SOFTSYNTH

By John Connolly and David Carter

For years, quality additive synthesis has been beyond the reach of most musician's bank accounts. Today, however, Mirage owners can create highly-complex waveforms using Digidesign's Softsynth Package for Apple Macintosh. It introduces a new realm of sounds for sampling keyboards - sounds that are synthesized, not sampled. What Softsynth does is generate a waveform based on a number of user-specified parameters.

Additive Synthesis involves the specification of the various partials that make up a musical sound, and how their amplitudes change over time. Softsynth, however, improves on traditional additive synthesis in many ways. First of all, instead of specifying only sine-wave partials, the user has a choice of specifying one of five different waveforms for each of the 32 available digital oscillators. Also, instead of only being able to specify only four envelope parameters - attack, decay, sustain, release - you can specify 40 envelope points per digital oscillator. In addition, Softsynth offers more than one method of synthesis, including "Smartsynth", an intelligent screen that generates a waveform based on simple checkbox parameters.

When you start the program, a graphic screen appears showing the envelopes of all 32 partials across time (see Figure 1). Also displayed are 32 sliders corresponding to the 32 partials. Moving a slider changes the overall volume of the corresponding partial. Even better, you can type in your own frequency, sample rate, and file length. Since there is no sampling involved, there is no input sampling noise. This means that all files generated by Softsynth will sound very "clean".
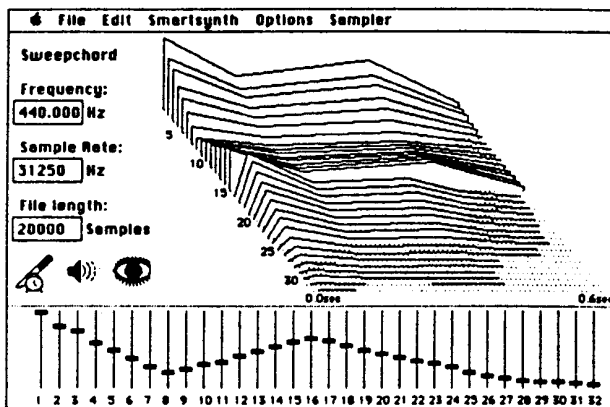

Figure 1. Main Screen.

Clicking on the number of the partial (under the sliders) brings up a screen displaying the envelope and frequency parameters for that partial (see Figure 2). From this screen the user may specify any of the five different waveforms to the selected partial. These include sine, square, triangle, white noise and pink noise. Both the amplitude and frequency envelopes may be specified graphically using the mouse. In this way, an extremely complex waveform -- one in which each of 32 partials changes independently over time -- may be created. This affords the synthesist an incredible degree of control over a sound. Because of the wide range of harmonics that can be specified, and the fact that each waveform has its own envelope, extraordinary sounds can be created.
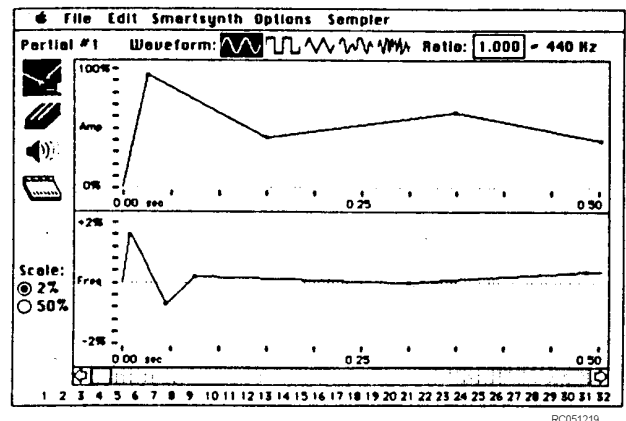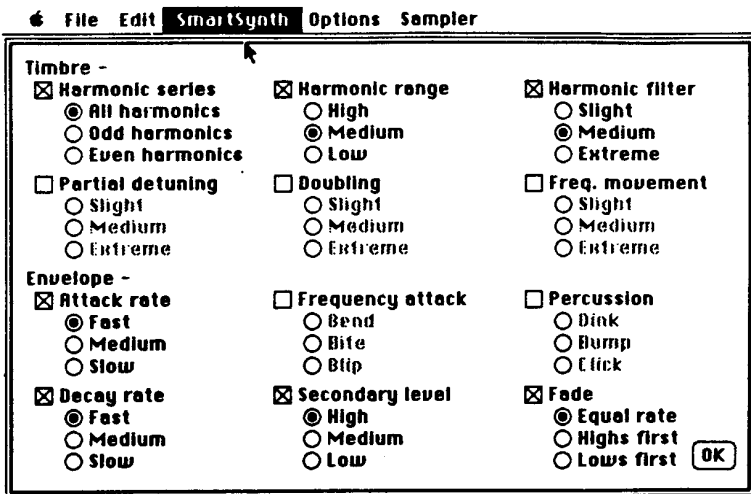

Figure 2. Partial Screen.

However, with all this power comes a great deal of responsibility, and not all musicians will want to spend hours specifying each harmonic and its accompanying envelope. This is where the Smartsynth option comes in handy - (see Figure 3). After specifying a few commonly wanted parameters (e.g., odd and/or even harmonics, doubling, detuning, overall envelope, etc.), the user can generate a sound with only one keystroke.

For more adventurous users, the "time-slice" option is also available. Time-slice changes the perspective from which the sound in memory is controlled, allowing creation of waveforms using a different set of parameters.

Timbre -

☒ **Harmonic series**
- ⦿ All harmonics
- ◯ Odd harmonics
- ◯ Even harmonics

☒ **Harmonic range**
- ◯ High
- ⦿ Medium
- ◯ Low

☒ **Harmonic filter**
- ◯ Slight
- ⦿ Medium
- ◯ Extreme

☐ **Partial detuning**
- ◯ Slight
- ◯ Medium
- ◯ Extreme

☐ **Doubling**
- ◯ Slight
- ◯ Medium
- ◯ Extreme

☐ **Freq. movement**
- ◯ Slight
- ◯ Medium
- ◯ Extreme

Envelope -

☒ **Attack rate**
- ⦿ Fast
- ◯ Medium
- ◯ Slow

☐ **Frequency attack**
- ◯ Bend
- ◯ Bite
- ◯ Blip

☐ **Percussion**
- ◯ Dink
- ◯ Bump
- ◯ Click

☒ **Decay rate**
- ⦿ Fast
- ◯ Medium
- ◯ Slow

☒ **Secondary level**
- ⦿ High
- ◯ Medium
- ◯ Low

☒ **Fade**
- ⦿ Equal rate
- ◯ Highs first
- ◯ Lows first [OK]

RC051219

Figure 3. Smartsynth Screen.

One great thing about Softsynth that bears mention is that all of these synthesis methods can be used together in any combination. For example, one might create a waveform using Smartsynth, and later modify it using Time-slice, the main screen, or any of the separate partial screens. After a sound has been created, it's not necessary to send it to the Mirage to listen to it -- the Mac will compile and play it back by itself. Softsynth also works with the Sequential P2000, Akai S-900,612, Korg DSS-1, and of course, the ubiquitous Emulator II. You can use Softsynth to transfer Sound Designer sample files from the aforementioned samplers into the Mirage, and you can get hundreds of these files from the MacMusic computer bulletin board (calling with a computer and a modem) at (503) 646-2095.

The number of different sounds Softsynth can create is almost infinite. A lot of what I've heard has sounded like FM synthesis, but Sofysynth is far more powerful and flexible than that. The frequency range is really tremendous: you can make an earth-shattering low bass guitar sound or a pitch so high that it sounds like it's beyond your hearing range. You can blend any of these "harmonics" together to create synthesizer-style sounds on the Mirage and other samplers. I highly recommend it.

John Connolly is the president of Beaverton Digital Systems and SYSOP of MIRAGE-NET (MacMusic) - the BBS for Mirage owners.

David Carter writes MIDI applications for the C-64. He is most credited for his additive synthesis package for the C-64/Mirage.

MIX AND MATCH

By Erick Hailstone

I want to explore a few options that will help produce new sounds using factory disks and some readily available (and affordable) sound source, in this case a Casio CZ 101. There are tons of these Casios out there and if I just work with their presets then we have a common medium.

For this exercise I'm going to start off by booting up Disk 1.3 and loading Upper Sample #3. I'm only going to work with the upper sample so it doesn't matter what's in the lower half. I've picked the flute sound because it is one of the most simple waveforms there is - basically a sine wave. It's a great starting point since a sine wave is so pure, it is easy to hear the results of your experiments, whether they be analog manipulations or blending sounds together.

Second, set user multisampling ON (P77). Third, set sampling time to 67 (P73). Fourth, set the input filter frequency to 60 (P74). Now we are ready to record our first sample.

Connect the audio out of the Casio to the audio input of the Mirage. Set up preset #1 (Brass Ensemble) on the Casio. Press the octave key and set it to -1. This will lower the sound one octave. On the Mirage, press the program button to U1. Set Wavesample Select to #2 (P26). Now we're ready to sample. Press the upper sample button. Press the lowest B flat note on the Casio and adjust the volume so the top light in the Mirage display barely flickers. Refer to page 19 in your Musicians' Manual. (Notice that the Musicians' Manual is 31 pages and the Advanced Sampler's Guide is 103! We musicians have short attention spans.) Once the correct level is found, press Enter on the Mirage. Now, press down the lowest B flat on the Casio and hold it down until sampling is completed. If you check your four upper programs you'll find U1 is little thinner than before. U2 is about the same. U3 is the location of our new sound and U4 is also unchanged. Before we go any further let's save this sound to disk.

Now for a few alterations. I'm going to start with U1, but do the same things to the other 3 programs. U1 is still our wooden flute. Turn on the Mix Mode (P28). In addition to the flute there is now a brass synth sound an octave below the flute. With the Osc. Mix (P34) we can control the balance between these two sounds. For now, leave it set at 12. Parameter 35 allows us to control the mix of these two waveforms by velocity. There are many good settings here, so experiment freely. you can always reload the sample we have saved and start over. Setting Parameter 35 to 0 allows the Mod Wheel to control the

mix of the two waveforms. To use this effectively, you should set the LFO Depth (P32) to any value greater than 0. I like this particular arrangement a lot because it allows you to fade from one sound to the other or have them coexist. It's great for soloing and when you play sustained chords it's quite effective to fade the brass synth sound in under the flute. If you set Parameter 33 (Detune) to 7 you can also introduce chorusing with the Mod Wheel. U2's parameter settings give a punchier attack with a slight metallic overtone. Again, perform all the alterations above with each program. U3 starts with the brass synth and when we start mixing in the other waveform we get a mallot type sound. U4 starts with this mollot sound and as you turn on the Mix Mode and press a single note, holding it down, you'll hear the brass synth sound which will then jump 2 octaves to the flute sound. It will then sound a note an octave lower 7 times while the higher note continues to sustain, gradually fading out. I have no idea what's going on here. If anyone else does, please fill me in. If you hold down a chord you get a rather strange arpeggiation of the chord. If you set the Mod Wheel up to control the mix you can fade the arpeggiation in. This is an odd but pleasant effect.

