintains a "sample exchange service" for Kurzweil 250 owners. They are now starting to set up a similar service for Mirage owners. Assuming that the arrangement will be similar to that for the Kurzweil owners, what they'll do is offer to freely trade a sound that you're looking for in exchange for the best samples that you've acquired. Owners that aren't into sampling have to send $5 to cover expenses. For more information, contact: Sweetwater Sound, 2350 Getz Rd., Fort Wayne, IN 46804. (219) 432-8176.

* * *

IF you don't mind voiding your warranty, and IF you're happy with the Mirage's present frequency response, and IF you know how to use a soldering iron, you can save yourself a few bucks by installing the noise-reduction portion of the upgrade (see our "New Products Section") by yourself. All it really consists of is adding a couple of .0047 microfarad capacitors - one each, across R67 and R69. (You have to pull out the main board to get to them.) We haven't done this ourselves (we're going for the whole upgrade), but it's supposed to increase your signal-to-noise ratio by 12 dB. (Just doing this part of the upgrade doesn't require that your Mirage be booted with operating systems 3.0 or higher.)

HYPERSONIQ

New Product Releases

Ensoniq has announced a major new upgrade for the Mirage. The new Mirage will have additional noise reduction circuitry (SN ratio 12 dB better), improved frequency response (no numbers given), a weighted-action keyboard (evidently, they've been shipping this on their European versions - "similar to a DX-7"), and a lip on the panel for keeping your disks from sliding around. The good news for present Mirage owners is that they're able to install a portion of this upgrade on the older units. For $19.95 plus labor (probably about $50 to $75 total), you can get a kit installed that will boost your frequency response and signal-to-noise ratio. (The bad part of the good news is that there's no way to change the keyboard - the new keys are larger.) The kit has to be installed at one of their service centers. (What is involved depends on your serial number. There's several different EPROMs involved in the frequency-response portion of the mod, so it's not the kind of thing you can do yourself. See our "Random Notes" Section if you're interested in improving just the SN ratio.) If you have the complete upgrade, your Mirage will have to be booted with Operating System Version 3.0 or higher.

* * *

SONIC ACCESS announces SONIC EDITOR - a graphic waveform editor and sound management system for the Mirage. In addition to high resolution graphic display and edit of any page and sample in Mirage memory, SONIC EDITOR also stores 78 programs and single page waveforms in active memory (unlimited storage to disk), contains 78 pre-programmed sounds to provide basic waveforms and complex sounds, and allows you to double or triple the frequency of the waveform on the screen to add octaves & fifths to the sound. SONIC EDITOR works with the Commodore 64 computer with a Passport (or compatible) MIDI card and a disk drive. For further information, contact: SONIC ACCESS, PO BOX 4024, Santa Clara, CA 95054. (408) 942-9061. [Review coming in future issue.]

* * *

In a pre-release press announcement, Kamlet Electronic Products revealed their plans to market the "Kamlet Midi Merger." This device will allow you to merge two MIDI lines together. The Midi Merger has a built in channelizer that allows you to put the merged MIDI signal (or either one of the original signals) on a different MIDI channel, and system exclusive filters that allow you to remove unused MIDI data that clutters up memory space in sequencers and the like. The projected retail price will be around $250. KAMLET, PO BOX 916, Indian Hills, CO 80454. (303) 697-0296.

VISUAL EDITING SYSTEM: LEAVING VES

By Traktor Topaz

Since the Mirage Visual Editing System (MVES) Waveform Menu is written in Applesoft Basic, it's fairly easy to introduce modifications. In last month's article (Issue #6), I presented some simple changes that could be made to the MVES that allows one to dump the screen to the printer. Here's an additional little fix that I've found useful.

Purpose: It would be handy if you could go from the MVES Main Menu to another disk without turning the machine off and on. This modification adds a menu choice to Main Menu to allow you to do this.

Approach: The Main Menu is in Applesoft Basic, so adding a menu item has three parts:

1. The new menu item must be displayed.

2. At line 32 there is a test of user's input, to make sure it falls between "1" and "7." Modify this line to allow user input from "1" to "8."

3. If user picks choice #8, go to the end of the program and there issue some Carriage Returns to clear the screen, and call the Apple "Boot Disk" routine. We don't have to worry about getting back, as we're leaving this program.