I sampled several other presets from the Casio CZ101 using the exact same procedures described above. Among my favorites were the Crispy Xylophone and the Synth Bass.

I also repeated this exercise using the optional input sampling filter setting Parameter 93 to 18. This allowed me to make cleaner, brighter samples. By the way, I highly recommend the use of this filter if you intend to explore sampling very deeply.

Try these ideas with other Mirage factory sounds and let me know of any other combinations you find particularly interesting. RC051219

Erick Hailstone

# Add Digital Synthesis to your sampler!

S O F T S Y N T H ™

Softsynth is a revolutionary new approach to digital synthesis: an advanced 32 oscillator, digital additive synthesizer with more features and versatility than other digital synths. Best of all, it's an easy to use software program that runs on your Macintosh™ computer!

How is this possible? Softsynth uses *software-based synthesis* to create sounds you design using graphic programming screens. After you specify a group of harmonics and envelopes, Softsynth creates a high quality digital sound that can be transferred to your sampler for playback.
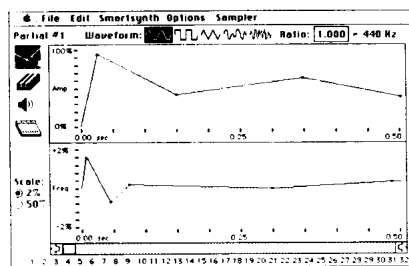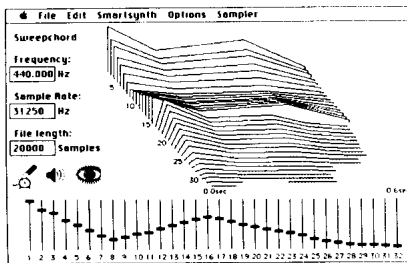
Additive synthesis is the most powerful and precise digital synthesis technique. Alas, hardware-based additive synthesizers are very expensive (usually over $10,000)! Softsynth offers an alternative— it is the first affordable, easy to use additive synth.

Softsynth provides precise control over all important synthesis parameters: *each* harmonic has a 40 (!) stage envelope, a 15 stage pitch envelope and a choice of five different wave shapes. Complete editing tools are provided that let you copy, paste and clear parameters between harmonics.

The unique *Smartsynth*™ function is even easier to use. You simply choose the characteristics of the sound you want to create, and Smartsynth will generate different variations of the sound each time you click the mouse!
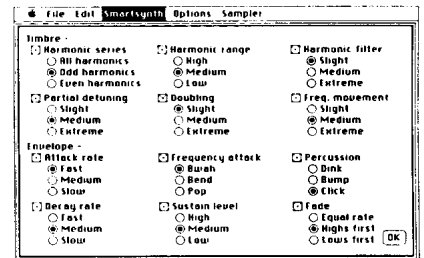
Because Softsynth's sounds are software generated, they don't suffer from input sampling noise. Your Softsynth samples will sound "cleaner," and take advantage of the full playback frequency response and dynamic range of your sampler.

Add digital synthesis to your sampler—Softsynth provides the tools to create a wide range of exciting new sounds.

ADDITIVE SYNTHESIS
ON THE ESQ-1

Jim Johnson

In my opinion, one of the neatest things about the
ESQ-1's oscillators is not that they offer sampled
wave forms, but simply that there are three of them.
If you're used to using two oscillators per voice,
you may wonder what the big deal is about three; but
once you start to program the ESQ on your own, you'll
find all kinds of new tricks that use that third
oscillator. One advantage of the three oscillator
system is that it is possible to do limited additive
synthesis, where a sound is built up from sine waves
tuned to individual harmonics. Admittedly, three
oscillators won't give you the additive capabilities
of a Synclavier or even a DX7, but it is possible to
get some interesting sounds using this technique.

Unfortunately, the Octave-Semitone-Fine tuning system
used by the ESQ and most other synths is not too good
for finding harmonic tunings, since the more exotic
harmonics tend to use weird combinations for these
settings. As an aid to finding the correct settings
for harmonic tunings, I pulled out my trusty C64, and
compiled the following list. This table assumes that
the low oscillator, which provides the first
harmonic, is tuned to -2 octaves; the values in the
table are used to tune the higher harmonics.

HARMONIC	OCT	SEMI	FINE	HARMONIC	OCT	SEMI	FINE
1	-2	0	0	17	+2	1	1
2	-1	0	0	18	+2	2	1
3	-1	7	0	19	+2	2	31
4	0	0	0	20	+2	3	27
5	0	3	27	21	+2	4	22
6	0	7	0	22	+2	5	16
7	0	9	22	23	+2	6	9
8	+1	0	0	24	+2	7	0
9	+1	2	1	25	+2	7	23
10	+1	3	27	26	+2	8	12
11	+1	5	16	27	+2	9	1
12	+1	7	0	28	+2	9	22
13	+1	8	12	29	+2	10	9
14	+1	9	22	30	+2	10	28
15	+1	10	28	31	+2	11	14
16	+2	0	0	32	+3	0	0

Of course, it is possible to tune to harmonics up to
the 64th by setting the low oscillator to -3 octaves,
but these harmonics aren't terribly useful. For a
taste of some of the strange sounds to be had with
this technique, try the following patch (any controls
not listed are set to 0 or OFF):

Program: HRMNIC
OSC1: OCT=-2, SEMI=0, FINE=0, WAVE=SINE, MOD1=LFO1,
    DEPTH=3
OSC2: OCT=+2, SEMI=8, FINE=11, WAVE=SINE, MOD1=LFO1,
    DEPTH=3
OSC3: OCT=+1, SEMI=3, FINE=27, WAVE=SINE, MOD1=LFO1,
    DEPTH=3

DCA1: LEVEL=63, OUTPUT=ON
DCA2: LEVEL=38, OUTPUT=ON, MOD1=ENV1, DEPTH=63,
    MOD2=LFO2, DEPTH=-28
DCA3: LEVEL=30, OUTPUT=ON, MOD1=ENV2, DEPTH=63,
    MOD2=LFO2, DEPTH=32
FILTER: FREQ=127, Q=0, KEYBD=50
DCA4: VOL=63, PAN=8
LFO1: FREQ=21, HUMAN=ON, WAV=TRI, MOD=WHEEL
LFO2: FREQ=12, HUMAN=ON, WAV=TRI, MOD=WHEEL
ENV1: L1=63, L2=2, L3=0, LV=0, T1V=0,
    T1=0, T2=19, T3=63, T4=20, TK=9
ENV2: L1=63, L2=-63, L3=45, LV=0, T1V=0,
    T1=3, T2=2, T3=28, T4=20, TK=9
ENV4: L1=63, L2=63, L3=63, LV=32, T1V=33,
    T1=23, T2=29, T3=52, T4=20, TK=9

Because this patch utilizes the 10th and 25th
harmonics, it has a very unnatural sound. Try tuning
the oscillators to different harmonics, and see what
the effect is. And remember, you don't HAVE to use
sine waves, though it is probably best to stick to
waves without too much high frequency content. The
keyword here is EXPERIMENT. After all, that's what
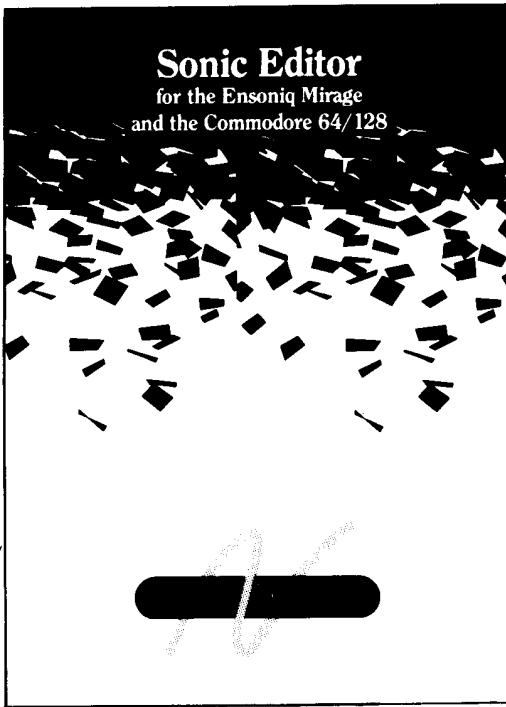synthesis is all about, right? RC051219

BEYOND THE ADVANCED
SAMPLERS GUIDE - Part II

By John Connolly
Technical Assistance: Mike Shawaluk

Well, we're back again for more Mirage/Computer mania! I'm really looking forward to your feedback on these articles, and I hope that I'm making everything clear and understandable.

One item I would like to mention right off is the concept of timing loops. Timing loops prevent outgoing MIDI data from exceeding the MIDI baud rate, which is very possible on any computer. The wording "exceeding the baud rate" bothers some software engineers, because it is theoretically impossible to change the baud rate since it's a function of the hardware. Unfortunately, there is often a difference between theory and real-life situations, and whether it is the Mirage not being able to accept data at the full MIDI baud rate or the baud rate being raised is not really important. The important thing to remember is that timing loops create a well regulated flow of MIDI information. Typically, timing loops using Commodore 64 Basic are just loops that count from 1 to 20. On a Macintosh with a fast development system, the loops can go as high as 15,000! The way to find the right number is to just use common sense and find a number that works for you. If you watch the display on the Mirage when you're sending data, you can tell if you're sending too fast. The display will flicker and almost go out completely if you send data too fast. As a matter of fact, with a fast hard disk, you can actually crash the Mirage Operating System by sending data too fast (I know, I've done it!). What you want the display to do is to flicker gently, but faster than it does when you're sending MIDI information from a sequencer. The display should flicker, and you should be able to read the number in the display clearly. As soon as the individual light bars that make-up the number start going out, you know you're sending data too fast!

Another item I would like to clarify is how baud rates apply to specific computer brands. On the Commodore 64 and Apple II computers, there are interface cards that plug into the expansion slots of these computers. All that is needed to initialize these cards is a simple POKE statement or two - but, again, the baud rate is "hard wired" into the MIDI interface card. My point is: Don't spend a lot of time wondering why your computer doesn't support 31,250 baud, because that baud rate is usually set by the hardware.

And now, back to MASOS 2.0. I mentioned in my last article that there was a suspicion that when sending or receiving data using the wavesample dump absolute command (3.1.7, page 85, ASG), that you had to specify one address past the actual data you want to send. In example, to send one page of data the start

address would be 0, but the ending address, instead of being FF, would be 100h (hex). The reason I had such a hard time proving this was because I was using Sound Lab to test the data after I sent it. Because Sound Lab will only boot up if the MASOS-M is loaded, I had to use MASOS-M to send the data in the first place, meaning that I was really testing MASOS-M and not the Standard MASOS 2.0.

This brings up another subject: The difference between MASOS 2.0 and all the other MASOS's (MASOS-M, MASOS-I, MASOS-A, etc.). The first and most obvious reason for the other MASOS's is for copy protection. The Visual Editing Systems that go with these versions of MASOS will not boot unless the correct MASOS is in the Mirage. The way the wavesample dump absolute works proves to us that MASOS 2.0 is inferior to the other MASOS's in at least one respect. We have tried contacting people about the differences, but everyone seems to be "reluctant" to talk about it, so we hackers are just going to have to find out the differences ourselves. We are interested in performance differences, and are not in any way interested in "breaking" the copy protection. Our intentions are to bring the current bugs out in the open so that we can get a new version of MASOS that will work for all us "homebrew" people who want to write our own Visual Editing Systems and Wavedata Loading librarians. In the meantime, we will keep you informed on how to use the current version.

Future Directions of MASOS - A wish list

There are an increasing number of people who know how the Mirage operating system works. It's not inconceivable that third-party developers could write their own version of MASOS. What would they want to include? That is where things become interesting, and where a wish list becomes important.

One complaint people have is the inability to set an individual parameter to a specific value. You can use front-panel commands to change some, but when the range of values exceeds 5 or 10 this becomes impractical. What would be ideal is a system exclusive command that took as parameters the parameter to be set and the value you wanted it set to. A complementary command would allow you to check the existing value of any parameter. Many other keyboards have system exclusive commands like this, and the Mirage should have them too.

Another great advancement would an operating system that supported an external hard-disk that would connect to the External computer port. You could load individual sounds in 2 seconds or less, making

the Mirage better suited for performance. Instead of loading either lower or upper sounds 1, 2, or 3, you would be able to load, say, lower or upper 1-50.

One more super enhancement that has already been mentioned in the Hacker is a memory upgrade for the Mirage. This would require a new MASOS also, and would most likely use a "bank- switching" memory technique. The way it might work would be you would load your first L/U sound into "bank" number 1, then hit a special key to switch to bank number 2, and then load another L/U sound, then to bank number 3, and load yet another sound. This would allow you to instantly switch between the 3 L/U sounds you loaded, effectively having an entire Mirage disk loaded into memory all at once.

The release of Apple IIGS (with the Ensoniq Q-Chip in it) has brought other possibilities to mind about future MASOS versions. The Q-chip is capable of having 15 (yes, that's 15) different samples played at the same time. I know, you say the Mirage can do that because you can play 8 keys and hear 16 different "oscillators". But no, what I mean is 15 different MULTI-TIMBRAL voices, much like the ESQ-1. This allows you to "overlap" instrumental ranges and play different parts on each one. The current limitation of not being multi-timbral is not the Mirage, it is one of MASOS. The way a new version of MASOS would work would be by allowing you to assign a given sample to a MIDI channel. You could then send a different sequence to each MIDI channel and voila! Multi-Timbral Mirage! Enough MIDI mania for now. Looking forward to answering replies to my last article in next month's issue!??! RC051219

AT LAST !!!

Your Mirage® / Multisampler® Can Have
18 SOUNDS
Available INSTANTLY

In 1984, the **Mirage** was a breakthrough in low cost digital sampling. It brought the ability to play two different digitally sampled sounds and added greatly to the depth of performance. Sound storage on computer disk gave tremendous power and flexibility to the musician, with a pricetag within grasp, **but...**

keyboard players wanted more!!!

The standard factory **Mirage** stores only one keyboard of sounds. With the addition of an **IVM expander**™, your **Mirage/Multisampler** will store **9 full keyboards** of sounds, all available instantaneously! These sounds can be accessed via keypad or MIDI program changes.

FEATURES:

- -- Does **not** void the **ENSONIQ**® factory warranty *
- -- Adds **8 upper** and **8 lower** sounds to the **Mirage**
- -- Includes **easy loading** software which loads 3 upper & 3 lower sounds (an entire diskette) at once
- -- 1 year limited warranty**
- -- Installation included

ONLY $ 399.²⁵ installed
(VISA, MASTERCARD, COD)

To order, or for more info, call or write:
IVM
69 Madison Ave.   Telford, PA. 18969
(215) 723-3210

* to maintain the ENSONIQ warranty, the expander must be installed by IVM or an authorized agent
** for detailed warranty information, write to IVM for a copy of the expander warranty RC051219

TECHNIQUES

STILL MORE MASOS
Looping Harmonics

By Clark Salisbury

Hello again, boys and girls! This month we're going to get back to the Mirage a bit, and talk about looping harmonics of a waveform. And of course we'll throw in a little bit of MASOS stuff, just to keep things interesting.

As stated in the Mirage Advanced Sampler's Guide, even when sampling at its highest rate, the Mirage "expects" a fairly low note - "C" below middle "C" (unless you're using the Input Sampling Filter). And a little basic arithmetic will show us why.

First, we must remember that the shortest usable loop in the Mirage is one page long (a page, for you newcomers, being 256 samples). Let's then suppose that we want to take a sample that is two seconds long, using the entire 64k of memory available to us for a single half of the Mirage keyboard. This will give us a sampling frequency of 64 * 1024/2 seconds, or 32,768 samples per second. The highest sample rate available without the Input Sampling Filter is actually 33,333.33 samples per second according to the Advanced Sampler's Guide, but for the sake of clarity I'm doing a little rounding off of the numbers. If we then take this number and divide it by 128 (one half the total number of pages available in a 64k chunk of memory), we arrive at the number 256, which is the number of pages of Mirage memory that will play in a period of one second if we play back the sound at unity, without transposing it up or down. We can see then, that if we want to sample a sound in which a single cycle of its waveform fits neatly into one page of memory, we will need to make sure that our sound has a frequency of 256 Hz. The "C" below middle "C" actually has a frequency of 262 Hz. A little calculation shows us that 262 * 128 = 33,488 - and the nearest sample rate available on the Mirage is 33,333.33, which is its highest available sample rate (and it also shows the reason for retuning sounds before sampling - to try to correspond the sound's frequency as closely as possible to the Mirage's sampling rate).

So what happens when we try to sample a higher note? Let's say we want to sample middle "C". Go ahead. Sample a middle "C" off of something - a power drill, for example, or your cat "Bootsy". If everything works out all right, you should end up with a sample in which two complete waveform cycles, more or less, fit onto one page of memory. And if you can get "Bootsy" tuned to just the right pitch, (just slightly flat from middle "C"), you could end up with exactly two waveform cycles per page. No problem yet. The problems will surface as soon as you try to put together a short (one or two page) loop.

The problem, you see, is that a cat waveform, as well as those of most musical instruments, is not static; its harmonic spectrum will change over time. And if the two waveforms you have stored in a page of Mirage memory are not identical, the differences between the two (no matter how subtle) can become embarrassingly apparent on playback of the loop, manifesting themselves as undesirable sub-harmonics, and making life a waking hell where you'll have trouble relating to your friends or maintaining a reasonable tan, all because you can't get rid of those BAD LOOPS!

So what's a technoid to do? MASOS to the rescue! Using the Copy Data function, we can make an exact duplicate of the waveform cycle from the first half of a page of memory into the second half of a page of memory, in effect assuring that there are no differences between the two waveform cycles that could manifest themselves as unwanted sub-harmonics. Here's how it works.

First, locate the page of memory that you wish to loop. Any page will do for now, as long as it's not the last page of the sample. That page has a bunch of zeros in it to indicate that it's the end of the sample.

Anyway, once you've selected an appropriate page for looping, (for the sake of clarity, let's say page 2F), you must set markers to indicate the areas of Mirage memory you want to go to work on. First, we'll set the source start markers. Parameter [85] Source Start:Page number allows us to tell the Mirage which chunk of memory we want to process. We've already decided to work with page 2F (theoretically), so set the value of Parameter [85] to 2F. Parameter [86] Source Start:Sample Number allows us to set where specifically within a page we want to begin; we would set its value to 00 (let's begin at the beginning of this page). The next two parameters are for setting the page number and sample number for the end point of our source data. Since we're working only on a single page of memory here, we'd set the value of Parameter [87] Source End:Page Number to 2F. And since we're only going to copy the first half of this page of memory, we'll set the value of Parameter [88] Source End:Sample Number to 7F.

See what we're going for here? We're going to copy the first half of this page into the second half, causing the two waveform cycles in this page to be identical. This should eliminate any unwanted sub-harmonics which might occur because of differences in the two waveform cycles currently residing in the looped page of memory.

The next thing we need to do is to set up markers telling the Mirage where in memory we want the

results of the Copy Data process to end up. To do this we'd set the value of Parameter [89] Destination Start:Page Number to 2F (since we want the results to end up in the second half of the same page in memory), and the value of Parameter [90] Destination End:Page Number to a value of 80 - in effect telling the Mirage to leave the results of this process in the second half of page 2F. Also, check to make sure that the value of Parameter [94] Destination Bank Select is set for the same bank (upper or lower) that you are currently working on. You don't want to inadvertently copy the first half of page 2F on the lower half of the keyboard into the second half of page 2F on the upper half of the keyboard.

All that's left now is to initiate the function, i.e. get the old MASOS ball rolling. We do this in the same way that any MASOS function is initiated - by pressing the LOAD button in the sequencer section of the Mirage. The Mirage responds by flashing the mnemonic Fn; at this point press the number [1] button on the Mirage to select the Copy Data function; the flashing mnemonic should now be reading Cd. Press enter - and that's it! You should now have two complete, identical waveform cycles in a single page of memory. This same process can also be used to get four identical cycles per page, or perhaps even eight, but be aware that the more cycles you try to cram into a single page, the fewer samples you have available for any single cycle of your waveform, and distortion may begin to rear its ugly head. Also, trying to fit an odd number of cycles into a page of memory (three cycles, five cycles, etc.) doesn't work too well.