OLD CODE:

```
31 PRINT TAB(2);"<5>  WAVESAMPLE MEMORY BANK MAP';F$ :
...PRINT TAB(2);"<6>  MASOS DATA MANIPULATION FUNCTIONS";F$ :
...PRINT TAB(2);"<7>  DATA TRANSFER MENU";F$
(Remark - This is the tail end of the screen menu display.)

32 VTAB(24) : HTAB(14) : PRINT "SELECTION:?"; :
...HTAB(24) : GET G$ : Y=VAL(G$) :
...IF Y<1 OR Y>7 THEN 34
(Remark - The last instruction makes sure that user's input
falls between 1 and 7.)

33 ON Y GOSUB 41, 146, 141, 151, 191, 216, 201 :
...GOTO 28
(Remark - Depending on the user's choice, the program jumps
to various subroutines at these different line numbers.)

34 CALL G : GOTO 32
(Remark - Call user input routine, restart input loop.)
```

NEW CODE:

```
31 PRINT TAB(2);"<5>  WAVESAMPLE MEMORY BANK MAP';F$ :
...PRINT TAB(2);"<6>  MASOS DATA MANIPULATION FUNCTIONS";F$ :
...PRINT TAB(2);"<7>  DATA TRANSFER MENU";F$ :
...PRINT TAB(2);"<8>  BOOT NEW DISK";F$
(Remark - Here we've added the eighth menu choice.)

32 VTAB(24) : HTAB(14) : PRINT "SELECTION:?"; :
...HTAB(24) : GET G$ : Y=VAL(G$) :
...IF Y<1 OR Y>8 THEN 34
(Remark - Modified it to allow user input up to 8.)

33 ON Y GOSUB 41, 146, 141, 151, 191, 216, 201, 340 :
...GOTO 28
(Remark - Added another jump, to program end.)

34 CALL G : GOTO 32
(Remark - Unchanged.)

339 REM- WIPE SCREEN & BOOT
340 FOR C=1 TO 24 : PRINT : NEXT C : CALL -1370
(Remark - Issue 24 lines of Carriage Returns to scroll
screen blank, then call "boot disk" routine.)
```

Traktor Topaz
3304 Geary Blvd., Suite 607
San Francisco, CA 94118

CLASSIFIEDS

USER GROUPS

Would like to start users group in Seattle area. Call Loren at (206) 878-8097, or leave a message at (206) 575-0900.

Cleveland, Ohio (including Lorain county) area Mirage owners: Am interested in exchanging samples & technique. Please give a call - Mark: (216) 323-1205.

M.U.S.E. - Mirage User Group for Elmhurst, IL area. Meetings soon to begin using the VES to loop sounds. Please contact J. W. Adams, 269 Cayuga, Elmhurst, IL 60126. (312) 834-3779.

San Diego County Ensoniq Mirage Owners: Let's start a user group to exchange sounds and ideas. Call Paul at (619) 942-3027.

Hollywood Mirage Owners User's Group. Hints and techniques. Sound trading and demos. Meetings held at Classic Sound Recording Studios. For info, call Patti (213) 664-7622.

Interested in contacting other Mirage owners in the Detroit area. Joe Woeff, 16653 Fairway, Livonia, MI 48154.

SAMPLES

Sound Parties for Mirage owners in LA area. For info, call or write Jon St. James, Formula 1 Music, 641 South Palm St., Suite D, La Habra, CA 90631. (213) 691-2710.

WANTED: A quality sample of Sound 22 from the OBERHEIM. Jay Quinlan, 213 15th Place, Manhatten Beach, CA 90266.

WANTED: A good sample of a DX-7 electric piano with plenty of "metallic-bell" attack content! Also wanted: a solo french horn sample. Mark Wyar, 1121 Middle Ave., Elyria, OH 44035.

SAMPLING? - Use S.O.S. If you own a sampling device or are into sampling in any form, you need S.O.S. S.O.S. cassettes contain dozens of sounds for you to sample. All sounds are professionally recorded on pro equipment then dubbed to high-quality chrome cassettes. Best of all you can sample direct from cassette deck to sampler, repeat the sound exactly again & again, & no additional instruments-devices-people are required. Mix outputs from two tapes playing different segments for totally new and different sounds. Easy cueing, great fidelity, they're GREAT!! Only $7.95 each including postage. Texas residents add 33 cents tax. ORDER TODAY FROM: S.O.S. CASSETTES, Rt 2 Box 552, Roanoke, TX 76262. Checks payable to: LAKE SOUND.

EQUIPMENT

Mirage for sale (am getting rack-mount unit). VISUAL EDITING SYSTEM for sale, along with Advanced Sampler's Package. Requires Apple II+ or IIE. View and alter the waveform directly on the Apple screen. Makes loop selection fun instead of a burden. A must for quality looping and waveform clean-up. Call Arthur Cronos at (415) 668-7777.

FREE CLASSIFIEDS!

Well, - within limits. We're offering free classified advertising (up to 50 words) to all readers for exchanging or selling your sampled sounds on Mirage-readable disks. Additional words, or ads for other products or services, are 15 cents per word.

THE INTERFACE

Dear TH,

We recently purchased a Mirage and have been raving about it ever since. We subscribe to the Hacker and have found it a useful and interesting reference.

We've found the Mirage to be an invaluable tool in the studio. For live use, the rumoured "bank select" switch addition would make things much easier.

Is there a cleaner string sample available than the Ensoniq Sound Disk #3.1 violin? I also found this sample to be out of tune. Is there a complete list of Sound Disks available? Can you tell us more about the Disk Formatter?

Looking forward to the next issue,

Georgina Goss and Tom Thorpe
Bonsai Recording Studio,
Western Australia

[Ed. - The string sample seems to get more comments like this than any other. Strings are hard. Maybe someday... Erick has a short review on the formatters this issue. We're still trying to keep up with the new disks as they come out. One of the problems is that lately they're coming faster than we have space to write about them.]

Dear Hacker,

Thank you for the effort you all put forth to produce and ship out this newsletter!

I've had my Mirage for about nine months now and thoroughly enjoy it. I still use my Juno 60 with it in our band (Christian Gospel).

I have a serious sampling question to present. It

has to do with sample rates and equi-tempered pitches. We are told in the ASG that Appendix A, 2nd table (A2) titled: "Sample Rates For Equi-Tempered Pitches," is what to follow when sampling instruments which require looping. One line of the chart shows "C"; Freq. - 262 Hz; Samp time - 30; Samp rate - 33,333. This frequency for a C note is the closest to middle C which has a "concert" tune of 261.63 Hz. So far, so good. Now, the ASG also states on page 59 ..."At its highest samp rate, the Mirage expects a fairly low note, the C below middle C (130.81 Hz)" Combine these two premises and you get a contradiction : The highest rate (w/o input filter) is 33 but, according to Table A2, corresponds with middle C not the C below it!

To clarify this contradiction more, here is another example found on page 58 of the ASG. The chart states that for a sample time (P73) setting of 35, the Mirage expects the A note whose frequency is 220 Hz. However, the ASG says for a sample time (P73) setting of 35, the Mirage expects the A note around 111.6 Hz. Again, another contradiction: It says that by following the table for equi-temp (A2) you'll always get "2 complete waveform cycles into a page of memory." (Page 59.) This means, according to page 59 and 60 of the ASG, you may never find a "multiple-wave-per-page" loop. Page 60 goes on to state you then need to use MASOS to copy the first cycle to the second....

The question therefore: is the table for equi-temp wrong, or is it absolutely correct and we should disregard the contradictons and have loop problems? I realize the 1st table in Appendix A goes along with the ASG quotes. This question looms big because everyone who samples and requires looping on their samples is faced by this! Thanks again,

Mark F. Wyar
LLyria, Ohio 44035

[Ensoniq's Response - The chart on page 73 is for two cycles/page. The statement on page 59 assumes one cycle/page. To use the chart on page 73 for one cycle/page-loops, double the sample rate. The heading, "Freq * 128" could be viewed as "two cycle/page sample rate."]

Hi guys,

First, a plea:

I sent you a letter a couple of weeks ago to A) complain about Data 1's overcharge on my order, and B) to review one of their disks.

Data 1 just sent me a $5 refund, 5 weeks after my order. Please forget about my allegations of overcharging.

Now, on to other matters. Question #1: I hear rumors of a new Mirage with the present add-on options as stock items, and with a newer keyboard with a more "mechanical" touch. Is this true, and if

so, A) can we be sure that all upcoming software will be compatible, and B) are there any other newer features that we'll be able to upgrade the earlier models with?