Of course, without some sort of visual editing system it can be difficult to tell how many cycles of a waveform you can actually fit into a page of memory. The way around this is to make sure that the sound you are sampling is tuned to some frequency that evenly divides the sample rate you have chosen. If you need help doing this, you can refer to an article of mine entitled "Loops", (Issue #5). It explains in detail how to tune the sound you're sampling to the sampling rate you've chosen.

Anyway, that's about it for now. Guess I'll get back to some sampling of my own. Here, Bootsy...

RC051219

USER GROUPS

16-Track recording studio is interested in exchanging samples. We have a huge selection. Also interested in starting a users group in northeastern and central Pennsylvania. Contact Ralph DeLong, Carillon Studios, 19 Turner St., Plymouth, PA 18651 or call (717) 779-9015.

Angle City Audio Software library for the Korg DW 8000, EX 8000, and DW 6000: Write for free information and receive 15 sample programs. DW 6000: 128 sounds and related materials for $25.00. DW 8000 and EX 8000: expanding sound library and Users Group. Now contains 256 sounds. $25.00 buys first 128 sounds, programming guide, membership in user sound exchange group, free telephone consultations, and newsletter. Additional DW/EX 8000 sounds are available to members at regular intervals at low cost. Audio demo $2.00. COD available, and our friendly (and unique!) money-back guarantee. Call and let us answer your questions. A.C. Audio Software, 2 Liberty Place, Middletown, CT 06457. 203-347-5166.

CHICAGO AREA USER GROUP. Membership list is about 20 and growing. Sound trading. Cheapest prices on blank diskettes available. Collaboration with other Mirage users when creating new sounds. (Help with looping, etc.) Meetings held at a recording studio. Mirage area rep to join us when in the area. No dues or membership cost. Interested in using Digidesign's additive waveform approach. John Adams, (312) 834-3779.

BIG MAMA RECORDING STUDIO is interested in contacting other Mirage owners in East Tenn. and Western N.C. area to start user group, exchange sounds and info. Norbert Stovall, (615) 577-5597, Knoxville.

I am interested in starting or joining a user group for the Ensoniq ESQ-1. If there is anyone out there interested in trading patches, sequences and tips, contact me. Bob Wham, 1-214-454-6792, 4900 Joe Ramsey Blvd., #1303, Greenville, TX 75401.

THE International User's Group. Don't have to sample. Just enjoy the software. Join M.U.G. for the price of one factory disk. Receive one complimentary disk of samples. Monthly lists of quality user samples. One year membership: $20. Lifetime: $65. (2 free disks.) Checks or M.O. payable: G-4 Productions - M.U.G., 622 Odell Ave., Yonkers, NY 10710.

SAMPLES

2 Drum Disks. LOWER: Great Kik (less "clik," more "slap"); 3 Snares; O-C Hi-Hats; Toms. UPPER: Ride/Crash. 3 samples on each disk have various Snares and Toms - Kik/Cymbs are the same. Both for $13.00!! (+7% NY res.) NEO-SYNC LABS, Box 522, Chenango Bridge, NY 13745. (607) 722-8885.

Wanted: Mirage owners nationwide to exchange samples. Contact: Don Corrieri, 8329 Hillendale Rd., Baltimore, MD 21234. (301) 665-2946.

I would like to swap samples & discuss techniques for the Mirage. San Francisco area. Call: David Wise, (415) 346-2848.

Mind roasting samples for the Mirage sampled in a state of the art 24-track recording studio using ENHARMONIK VDS SYSTEM visual display/editor and synthesis module. Disk 1: "Mostly Percussion" 8 snare drums - gated, rimshot, hits, etc. Latin percussion - congas, timbales, tambourines, cowbells, cabasa. Unusual -2x4, garage door, wooden crates, and more! Disk 2: "Mostly Voices" neato voices! Breathy, percussive, phrased, etc. Whistles and burps, too! Disk 3: "Mostly SFX" sound effects. Nuclear bomb, guns, race cars, dogs, ducks, and a car wreck. Disk 4: "No Samples" These sounds are not sampled! They are created in software using digital synthesis algorithms in the VDS SYSTEM. Karplus Strong plucked strings, FM sounds, analog sounds, pulse waves, and much more! $10.00 per disk (California residents please add 6% sales tax.) Send check or money order to ENHARMONIK PRODUCTIONS, PO BOX 22243, Sacramento, CA 95822. (916) 383-1410.

We have ALL kinds of Mirage samples: Minimoog, bells, fat analog and DX7 synths, numerous drums, humorous, you-name-it. Professionally recorded and sampled in recording studios, computer-edited to save memory and disk-load time. From $17.95. Send $1 for listing. Livewire, Dept. TH, 79 Shrewsbury, Oceanport, NJ 07757.

Anyone interested in trading Mirage sounds or information, please call or write Jack Loesch, 162 Maple Place, Keyport, NJ 07735. (201) 264-3512.

WOW!! Novelty disks - The Three Stooges, Warner cartoons, Johnny Weismueller "Tarzans," Johnny Carson Show, etc. Fully guaranteed at $15.95 per disk. For list and prices, send S.A.S.E. to: Talance Recording, 90½ E. Elmwood Ave., Burbank, CA 91501.

SERVICES

DO YOU NEED A SEQUENCE? We will put any song (up to 1033 notes/events) on any of your disks or our blank disk! Just send us the sheet music or your own hand-written music. Write for more info and prices. CAMELOT BUSINESS ENTERPRISES, 4917 Rundlewood Rd. NE, Calgary, Alberta, CANADA T1Y 1B5.

WHY PROGRAM WHEN YOU COULD BE PLAYING?? Alternate sound patches for DX7/TX7, CASIO, KORG DW8000, ROLAND JX8P/10, JUPITER6, MIRAGE and all JUNO's from only $15.95. Demo's available. Livewire Audio, Dept TH, 79 Shrewsbury Ave., Oceanport, NJ 07757. (201) 870-3115.

EQUIPMENT

Garfield Nano Doc - Complete 24-48-96 tape write/read sync, & multi clock synchronizer. Brand New. $150.00 firm. (818) 843-0328.

For sale or trade: alpha Syntauri+Versatracs with complete software, systems hardware, 5-octave keyboard. Runs on Apple II (not included). $1800 firm or trade for ESQ-1 with complete accessories. Call Keith (609) 884-3729.

Mirage Keyboard, mint condition. Visual Editing System. Advanced Sampler's Guide. Triton disk copier, standard factory disks, all guide books and assorted papers, and all back issues of the Hacker. The whole Kit 'n Kaboodle $1500. Phone Mark Wright at (619) 445-5074, or write 1222 Willowside Terrace, Alpine, CA 92001.

Ensoniq Mirage keyboard, original version with S/N update kit, MASOS and Advanced Sampler's Guide, Triton disk formatter, Pro-Tec carrying case, 12 factory and 4 assorted disks. Used only in home studio. $1500 or trade for ESQ-1. Ed, (213) 329-4888. Los Angeles area.

For sale - Mirage (revised version). Perfect condition. 6 months old. Includes 9 factory disks, 10 blanks, MASOS, more. $1400 or trade for Ensoniq ESQ-1. Joe (215) 698-8424. Philadelphia area.

SOFTWARE

More than a MUSIC SOFTWARE CATALOG... Complete, detailed information on leading MIDI software products including patch editors, sequencers, transcription examples, etc. We carry a complete line of software products for professional and home studio use. GET THE DETAILS BEFORE YOU BUY. Send $2 for P&H to Scherzando Music, PO Box 3438, Dept. THCAT, Milford, CT 06460.

Apple II+ Owners! THE SEQU LIVE- 50 Segments/10 Songs of a 4-track sequencing. Do whole set without reloading. Records Note on-off info only. Sets Tempo and Synth Patches when song is selected. Real-time recording with Auto-correct. Only Note-on's are corrected for more natural recording. THE SEQU STUDIO- Same as LIVE but with 25 Segments/1 Song, and Records Velocity and Sustain Pedal. (Requires Apple II with Applesoft, Passport/compatible MIDI card.) Only $19.95 Each. $34.95 for Both!!! Even if you have a High-end Sequencer, THE SEQU STUDIO, with its SEG/SONG format, makes an Ideal Drum programmer. NEO-SYNC LABS, Box 522, Chenango Bridge, NY 13745. (607) 722-8885.

ADDITIVE SOFTWARE SYNTHESIS for Apple II, II+, IIe, compatibles... Pure digital for maximum dynamic range and minimum noise. Twelve discrete oscillators/envelope generators for complex timbres. This synth-on-a-disk makes looping effortless. Check or money order only. $30 for Apple Demo Disk and Mirage Sound Disk. $100 for Program Disk and full documentation. Requires Apple II or compatible (48k or more), Passport compatible MIDI card, and Ensoniq

Mirage Keyboard or Rackmount. (No MASOS required, but recommended.) Dealer Inquiries Welcome! Ronald Pejril, The Graduate College, Box 319, Princeton, NJ 08544. S & H included.

COMMODORE 64 SOFTWARE - Disk based patch librarians for the C-64 and Passport/Sequential interfaces. DX/TX LIBRARIAN: works with DX-1, 5, 7, 9, 21, 27, 100, and TX-7, 216, and 816. Print names and voice parameters. Single voice audition without erasing memory. 64+ voices included on disk. $35.00. OB-XP LIBRARIAN for the Oberheim X-Pander or Matrix 12. $35.00. DX/XP LIBRARIAN: The Oberheim/Yamaha combo - Works with all of the above! VDS SYSTEM: Visual display and editing for the Ensoniq Mirage. Hi-resolution graph of Mirage sampled waveforms. Editing. Software synthesis and analysis. Additive synthesis and FM synthesis. Display ALL Mirage parameters. $100.00. Send check or money order to: ENHARMONIK PRODUCTIONS, PO Box 22243, Sacramento, CA 95822. (916) 383-1410. (California residents please add 6% sales tax.)

Discount computer software and hardware. We are dealers for DIGIDESIGN, SONUS, SYNTECH, ENHARMONIK, DR. T, HYBRID ARTS, MARK OF THE UNICORN, TRITON, and many more MIDI companies. LOW prices on RAM cartridges, MIDI mergers, computer interfaces, and CASIO SYNTHS. We stock sequencing and visual editing software for MIRAGE and other synths. Special package deals on ATARI ST computers. Call for pricing on our complete line of MIDI products for Apple, Atari, Commodore and IBM/compatible computers. Livewire Audio, Dept. TH, 79 Shrewsbury, Oceanport, NJ 07757. (201) 870-3115.