Question #2: Has anyone else noticed that Ensoniq's strings (Diskette #3) seem to be just a hair flat? I get better results setting the pitch to about 53.

Question #3: Since the output sampling rate is fixed at 30 kHz, can I correctly presume that the optional input sampling card only affects sampling itself, and makes no difference in playback of diskettes?

Question #4 on: I heard about Cherry Lane's "Pitchrider," which you can apparently plug into both your guitar (or whatever) and the Mirage, and which then plays your notes using whatever sounds you've loaded. Is that for real? Does it track fairly well? What happens when you play a quick and sloppy lead, or just make struck sounds on the strings (does it play wrong notes, or just not track that)? I also hear that they're working on a polyphonic version of that; do you know how close they are to releasing it, and what the cost will be of that one?

Now, time for a comment: a close friend of mine (who owns a 16-track pro studio) just bought a Prophet 2000 DSK, and ended up taping my Mirage's factory diskette sounds to give him something useful to work with, because the Prophet's existing factory sounds SUCK (to the point that they're literally unuseable in the studio). The Prophet is a nice machine, but the factory diskettes all stink (somebody could make big bucks in that area), and even though it's more expensive than the Mirage, it doesn't have some of the Mirage's features (like, for example, the ability to sequence notes). He bought it for ease of sampling, but it's just as much of a bucket of worms to sample sounds on the Prophet as the Mirage, because you still have to contend with loops and such. It made me real happy to be a Mirage owner!

I believe that you really need a visual editing system (among other things) to do decent sampling on your own. Sampling on any DSK machine is POSSIBLE (so is jogging the length of California) but in both cases you have to go through hell to get there. I have no idea how Ensoniq does such a nice job with their diskettes, but whoever does most of them deserves the "Wizard of the Decade" award, not to mention an award for obvious patience in the face of extreme frustration. Regardless of claims to the contrary, good sampling is NOT easy, and excellent sampling is next to impossible on your own. (One reporter's opinion).

As for me, I'm sticking with the idea of loading the factory diskettes and playing away. With the sounds I'm getting, and at the rate and quality that they're releasing diskettes, I'm more than happy with that.

By the way, does anyone else here in San Luis Obispo County, Caliornia have a Mirage?

Please continue the excellent work with the newsletter.

Cheers,

John Bartelt
POB 2414
Paso Robles, CA 93447

[Ed. - For THE latest word on the new Mirage, see our "New Products" and "Random Notes" sections. Ensoniq seems to have a policy about keeping their software compatible. (The newer machine does have to be booted with Version 3.0 or higher.) I imagine that if they ever get into a spot where they can't maintain compatibilty, they'll still provide copies of their new samples with whatever operating systems are required. You're right about the input sampling filter not affecting the playback of diskettes.]

[Clark's Response - Cherry Lane Technologies (actually, now it's being distributed by Kramer Guitar) markets both a monophonic (Pitchrider 2000) pitch-to-MIDI converter and a polyphonic (Pitchrider 6000) pitch-to-MIDI converter. Some tracking problems always exist with these types of devices, and the Pitchrider is no exception. They don't respond well to sloppy playing. As for striking the strings, they'll attempt to read these sounds as pitches - giving you an output of fairly random sounding notes. A more in-depth review of the Pitchrider, as well as Fairlight's Voicetracker system, appears in the December issue of KEYBOARD magazine.]

To Erick Hailstone, Transoniq Hacker,

I was pleased to read your reviews of recent Ensoniq diskettes in Hacker #4. I purchased Disk #8 and have a problem which I hope you can clear up for me. The Wurlitzer piano sounds fine. The Hammond is fine. The brass section (upper programs only) seems distorted. On the held note there is some kind of crackling sound which (possibly with imagination) could be some kind of horn noise - it really sounds like somebody's levels were too high in the recording process. Is this possible? To date the Ensoniq samples have been as clean as I could ask for. (Well, those pesky cymbals were a bit much.) But this instance sounds like out and out distortion. Have you heard that crackling? Has anyone else mentioned it? I can't imagine how the disk could be defective and still function as well as it does. I haven't had the opportunity to hear another disk with the same samples. I'll send you a copy of mine for a copy of yours if you'd like.

I'm still hoping for a review of the VES and the input filter. I have access to a Mac and am wondering if the VES is going to be worth the investment.

The Mirage wish list: I'd like the operating system to be able to set memory boundaries from the keypad. For example, wavesample start is at 7F, you want 00.

Now we have to lean on the button which moves the value to get to 00. It would be nice just to punch that value in. Ditto for loop points. Ok - how about super sequencer - real time/step time operation. Maybe quantizing? I'd expect less sampling ability on the super sequencer operating system. Say a prayer that 12-bit sampling doesn't put us all out of business with all this hardware!

Sincerely,

Joe Rose
North Attleboro, MA

[Erick's Response - All things are possible. The upper horn patch is very grainy - but I believe this is consistent with the nature of ensemble reeds. I suggest that you get in touch with your local dealer and make comparisons there. He should have several copies of the same disk.]

[Ensoniq's Response - Both the brass and strings samples have very high frequency content and stretch a single sample over an entire keyboard half. This combination will inevitably produce a detectable amount of "aliasing noise." New and different brass sounds will be available on Disk #14. You should give them a listen - but you'll still detect some aliasing.]

Yo Folks,

Great machine. Love it. Can't get enough. Questions:

1) Can the two or more samples I want to balance, odd waves against even waves, both be loaded from disks? Say I want to stack trumpet and sax from Sound Disk 3 in Mix Mode - how do I load the second sound without bumping off the first? Can this be done? If not, why not?

2) On Sound Disk #8, upper and lower 1 (horn gliss/horn sec), I pulled all sixteen wavesamples down to a topkey of one; yet the horn sample of the upper bank remains up there - an octave and a minor 2nd lowered in pitch! How is this possible?

3) It would be enlightening in the extreme to be able to look at all the parameters for all the sound disks on a nice big piece of paper instead of having to slug through the keypad with a pencil. Are charts like this available? (I know the sounds are copyrighted, but since one can find out these things anyway, it would be much more user-friendly for Ensoniq to supply them.)

4) With the Apple set-up I can look at my sample page by page, which is nice, but to get a decent splice for my loops (long ones especially) I have to be able to see the overall slope of the entire waveform. I cannot do this - it seems crazy not to be able to.

Sincerely,
Richard Ziegler

[Ed. - Both VES and The Sound Lab (and now The Sonic Editor for the C-64) will display the parameters. If you do the modification to the VES program given in the last issue, you should be able to print out the screen. The way the VES is set up there isn't enough memory in the Apple IIe to display the whole waveform. Of course, someone could probably hack some modification that would throw out a bunch of the data points and allow the "whole" waveform to appear on the screen, but then when you decided where to zoom in and do some tweaking, you'd have to reload the sample to get back the missing points. Oh well, maybe someone can think of some clever way around this. Anyway, the Mac has enough memory, so Sound Lab can display the whole waveform.]

[Ensoniq's Response -Rule One for Mix Mode: The two samples to be mixed in Mix Mode must have the same number of cycles/page in their loops - otherwise, they'll be out of tune. Also, Fine Tune (P68) must have the same value for both samples. Another thing to keep in mind is if the sounds used were previously in Mix Mode (such as the sax sound), you'll lose the sound it's mixed with. The way to move sounds around was described in Steve Coscia's article on the MASOS Copy command in Hacker #6.]

Dear Hacker,

The Hacker is great. I just wish Ensoniq would have had their "Multisampler" available WHEN they introduce it. What is the story on it anyway? None of the music stores in this area can order it yet! Anyway, enough gripes; the Mirage is truly a GREAT instrument! In our small studio it is our MAIN instrument. We use it for sound effects, synths, voice (sampled), drum machine (interfaced with sequencer software and computer), acoustic piano, horn sections, etc., etc.... We couldn't do half of this stuff before the Mirage!

I am VERY interested in the possibility of different tuning systems on the Mirage and read Dick Lord's letter to you with much interest (Issue #4). However, since I know relatively little about computers I'm not ready to try "digging" into the operating system. If there is any way the intonation could be made user-programmable (perhaps a special disk with the altered operating system on it?) it would definitely rate number one on my "wish list."

I look forward to the next issue. Keep up the good work.

Sincerely,
Stephen Sloan
Mini Sound
Point Reyes Sta., Calif.