MIRAGE VISUAL EDITING SYSTEM software for Apple II. Includes Apple disk & Mirage disk. $150. Call Marcus, (805) 987-9932.

Macintosh Software for the Mirage! At last, inexpensive software for your Mirage! MirageLib is a multi-function patch librarian and is available now for $49. Also, SDFileConverter converts 16-bit Sound Designer (TM) files to 8-bit Sound Lab (TM) Wavedata files and sells for $29. Send your check or Money Order to: Beaverton Digital Systems, PO Box 1626, Beaverton, OR 97075. RC051219

PATCHES

ESQ-1 SOUNDS: 120 new, original sounds for the ESQ-1. Varied and useful. Available on data-cassette or data-disk (for any ESQ-1 editor librarian running on the C-64 or Atari ST) for only $30. For complete demo tape and samples send $4. LEISTER PRODUCTIONS, 14 Hill Blvd., Mechanicsburg, PA 17055. 717-697-1378.

ESQ-1 owners: 40 new sounds for your synthesizer, on cassette with data sheets, $25. Also available, an ESQ-1 Patch Generation Program for the Commodore 64 with Sequential or Passport interface, $20. Jamos Music, 1970 N Hartford #17, Chandler, AZ 85224.

MISC

Ensoniq Sound Disk Parameter Listings: Turtle Beach Softworks announces it is selling a complete set of ASG style printouts of all sounds on all Ensoniq factory sound disks from #1 to #18. The set costs $24.95. Send to Turtle Beach, POB 5074, York, PA 17405. Custom listing service available too.

Aynone using the VDS or the MVES waveform editors for the C-64 please call (206) 241-7825 (Loren) or (206) 329-7281 (Anthony). Loren 3727 S 150th Number C, Seattle, WA 98168. We'd like to hear a hands-on approach review.

FREE CLASSIFIEDS!

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

RND ♩♪♫

Mirage-Net (see below) has set up an electronic mail box for us. You can send us letters for free - no membership required - via modem. 503-641-6260.

*   *   *

Clark Salisbury's MASOS FOR THE MASSES series (Issues #12, #13, #14) has received quite a lot of positive feedback. Clark plans on getting around to further elaborations in future articles.

*   *   *

Opps! In last month's ESQ patch from Turtle Beach, we (not them) left out a line in the description. The bit about OSC 2 and OSC 3 should have read: "Note that OSC 2 is slightly detuned to 'warm' up the sound. Now for the fun stuff: the Tine sound. OSC 3 has the job of simulatiing the metallic tine being hit by a hammer."

*   *   *

Follow-up time: We've had several calls and letters since our reviews on the initial releases from the K-Muse Sound Composer's Series. The common thread running through the comments is that the sounds in the series are very uneven - some may be great, while others are unusable. Also, after several assurances that "the check is on its way," we still haven't been paid by K-Muse for advertising space received several months ago. (Which in our humble opinion, doesn't seem to be a very bright idea - in addition to being a little shady.) While we still stand by the reviews

of the sounds received, and while trying to avoid any bias caused by the bitter sting of unpaid bills, the upshot of all this is that we feel that we owe it to our readers to mention that a little caution is probably in order if you're going to be dealing with K-Muse.

*   *   *

A recent phone conversation brought up a point - because various reviews have made comparisons between different waveform editors and Sound Lab from Blank Software, some may be getting the impression that Sound Lab may be somehow lacking. This is not the case. Just to clarify: there's a reason it's used as a standard of comparison - it's one of the best.

*   *   *

Coming up - The latest disks coming out of Ensoniq have shown some dramatic improvements. What's going on? A follow-up interview with the wizards at Ensoniq is in the works to answer this question. We're also planning a comparison review of the three waveform editors that are now available for the IBM. We're also putting together a comparison chart for ALL of the editors, some improvements in our own graphics, and, of course, more reviews on sounds, software, and patches. Stay tuned. RC051219

TRANSONIQ-NET

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

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 6pm and 11pm.

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

If YOU'RE interested in being listed on the Net, please give us a call. (503) 245-4763.

HYPERSONIQ
NEW PRODUCT RELEASES

Turtle Beach Softworks announces version 1.2 of "Vision", their Visual Editing System for IBM and compatible computers. The new version includes many enhancements and corrects several bugs that existed in previous versions. New functions include the ability to print the 3D wavesample view, additional MASOS type commands, and many ease-of-use improvements. REGISTERED Vision owners may upgrade by sending their original disk and $5 to: Turtle Beach Softworks, PO Box 5074, York, PA 17402. The new disk and documentation will be returned by first class mail. Next Day Air service is offered for $20. Only registered users can update so send in your card if you haven't yet done so. Working demo disks are available for $10 and ASG type printouts for Ensoniq disks #1-18 for $24.95. RC051219

HACKERPATCH

Turtle Beach ESQ-1 Sound of the Month

This month: The Wurlitzer Electric Piano

Anybody who's been around long enough to remember a time before MIDI will know this characteristic piano sound. The piano had a tone mechanism using reeds and did not sound like a Rhodes at all. For example, listen to any Supertramp album.

In this patch, a square wave (OSC1) is used for the meat of the sound, with a piano (OSC2) blended in to give a hammerlike attack. The Wurlitzer has a distinctive metallic sound on the lower keys and I used a non-pitched bell (OSC3) for this. Since the metal noise gets louder as you move down the keyboard, ENV2 is used to set the volume of the noise. I used the filter to brighten up the sound as keyboard velocity increased. The Wurlitzer has an onboard tremolo unit and stereo tremolo is available on the mod wheel. NOTE: To hear tremolo if using mono, use the right audio out jack instead of the left.

Programmed by Roy Smith

Program Name : WU_PI

Envelopes ------------------------------

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
1	+63	+25	+41	63	00	00	06	07	00	09
2	+63	+48	+10	38	00	00	04	02	53	47
3	+63	+38	+00	00	00	00	00	04	00	00
4	+63	+63	+00	20	00	00	15	40	13	00

Filter -----------------------------------

Freq	Res	Kbd	Mod1	Amt	Mod2	Amt
000	03	33	OFF	+00	VEL	+35

Oscillators -------------------------------

	Oct	Semi	Fine	Wave	Mod1	Amt	Mod2	Amt
1	-1	00	00	SQUARE	OFF	+05	OFF	+00
2	-1	00	00	PIANO	OFF	+05	OFF	+00
3	+1	00	00	BELL	ENV 2	+12	OFF	+53

Split/Layer -------------------------------

S/L	Prog	Layer	Prog	Split	Prog	Key
Off	INT 01	Off	INT 01	Lower	INT 01	60

LFOs --------------------------------------

	Freq	Reset	Human	Wave	L1	Delay	L2	Mod
1	45	Off	On	TRI	00	00	21	OFF
2	63	Off	On	NOI	63	63	63	OFF
3	19	On	Off	TRI	38	19	00	WHEEL

Modes -------------------------------------

Sync	AM	Mono	Glide	VC	Env	Osc	Cyc
Off	Off	Off	00	On	Off	Off	Off

DCAs --------------------------------------

	Level	Output	Mod1	Amt	Mod2	Amt
1	52	On	ENV 1	+26	OFF	+00
2	54	On	OFF	+00	OFF	+00
3	25	On	ENV 2	+31	OFF	+27

	DCA 4	Pan	PanMod	Amt
4	+63	08	LFO 3	+44

Reader Patch - From Vincent Sanchez

This month: Clav1

The sound is built around the Reed waveform, which I find has a lot of versatility. This is a basic clav sound with plenty of room for modification.

I am interested in hearing from other owners of ESQ's and am willing to trade patches and tips on use of the instrument.

Vincent Sanchez, Fig Tree Productions, P.O. Box 1634, Aptos, CA 95001

ESQ'1 PROGRAM SHEET — PROGRAM: CLAV 1

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1								
OSC 2	-1	0	02	REED	ENV 1	05	-	
OSC 3	-1	0	01	REED	LFO 1	05	-	

	LEVEL=	OUTPUT=		MOD#1	DEPTH	MOD#2	DEPTH
DCA 1		On	Off				
DCA 2	40	On	Off	ENV 2	63	-	
DCA 3	55	On	Off	ENV 2	63	-	

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	016	0	12	ENV 2	63	KBD	32

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

	FREQ=	RESET=		HUMAN=		WAV=	L1=	DELAY=	L2=	MOD=
LFO 1	22	On	Off	On	Off	TR1	00	01	17	WHEEL
LFO 2	-	On	Off	On	Off					
LFO 3	-	On	Off	On	Off					

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	00	00	-13	00	00	12	50	00	22	09
ENV 2	63	37	16	00	37	10	14	18	20	09
ENV 3										
ENV 4	63	63	0	0	0	0	11	36	0	0

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

	Split/Layer=		Split/Layer Program	Layer=		Layer Program	Split=	Split Program	Split Key=
Split/ Layer	On	Off		On	Off		Off Lower Upper		

Erick Hailstone & Clark Salisbury Patches

This month: Mystery & Strng2

Strng 2 represents a string-ensemble type sound as opposed to a solo violin. The attack/release characteristics are such that it's like a large ambient space. The Mystery sound takes advantage of the ESQ-1's mini-modulation capabilities to produce a sonic effect that would otherwise require several synthesizers and several sound processors. As with all ESQ-1 patches, touch (velocity) will yield many variations. Experiment!