[Ed. - Actually, part of the problem with the availability of the Multisampler is that, evidently, we got the news a little bit before we should have and Ensoniq wasn't really ready to have us go and get everybody all prematurely excited.]

Hi there,

Here are a few questions concerning possible (?) modifications for the Mirage:

Is it possible to have a separate audio output and complete individual control (envelopes and all) for each voice?

By adding memory (replacing the 4164's for 41256's) could I have longer sampling time at full bandwidth (very useful when you have 8 or 16 splits)?

Can I make the output sampling rate go higher than 29.4 kHz (matching the Input Sampling Filter rate)?

Do you know of anybody that has a VES for the IBM PC/XT?

Thanks in advance & good luck on your magazine.

Anthony Tower
Town of Mount Royal, Quebec

[Ed. - The way it's designed, there's no way to get separate audio outputs for the different voices. Supposedly, there's some people working on some mods to the amount of memory in the Mirage (doing bank selects for more sounds, etc.). We haven't heard any news on this for a while, but we'll sure pass it on when we do. No presently known way to increase the output sampling filter rate. No VES for the IBM-PC yet, but, this is presently the most often mentioned computer system for this question. I suspect it'll probably be the next one to have one. (Maybe after that, someone will get around to doing one for my Atari 520ST!)]

Dear Hacker,

I have the following Mirage hints, questions, and responses to previous letters:

1) In response to Del Carry who wanted to know how to turn off the "rock vamp" which appears on key #1 for most of the synthesizer disk: You can turn it off by raising the INITIAL WAVE SAMPLE parameter of the lower keyboard half from 4 to 5. This works because the rock vamp is lower sample 4.

2) You can construct a rather good acoustic piano which is one octave up from the standard piano on the 1.3 disk by re-shuffling the standard piano. What you do is drop the top key (P-72) down 12 keys on each of the acoustic piano samples (by the way there are six unique samples). When this is done, the bottom sample will be off the keyboard and the uppermost sample will be stretched to cover 19 keys. Then drop the pitch of each sample by one octave by reducing by 1 the value of each wavesample's RELATIVE TUNING COARSE (P-67). The result sounds just like the original (it HAS to!) shifted one octave, with one exception: the upper sample is now handling some keys at a higher pitch than it was before. If you

listen closely to the top octave of the keyboard the sustain sounds slightly too long. You can adjust this - although I think it sounds good enough as is. The final result from these adjustments is, I think excellent. I use this patch for all my acoustic piano parts. It is also a good exercise in how the Mirage is organized.

3) I would like to know if the Ensoniq factory samples were made with the Input Sampling Filter. By the way, I get very good samples of the DX-7 using the ISF but I usually have to use "virtual sampling," i.e., sample the DX an octave lower than I really want the sample to sound.

4) I agree strongly with Tarik Roshdy about the quality of the violin sample. It has a lot of noise in the high end. This noise is NOT from the violin as Ensoniq suggested but is a very offensive hiss. What is worse is that the hiss doesn't loop well so it also clatters at the loop point. Dropping the output filter frequency doesn't help because the noise spectrum is in the same range as the upper harmonics of the sample signal.

Yours truly,
Paul Smith
Brea, Calif.

[Ed. - Thanks for all the info. Regarding the factory samples, Ensoniq says that most of their samples were done using the Input Filter. (We're setting up an interview with Ensoniq's sampling wizard - so we should have a lot more information in the near future on how their samples are produced.) Regarding string noise, see Ensoniq's response to Joe Rose.]

Dear Transoniq Hackers,

Thanks a lot for the very useful newsletter!

I have the following questions:

1) If you press the same key twice within a short time, the sound generated by the 1st press is terminated abruptly at the time you press the key the 2nd time. This is very clear especially with sounds with slow attack like the strings and the choir sound (SD #3 & #7). Is there any way to make the 1st-pressed sound fade slowly?

2) How do you store different "sounds" in the programs within one sound? What I mean is like in SD #2, every program has a quite different "sound" from each other.

3) Can you recommend some microphones (& any other equipment) that works well for fast, good quality sampling through the mic input? Price, too.

4) How about some guidelines in allocating memory to the sounds? What kind of sound needs a lot of memory and vice versa?

5) Is there any way to alter the acoustic piano sound (SD #1 & #5) so that it has more echo after you release the key - especially when you press it hard and short - staccato touch?

6) Do you know if there is any VES that works with the IBM PC?

That's about it. Thanks very much.

Sincerely,
Tirta Kartawiria
Chicago, Il.

[Ed. - Regarding #1; there may be some way to modify the operating system so when a key is struck it looks to see if that same key had been struck within a certain period of time and, if so, to automatically change its decay (and I guess it would have to assign another voice for the second strike) - but, boy, it sure doesn't sound simple! Regarding microphones; it would be best just to shop around at your local music stores. The same qualities that make a mic good for just about anything also apply to using them for sampling. We'll try to get to the points in your other questions. (Still no IBM-VES.) Clark has some comments on #2.]

[Clark's Response - Sound Disk #2 treats the organization of wavesamples a bit differently than the other disks. There are actually four different wavesamples stored for each lower or upper keyboard load. What happens is that the initial sampling is done in multisampling mode and a number of different sounds are sampled. Each sound is assigned its own area of memory - Wavesample 1, 2, 3, etc. Then, each program for a lower or upper keyboard half is set up to play one and only one wavesample. This is accomplished by setting a different Initial Wavesample (P27) number for each program (giving that particular wavesample priority) and setting a Top Key (P72) of 61, ensuring that the wavesample chosen covers the entire keyboard. For a more detailed discussion, see "Splitting and the Mirage" in Issue 3 of the TRANSONIQ HACKER.]

Hi there,

In Issue #4, your response (to one of my "wish list" questions) to use Parameter #29, made me realize I had stated the "wish" poorly. Instead of saying "some form of MONO mode," I should have said (perhaps) SOLO mode. Parameter #29 only establishes a low note priority, whereas a last note priority is generally more useful for mono-type instruments. Actually, an option for setting low, high, or last note priority (like 360 Systems' MIDI BASS) would be even better.

**DATED MATERIAL
TIME VALUE**

I also have a question. In Issue #3, the new rack
mount Mirage was announced and apparently the OS
upgrade will now also handle the DX-7's breath
controller codes.   Do you know if anyone makes a
"stand alone" breath controller, either MIDI output
(which could feed a MIDI IN "mixer" such as that on
Roland's MKB1000) or even a unit which controls the
actual audio output line - like a foot pedal?   I
haven't been able to find one, and I think it would
make a good product.   How about as an Ensoniq
accessory?

Cordially,
R. D. Villwock
Glendora, Calif.

[Ed. - Music Technology Inc. has just announced the
"Master's Touch" - a stand-alone breath controller.
This might just be able to do what you want.   For
more information, contact: Music Technology Inc., 105
5th Ave., Garden City Park, NY 11040.   (516) 747-
7890.   You also might want to check out the "Midi
Merger" mentioned in our New Products Section.]

Dear Transoniq:

I happen to fall in the category of the "working
musician who doesn't have the time or equipment to
sample sounds as well as the factory disks."
However, I would like to edit these disks and samples
to fit my performing needs.   The disk situation is
becoming more and more cumbersome - not to mention
the time factor involved in booting.

In your third or forth issue you explained how to get
24 sounds (four different sounds per setting) on one
disk.   Is there any way to copy four factory sounds
onto one disk setting so I can, for instance, change
from an electric piano sound to a flute or trumpet
solo and back without waiting for the Mirage to drive
the disk?   If this isn't possible, then maybe the
independent samplers out there might set up a service
for customized disks.   Also, are there any plans for
a stack of Mirage disk drives (without the controls
or keyboard) that can be controlled from my Mirage to
change sounds even quicker - or am I dreaming?

Sincerely,

Philip Parnell
Metairie, LA

[Ed. - The article by Steve Coscia, "Copying Current
Wavesamples to Another Location" in Issue #6 should
help you to arrange existing wavesamples to better
suit your needs.   Unfortunately, this procedure
requires the use of Ensoniq's MASOS program.   If
you're not really into sampling, then you probably
don't have this.   The best thing to do is to look for
a nearby Mirage owner or user group (keep checking
our ads) that can help you.   Regarding faster loads -
stick around.   We hear some rumors that should make
you happier than you'd be with a stack of floppy disk
drives.   One is a hard disk - which should be both
faster and hold every sample you'd want (if they can
do it).   The other is to swap memory chips in the
Mirage for chips with four times the capacity.   Then
you could load up four times the samples and "bank
select" among them at the flick of a switch.]