ESQ'1 PROGRAM SHEET — PROGRAM: STRNG2

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	+1	00	00	SAW	ENV1	-03	LFO3	+03
OSC 2	+1	00	06	SAW	ENV1	+04	LFO2	+03
OSC 3	+1	00	03	SAW	LFO1	+05	LFO1	00

	LEVEL=	OUTPUT=		MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	56	On	Off	ENV1	+63	LFO2	+08
DCA 2	63	On	Off	ENV2	+63	LFO2	+06
DCA 3	63	On	Off	ENV2	+56	LFO2	+05

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	22	00	63	OFF	00	LFO1	00

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	63	08	LFO1	+03

	FREQ=	RESET=		HUMAN=		WAV=	L1=	DELAY=	L2=	MOD=
LFO 1	23	On	Off	On	Off	TR1	12	00	12	OFF
LFO 2	11	On	Off	On	Off	NO1	11	01	11	LFO1
LFO 3	08	On	Off	On	Off	NO1	05	06	15	WHEEL

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV 1	+01	-01	+00	00	00	27	23	28	20	09
ENV 2	+63	+50	+45	00	00	63	50	63	20	09
ENV 3	+63	+10	+41	08	00	08	19	63	44	09
ENV 4	+41	+46	+36	08	20	23	45	45	29	09

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

	Split/Layer=		Split/Layer Program	Layer=		Layer Program	Split=	Split Program	Split Key=
Split/ Layer	On	Off		On	Off		Off Lower Upper		

RC051219

ESQ'1 PROGRAM SHEET — PROGRAM: MYSTERY

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	00	00	00	EL PNO	LFO 1	+01	OFF	00
OSC 2	00	00	00	EL PNO	LFO 1	+05	ENV1	00
OSC 3	-1	07	00	SYNTH1	OFF	+63	OFF	-32

	LEVEL=	OUTPUT=		MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	On	Off	OFF	00	OFF	00
DCA 2	63	On	Off	OFF	+35	OFF	-63
DCA 3	63	On	Off	ENV1	40	OFF	00

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
Filter	27	00	27	ENV3	+63	ENV2	+15

	Final Vol.(ENV 4)	PAN=	PAN MODULATOR	DEPTH
DCA 4	63	10	LFO2	+63

	FREQ=	RESET=		HUMAN=		WAV=	L1=	DELAY=	L2=	MOD=
LFO 1	15	On	Off	On	Off	TR1	25	01	25	WHEEL
LFO 2	12	On	Off	On	Off	TR1	00	31	63	OFF
LFO 3	62	On	Off	On	Off	NO1	56	00	20	OFF

	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	+63	00	13	38	34	41	63	50	09

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

	Split/Layer=		Split/Layer Program	Layer=		Layer Program	Split=	Split Program	Split Key=
Split/ Layer	On	Off		On	Off	STRNG2	Off Lower Upper		

Ensoniq Application Note #3

Sound Diskettes

Sound Composer's Series
K-Muse, Inc.
18653 Ventura Blvd., Suite 359
Tarzana, CA 91356

Sampleware
P.O. Box 162
Demarest, NJ 07627

MWorkso Sound Disks
Postfach 1620
5047 Wesseling
Germany

Visual Editing

Sound Lab
Blank Software
1034 Natoma St.
San Francisco, CA 94103
(415) 863-9224

Vision
Turtle Beach Softworks
1912 Alcott Rd.
York, PA 17402
(717) 741-4872

Synthesist
Northeast Visions
88 Manor Dr.
Glenmont, NY 12077
(518) 439-0015

Sonic Editor
Sonus Corp.
21430 Strathern Suite H
Canoga Park, CA 91304
(818) 702-0992

Sound Designer
Softsynth
Digidesign
920 Commercial St.
Palo Alto, CA 94303
(415) 494-8811

Oasis
Hybrid Arts
11920 W. Olympic Blvd.
Los Angeles, CA 90064
(213) 826-3777

Atari ST Mirage Editor
A.K. Aufpass
Dissenweg 52
2800 Oldenburg
Germany

C-64 Mirage Editors
G.C. Geerdes
Genrichsstrasse 43
1000 Berlin 10

Steinberg Research
BMD 228
2000 Hamburg 26

Special Information

TRANSONIQ HACKER
5047 SW 26th Dr.
Portland, OR 97201
(503) 245-4763

PAN
P.O. Box 162
Skippack, PA 19474
(215) 489-4640-Voice

Mirage Net
On-line signup
(503) 646-2695

Music Net
Box 274
Beekman, NY 12570
On-line (914) 727-4006

All products are trademarked.

MIRAGE DINER

Mirage owners seem to be a hungry bunch. They want more sounds, more information and more software. So welcome to the Mirage Diner . . . Bon appetite!

Original Visual Editing—The dish that started it all. From Ensoniq's own kitchens, the Visual Editing Systems for the Apple IIe/II+ and Commodore 64/128 set the standards for all other editing programs.
Apple IIe/II+ $299.95
Commodore 64/128 .... $149.95

Sound Composer's Series International Casserole—From the world-famous kitchens of K-Muse comes five sets of sounds inspired by the world's music capitals. Each set served in 10 diskettes of 24 programs each.
Set of 10 diskettes $199.00

Sampleware for Seven—Prepared by chefs who have cooked up sounds for some of the greatest names in music, in seven assorted diskette flavors.
Individual diskettes $24.95

Sound Lab Macintosh Nouvelle—A full-course repast for the heartiest programmer's appetite. Specially developed for Apple Macintosh cookware, Sound Lab provides hundreds of appetizing ways to prepare Mirage waveforms and program parameters.
Macintosh software and manual $399.95

Vision à la Turtle Beach—A robust and full-featured sampling and programming dish from Turtle Beach Softworks. Specially created for the IBM PC, XT, AT, Vision lives up to it's name. There's even a 3-D screen for a close look at all the ingredients of the samples.
IBM software and manual $349.95

Sauteed Northeast Synthesist
IBM software and manual $299.00

Sonic Editor with Hot Sonus
Commodore software and manual $175.00

Sound Designer—Digidesign Deli Style
Macintosh software and manual $395.00

Oasis Atari Chef's Salad
Atari 130XE software and manual $187.87

Softsynth Club on Rye—The Dagwood sandwich of digital synthesis software, Softsynth will make your Mirage behave like a 32 oscillator-per-voice digital additive synthesizer.
Software and manual $295.00

Transoniq Hacked Chicken—Stuffed with the freshest Mirage information and seasoned with tasty tips on how to get the most from your Mirage, the TRANSONIQ HACKER is an independent publication aimed specifically at Ensoniq owners.
One year subscription $15.00

PAN-fried Modem—Prepared by the on-line chefs of the Performing Artists Network, PAN gives you access to a vault of Mirage information through your modem-equipped personal computer. Available 24 hours a day.
Membership—Special to Mirage owners $95.00

RC051219

THE INTERFACE

Hi, Hacker!

Getting to know my sexy new ESQ-1 (purchased August 86 with factory installed sequencer expansion) has been like falling in love as a teenager -- a cautious naivete followed by boundless passion. Since all meaningful relationships require some give and take, I'll pass along two observations.

Give. The trashy glitch in the G# below middle C in the factory PIANO1 patch is easily corrected: tune OSC2 up a few cents instead of down an octave then up 11 halfsteps and a short dollar's worth of change.

Take. I trust the boys and girls at Ensoniq designed the architecture to allow easy updates to software -- and I think a bug has already reared its bushy antennae. In attempting to add a track to sequencer memory when it was nearly full, the micro locked up in its "please wait while I jot this down" state and refused to budge until I tried to address a track on any sequence. Whenever my data pointer was on an active track, it was muted until I pointed to another track. The previous track would come back in, but now the new track would be muted. I dumped all data to tape, and it wouldn't reload -- "fatal error, slate cleaned, start again from scratch." A previous dump loaded fine, and the pointer glitch was gone; but, of course, so was about 7 hours of sequence work.

If anyone else has experienced this problem and is aware of its cause or cure, please let me know about it.

P.S. Recommendation: Data entry slider drift is very annoying, especially when a parameter in a complex sound or sequence shifts unnoticed until you've moved the pointer elsewhere. A capacitance or micro switch in the slider handle to activate data entry only with physical contact would be an elegant solution; an on/off or momentary contact switch adjacent to the slider would perhaps be a more reasonable alternative.

Fondly,
Joe Sallenger
Florence, SC 29503

[Ed. - Ensoniq has recently gone to Version 2.0 on the ESQ software. This may take care of the bug you found. We'll have more info on 2.0 in our next issue.]

Dear Sirs,

I am happy with your magazine in general although I'm not happy that you're expanding coverage on the ESQ-1 at the expense of the Mirage! Please put Mr. Salisbury back on the MASOS column. There is a LOT to cover on the Mirage. The ESQ-1 is nice but I subscribed because I want MIRAGE information, not a department on every new product that Ensoniq comes out with.

Thanks for letting me rant and rave a little! Long live the Mirage!

Mike Sedey
Livermore Audio
Oceanport, NJ

[Ed. - Actually, we don't have too much control on Clark. We make suggestions, but he really determines what he wants to write about. This month he's back on MASOS. I'm sure he'll be all over the place on both instruments. The added coverage on the ESQ is partially responsible for our larger page count - we're trying to do MORE on BOTH. We are definitely NOT reducing our coverage on the Mirage. If we can increase our circulation by covering both instruments, then we can afford to do a better job on both of them.]

Dear Hacker;

Recently I had a keyboard player in my studio who wanted to use the acoustic piano on the Mirage (Disk #1) but wanted it an octave higher. Since it is multi-sampled, I turned on Parameter 77, and raised each sample one octave. Needless to say, it sounded quite strange and was the wrong way to do it. The right way is to start with the sample second from the bottom and relocate it as the bottom sample. Continue up the keyboard, relocating each sample to the one below it. Now transpose each sample up one octave and save to disk.

Ian Willson
Oakland, CA

[Ensoniq's response - Actually, the right way to do it is to get sound disk #5 which includes an octave up piano created through resampling, not by transposing only existing samples.] RC051219

Dear Transoniq Hackers,

Mastering the drums after 22 years, I decided to take up keyboards. My first "piano" was the Mirage. This was my chance, I figured, to play and record my music instead of drumming for other people's music.

But I admit freely I am new at this. I would like to lay tracks down -- Drums, Bass, Keyboard, strings, solos, etc. with the Mirage.

My question - problem - is how to go about doing it! If I purchase a sequencer can I overdub tracks like a multi-track tape recorder? Will they play back all at once or do I need an expensive array of keyboards that data can transmit to?

Is the multi-track cassette recorder the only way to overdub different sounds? And then just use the Mirage as my sole instrument, to hear my entire composition? I do not have great dexterity on the keyboard, so a sequencer would help for complex or

fast fingering, but the cost of several more synthesizers is beyond me.

How can I use the Mirage and all of its incredible variety of sounds to compose Music with the orchestration basic to a song and get it played back in its entirety?

By the way, if it hadn't been for the information in the Hacker, I wouldn't even have known what questions to ask! It's like a beacon in the night.

Keep up the indispensable work!

Sincerely,
Bob Bitte
Hanover Park, IL

[Ensoniq's response - The Mirage can only play whatever sounds are loaded into it. For real-time multi-track sequencing, if you need access to a sound that isn't loaded, you're out of luck. The only way to have complex multi-track sequences in real-time is to have a lot of sound generators. If you don't want to add additional sound equipment, the best recommandation is to get a simple sequencer and an inexpensive 4-track tape deck. This will allow you to use the sequencer to improve your music, without limiting the number of sounds you can make at once.]

Dear Hacker:

Can the +12 db noise reduction update for the Mirage be purchased seperately as a unit. I live quite far from any service center and I was wondering if I could install it myself.

Thanks,
Lorrie B. IIustree
Philippines

[Ed. - To get just the noise reduction part of the upgrade is fairly easy - just add a couple of .0047 microfarad capacitors across R67 and R69 (one each). You have to pull out the main board to get to them.]

[Ensoniq's response - Please try to send it to a service center, since unauthorized service of Ensoniq products will void the warranty.]

Dear People,

I am an American but I will be living in England for a couple of years with my husband. I must ask you to advise me about the best way to adapt the ESQ-1 line voltage for use in the U.S. and in England.

Thank you. I will very much appreciate your attention.

Sincerely,
Loretta Gerhardt

[Ensoniq's response - If you intend to return to the USA and keep your ESQ-1 for a long time, we recommend getting the US version (110 v) and using a step-down transformer (220 Vac to 110 Vac @ 500 ma, 60-70

watts) for use in Europe. If you anticipate selling the ESQ-1 before you return from Europe, we vrecommend getting the European version in Europe. Converting between supplies would require replacing the ESQ-1 transformer which is riveted to the case. We do not support such a modification, nor do we know of any technicians who perform this service. It would void your warranty.]

Dear T.H.

First the good.... I enjoy most the MASOS series, Input Sample Filter Fundamentals, Crossfade looping without VES, Magic Sample Rates, Let's Make an Electric Piano (sort of), Copying Current Wavesamples. They are almost all the same - info that should have been included in the Advanced Sampler's Guide... but weren't. I also like Hailstone's Disk Reviews (but disagree with his evaluation of the K-Muse set... many sounds in my set are Out Of Tune). I also read the Interface but I think you should edit out those questions that involve user error as opposed to quirks of the machines or new discoveries. Also there's no need to print all the Kudos for your efforts... we already know the great job you do or we wouldn't subscribe.

Enough of the pats on the back. Now my real beef. Higher price for more pages, that seems reasonable but not for "ESQ Hacker." I don't have an ESQ. I've played one - it's terrific. If I win the lottery, I'll probably buy one. If I don't I'll be happy to subscribe to "ESQ Hacker." I don't really mind the $20.00, it's a bargain, but please fill my page with info on how to get more out of my Mirage. RC051219

Thanks for listening,
Don Boomer
Visalia, CA

P.S. How's about you guys publishing a pull out page of parameters for the factory disks?

[Ed. - Regarding K-Muse disks - lately we've also been hearing that there's a wide variation of quality over the various families and sounds. As mentioned in the initial reviews - we're always open to getting more and different inputs. Want to do a review?

Regarding the letters - although sometimes there definitely is an embarrassment of Kudos I feel very funny about "tampering" with letters (we even printed yours!). If I start messing with the compliments, can you trust us to print the complaints? I would think that the kudos should taper off after people get used to us (maybe your letter will help). I feel much the same way about the questions. No matter what their degree of difficulty/obviousness, it's important to the writer. (And as with sampling, the area between "user error" and "machine quirk" can be very gray).

I do want to ask again and emphasize to everyone: Please keep the letters short.

Regarding $20/ESQ coverage: The increase for $20

came back when we went from 12-16 pages to 20 pages. Now we're up to 24 pages and 28 doesn't look far off. We're really trying to cover more of both instruments. If we can increase our circulation (and ad rates!) by appealing to both sets of owners then we can actually grow in page count without more price increases (we're talking constant dollars here). In magazine biz, the more general the coverage - the cheaper the magazine. We're not going to try to imitate Newsweek (or even Keyboard), but having two of the hottest keyboards coming from the same company and augmenting each other so well - it's hard to resist.]

[Ensoniq's response - Turtle Beach Softworks now makes the Mirage parameters available. (Ed. - see Hypersonic & our classifieds.)]

Dear TH:

I have listened to a number of the K-Muse disks and have found (along with input from musician friends) that they are unusable for stage work. In my opinion, the orchestra hits and sound effects are poor quality. Also the bass and keyboard sounds left me with an unsettled "what did I hear" feeling. Clicks between loops were very noticable and at $100.00 a shot - too expensive. I much prefer Ensoniq's disks.

Jack Loesch
Keyport, NJ

[Ed. - You're not the first - see our comments in RND NOTES.]

Dear T.H.:

I really enjoy your mag. It has provided constant stimulation and answers. However, one question that I don't think has been answered is the following: Can I get the piano and the marimba on "wheels" so that I can go from one to the other using the mix wheel?

As a "real-time" musician I like to switch the sounds of the Mirage during performance. Unfortunately, the system was not designed for smooth changes when you have to go from one track on a disk to another (and worse yet if you have to change disks). I particularly like to get that "Lionel Hampton feeling" by throwing in a marimba/vibes sound in place of the upper half of the piano as a solo. To date I have accomplished this in performance without losing a beat by using a second (organ) keyboard to keep the music going with one hand while I "load upper" from a marimba track on it. After the marimba solo is finished I reverse the procedure (load upper from the piano track) and end up with a complete piano keyboard again. Needless to say (but I'll say it anyway) there is about a 12-15 second time during which the Mirage is "dead," and this can be a real killer when I am playing solo, and it's not handy when I'm playing in a band. It would be really great if I could have the capability of switching the top

half of the keyboard from piano to marimba while maintaining the piano on the lower half without having to go through the load procedure. (A nice split point would be the F above middle C or thereabouts). Is it possible to do this with the mix wheel? I await the answer of the collective Hacker Genius.

Sincerely yours,
Bruce Maccabee
Silver Spring, MD

[Ensoniq's response - You would need to resample both the upper Piano and upper Marimba so they would both fit in upper memory at the same time. As it stands, both the upper Piano and upper Marimba use all of the upper memory bank, so there is no way for both sounds to be in the machine at the same time. This is further complicated by the fact that the Piano is already a mix-mode sound, which plays two different samples on each key.] RC051219

Dear Hacker,

First I'd like to tell you guys that your publication makes the Mirage twice the machine it appears to be. I say this and I don't even own a Mirage! From working with a friend's Mirage, using the ASG I couldn't really get a lot happening...until.. "MASOS for the Masses." Only then did it become apparent what this machine would do, if you are willing to spend the time.

I own an ESQ and really do not care to spend hours sampling with complex routines, buy a computor, software and spend hours....etc. However, I would really like to get some kind of disk storage for ESQ sequences! If Ensoniq would (I know they could) build a sampling drum machine with separate outs, stereo mix, velocity, and DISK DRIVE that would accept ESQ storage, System Exclusive stuff and etc ...Hey!! They'd have some killer product. I'll bet I'm not the only one dreamin' about it! The ESQ is such a great synth-sequencer combination, but not everybody wants to own a Mirage to have disk storage.

Hopefully,
David Bell
Morehead City, NC

[Ensoniq's response - Unfortunately, a stand alone MIDI disk drive is a relatively expensive product. J. L. Cooper already sells such a device and it is in the $800 range. The product you describe would easily cost more than the Mirage rack mount, which is the device of choice for use with the ESQ-1.]

To: Transoniq Hacker

After years of collecting Ensoniq disks, I found it hard to recall all the sounds when I began to arrange my songs. Never have been an original sampler; factory disks were just fine. So I made a list (through Disk #23, Version 3.2, by arbitrarily

dividing the sounds into the following groups: BRASS, KEYBOARDS, PERCUSSION/DRUMS, STRINGED/STRINGS, WIND INSTRUMENTS, and VOCALS.

Feel free to share this list with other users!

IDEA: Those who are just starting may balk at 23 disks at $19.95 each, so I've made a cassette tape of the sounds (using the factory sequences mainly) through Disk 23. If anyone is interested in hearing it (there are some sounds they may not want to buy, so previewing may help their cash flow) have them write to me.

IDEA: Put together all your Disk Reviews from previous issues into one "issue" and sell it for $5. One of the first things I look for each month are these reviews; it's complicated to sort through back issues. If YOU put them all together (not factory disks, but Sampleware and others), it could make you extra money and help subscribers too!

If the code on my label means I was your 15th subscriber, that shows how long I've had the MIRAGE; I was one of the first to take a chance with new technology - songwriter's dream to immediately orchestrate what's already in his head! Also, great for getting studio work assignments!

I'm surprised there are no users' groups here in the Dallas-Ft. Worth area. Any leads? RC051219

Keep up the timely reviews!

ENSONIQ MIRAGE SOUND LIBRARY CATALOG

CLASSIFICATION/SOUND	DISK #
BRASS	
Synth Brass	2, 13
Trombones	3
Trumpets	3, 14
Plucked Brass	9
French Horn	14
Brass Section	8
Orchestral Brass Section	14
KEYBOARD	
Acoustic Piano	1, 5, 18
Electric Piano	5, 8, 13
Clavinet	2, 6, 13
Marimba	5
Clavimba (Clav/Marimba)	9
Xylophone	16
Vibraphone	16
Kalimba	11
Synth Organ	2
Drawbar Organ (B-3)	8, 20
Pipe Organ/Church Organ	12
PERCUSSION/DRUMS	
Drums:	
Bottom Keys (quick) Drums	1
Roknrol Drum pattern	2
Rock Drums (Trap Set)	4
Electronic (Trap Set) Drums	4
Tabla-Bayan-Tamboura Drums	10
Slit Drum	11

Ambient Drums	20
Percussion:	
Latin Percussion ensemble	16
Orchestral Percussion "	4
Orchestral Tone Cluster	18
Cup Gongs, Che Cymbal	14
Fu Yin Gong, Opera Gong	18
Wind Gong, Rack Bell	11
Orchestral Bells	14
Percussive Bottle (blow-top)	9
STRINGED/STRINGS	
Harp Strings, Harp Gliss, Sitar	10
Banjo, Mandolin	23
Rock 5ths/Lead Rock Guitar	6
Nylon String Acoustic Guitar	6
Steel String Acoustic Guitar	23
Fuzz Guitar	1
Synth Guitar	2
Synth Jazz Guitar	13
Slap Bass, Synth Bass	1, 13
Breathy Bass, Chainsawed Bass	9
Electric Bass (5 sounds)	13, 20
String Bass (2 sounds)	3, 13
Solo Cello	14
Cellos (6)	3
Violins (6)	3
Country Fiddle	23
Tympello (Tympani and Cello)	9
High/Low Strings: Bowed	22
High/Low Strings: Pizzacato	22
High/Low Strings: Tremelo	22
Stacked Strings	11
Synth Strings	13
WIND INSTRUMENT SOUNDS	
Sax	3
Alto Sax	19, 20
Tenor Sax	19
Baritone Sax	19
Clarinet, Bass Clarinet	7
Bassoon, Oboe	7
Wooden Flutes	1
Synth Flute	13
Solo Flute	14
Harmonica, Bass Harmonica	10
VOCAL SOUNDS	
Back-up:	
"AH"	21
"BUM/DO"	21
"DOO"	17
"OO/LA"	21
"TAH"	17
Choirs:	
Male Choir	7, 17
Female Choir	7, 17
Spooky Choir	2
Also 23 Synth Sounds (Mod Wheel)	15

David Flack
Dallas, TX

[Ed. - As you probably noticed in the last issue, we

read your mind regarding the sample reviews reprints.
It should be available soon. The code on your label
indicates what the last issue of your subscription
is. (It should say 27 by now.) As far as your list
is concerned, the very first thing we did when we got
your letter was to run a copy and post it by our
Mirage. Thanks!!]

Dear Hackers,

I've been getting tons of mail for more info on my
M.U.G. We have the fastest growing library of Mirage
sounds because we deal with every sampler willing to
trade or sell sounds. We also have had the Mirage
since its birth. Here are some of the particulars
you enjoy as a M.U.G. member:

To trade: send your list of sounds. We trade disk
for disk. Use only new name brand disks. Include
program variations and sequences (even your own).

To purchase: Only $12 per disk. We also have
special monthly incentives. Enlist 2 paid members
receive 1 free disk. We also sell blanks at special
rates to members. M.U.G. members also get special
deals with participating companies. Dealer inquires
are welcome.

I will refer members to other members with questions
and similar equipment to learn new information.

The main purpose of M.U.G. is to acquire and
distribute sounds. Whatever your sound needs are
M.U.G. can help. This is the largest club of its
kind and is growing daily. Hope to hear from you
soon.

Sincerely,
Gordon G. G. Gebert
Mirage Users Group
G-4 Productions
622 Odell Ave.
Yonkers, N.Y. 10710

Dear T.H.:

For brevity:

1. I'm a new Mirage owner (1 month) - absolutely
enchanted with it, but much to learn about copying
(sampling) some of the fabulous sounds I hear with
these rock groups.

2. Hasn't ANYBODY thought about putting all the
instructions (with close-up demos of examples) of the
Musician's Manual and the ASG on video tape? Surely
there are some hackers that could get some pros
together with a few cameras and knock it out. I
personally cannot, because of my eye problems, read
close up for long periods and am really struggling
with all these new concepts and jargon. Zenith is
putting such a video cassette in each of their new
VCRs and I wrote a letter of praise to them for it.

3. If anyone DOES go into making such a Video, a few

suggestions:

    A. Keep the damn price down! There's no need
to hire high priced people to make a Hollywood
production. This should be "among us" and not as a
hog-killing promotional side business. All we want
is the cake (info), not a lot of icing (frills and
enhancements).

    B. Follow the manuals, but also use any
additional helps in the T.H., moving in chapters from
simple into more complex steps, with a blackboard
always in view showing brief explanations of words
you guys think we all know such as MIDI, "rack,"
patches", and on and on. I've picked up some of
them, but in an instructional tape don't assume
everybody knows all these special words until you've
repeated them (with explanation) several times.

    C. After you (collectively) think you've got it
complete, but before you run multiple copies, send it
to some dumb novice like myself to see if any thing
could've been done better or more clearly. Then GO
FOR IT.

Maybe it owuld be so good Ensoniq could arrange to
include one with each new Mirage. Wow!

4. Looking for Mirage users in St.
Petersburg-Clearwater-Largo (Fla) area. Anybody
there? Tampa is a bit too far for me. RC051219

Keep on truckin',
Dan Manning
St Petersburg, FL

[Ensoniq's response - If anyone does make such a
video tape, please let us know.]

Dear TH,

What a great magazine! To all your readers who own a
Mirage and an Amiga computer; take heart, you are not
alone. We have been using the two together via
Mimetics MIDI interface with Activision's Music
Studio and Mimetics Soundscape/Pro Midi Studio and
we're encouraged with our success.

We recently assisted with a "sound Spectacular" for
the Calgary Commodore Users Group in which we used
the above equipment plus a Roland keyboard and Roland
Drum Machine.

We are still experiencing difficulties doing sound
and program changes with Music Studio. If anyone has
the answer, we would appreciate hearing from them.

L. Sillito
4917 Rundlewood Rd NE
Calgary, Alta., Canada T1Y 1B5

Dear TH:

This letter is to express my concern about the lack
of articles related to the ESQ-1. I joined the

newsletter, not for the Mirage articles, but for the ESQ-1 coverage. The first patch for the harmonica was not so great. In Issue #11 the patch for the Fender Rhodes was very nice but there was no ESQ-1 article. There are always losts of articles on the Mirage. Please start providing the ESQ-1 owners with articles. We would appreciate it.

Thanks,
C.P. Anson
Kirkland, WA

[Ed. - The ESQ coverage is about in the same place that the Mirage coverage was when we first started out covering it. If history repeats itself, we should see plenty of growth over the coming months. Of course, the only way for this to happen is for ESQ owners to START SENDING IN ARTICLES! We're getting more and more ESQ owners subscribing - I know some of them can write. Come on guys! - I can hear you breathing.]

Dear Hacker:

Your publication is great and I really look forward to it every month. I own the newer version of the Mirage (ie, the weighted keyboard).

I have a bit of concern about where the future is headed for the Mirage. So far, Ensoniq hasn't come up with any real major upgrades for the Mirage available to the current user. Yes, Ensoniq does offer upgrades for the older Mirages to improve S/N by 12db and the Input Sampling Filter. And yes, these improvements really do help the sampling on the Mirage. But for quite some time now, Ensoniq seems to be producing nothing new for the Mirage (except sound disks).

To quote from the ASG on pg. 69, "Ensoniq is committed to developing and enchancing the Mirage system into the most powerful and affordable digital music system ever offered - stay tuned for further developments!" This statement (which I read from my friends ASG before I purchased my own Mirage) was a major reason why I purchased the Mirage. Why? Because it seemed Ensoniq was truly committed to expanding the potential of the Mirage. Am I incorrect? So when are Mirage owners going to experience these "further developments?" Is Ensoniq putting the Mirage on the "back burner" for good because of the ESQ-1's success?

What the Mirage needs badly is more sampling time (memory). The question is simply this; is Ensoniq going to offer a memory upgrade for the Mirage? Is 512k too much to ask for? If so, when? I know it's possible that a private company will come up with an upgrade (like that company in B.C. Canada who wanted to hear feedback from users; seems like an uncomfortably long wait so far), but I am really interested in what Ensoniq is going to do, if anything.

Another upgrade I would like to see from Ensoniq for the Mirage is an upgrade from 8 voices to 16 voices.

I think Mirage owners have been waiting an uncomfortable length of time for Ensoniq to follow their own words, "committed to developing and enchancing the Mirage system into the most powerful and affordable digital music system ever offered." Perhaps Ensoniq is not so "committed" to future developments for the Mirage after all.

Very truly yours,
Stephen Kranick
Loudonville, NY

[Ensoniq's response - Unfortunately, you misunderstood the emphasis of the quote from the ASG. We never intended to give the impression that Mirage developments would be centered around hardware modifications. The Mirage, like most musical instruments, is a finished product. We don't intend to make any major hardware modifications as the architecture is locked in and, with over 20,000 units sold worldwide, well accepted. The quote you mentioned referred to enhancements in operating system software, (MIDI, for example) the development of various sampling tools, (the ISF, all of the available Visual Editors), a growing sound disk library, and support of outside developers such as Blank Software, K-Muse, etc. and support of the Transoniq Hacker. No other sampler on the market has as much support as the Mirage.] _{RC051219}

***** [Ed. - The following letters were sent directly to Ensoniq.] *****

To Ensoniq:

I am interested in feeding Program Dump data from cassette to an Apple II computer via its tape input. First of all, is it technically feasible to have the Apple read the tape format of the dump? I have tried it and get a string of hex digits that don't match the program dump format specified in the manual in section 2.2.2 One of the applications I would like to create is a program librarian to manage and document my programs.

Sincerely,
Terry Wysocki
Covina, CA

[Ensoniq's response - Although the signal on the tape can be detected by the Apple, the tape formats (ie, how the data is encoded) are totally different. It may be possible to write a program for the Apple (in machine language) which could re-interpret the data, but we have no available developer documentation on the ESQ-1 tape format. The time and effort to document this for outside users is prohibitive.

A better choice would be to get a MIDI card for the Apple II. The documentation for sending data over MIDI is detailed in the ESQ-1 manual so it would be fairly easy to write a program for the Apple and the data transfer would be much faster than tape.]

DATED MATERIAL - TIME VALUE

REQUESTED MATERIAL - PLEASE FORWARD

To Ensoniq:

I am a pleased owner of the Mirage and a software
developer for Commodore 64. I would like to write
some software that will allow Mirage users to edit
the internal sequencer's memory via MIDI. Is this
possible? Can it be altered via MIDI? I know many
Mirage users who wish they could alter the sequence.
When entering a sequence who doesn't make a mistake?
If any information is available about the Mirage's
internal organs please let me know.

Rod Magnuson
Lincoln, NE

[Ensoniq's response - No, the sequencer is a
completely internal function. The sequencer data is
not available over MIDI. Most serious sequencer
users create their sequences on more powerful
sequencers. If they already have a C64 with a MIDI
interface, they have access to a large number of
inexpensive sequencer programs which are far more
powerful than the Mirage sequencer. Once sequences
are created, they can be played into the Mirage
sequencer and then stored onto Mirage disks.]

To Ensoniq:

Please let me know the format of the Mirage sound
diskettes. In particular I need to know the location
of the waveform data and whether or not there are
parity bits or switches somewhere on the Mirage sound
diskettes which must be reset whenever the waveform
data is changed. A description of all the other data
would also be useful. RC051219

Ultimately, my goal is to be able to:
1) Load a sound diskette into the IBM Convertible
2) Edit the sound diskette
3) Remove the sound diskette from the IBM
4) Load the sound diskette into the Mirage
5) Play music

Sincerely,
John Cierniakoski
Wilkes Barre, PA

[Ensoniq's response - We don't have time or resources
to document the disk format for the outside users.
The format is IBM 3840 compatible, but the format,
directory, etc are totally different. The best thing
to do is transfer the data over MIDI to the IBM (say
with Vision). The MIDI data dump protocol is already
documented in the ASG. I have sent this letter to
the Transoniq Hacker newsletter and perhaps some
other reader can help you out.]