

# TransonIQ Hacker

*The Independent Ensoniq Mirage User's Newsletter*

## NOTE CRUNCHING

### LOOPS

By Clark Salisbury

Alright, let's talk loops. Those dirty, rotten, unpredictable gremlins that never seem to act the way they should and seem always bent on ruining our hard-won samples.

Every sampling machine loops. Every one of them. And looping can be the hardest of all operations to perform when creating a usable sample.

Fortunately, understanding looping isn't very hard. Making it work, well - that can be tricky. But I'm going to do my best to help you out here. And believe it or not, some kinds of looping are so easy that once you know the trick you'll fall to your knees and thank your sundry gods for shining the light of understanding on your door. But to really understand looping, you need to really understand sampling. And to really understand sampling, well...

### WELCOME TO BASIC SOUND THEORY 101.

Here's where we get down to the nitty-gritty, or, "What is this thing called sound?"

It's easy, really. Sound is simply a fluctuation in air pressure, and it has both a negative and a positive component. When you hit a drum head, the drum head is first pushed away from you, creating a negative air pressure (think of it as sucking, if you like). Almost immediately the drum head will snap back toward you, creating a positive air pressure. The drum head will repeat this backward and forward motion a number of times quite rapidly, (we would perceive it as vibrating), and this creates a pattern of positive and negative changes in the surrounding air. This we can call a waveform, the form that the "waves" (changes in air pressure) take in the air. One swing of the drum head from "zero" (at rest) to fully negative, back to zero, then to fully positive and finally back to zero is called one "cycle." With pitched instruments (like guitar) the number of cycles that are completed in one second is called the sound's "frequency", and this is what determines a sound's pitch. A guitar string which completes 440 cycles in one second is said to have a pitch of "A." If we double the frequency we perceive a pitch change of one octave. At 880 cycles-per-second, our guitar will sound an "A" one octave higher than at 440.

In the acoustic world, of course, the air pressure fluctuations create sympathetic vibrations in our eardrums, which are then handily converted to electro-chemical impulses and interpreted by the brain as sound. But how do we convert them to samples? Well, in theory it's pretty simple. First we change the air pressure fluctuations to voltages with some sort of transducer, usually a microphone. The air pressure vibrations strike the diaphragm of the microphone (an analog of our eardrum) and the vibration of diaphragm is electro-magnetically converted to positive and negative voltages which are analogous to the original positive/negative air pressure fluctuations. So far so good.

Now we connect a sampling machine to the other end of our microphone. The sampler periodically measures the voltage present at the output of our microphone. If the output of the microphone happens to be positive when a measurement (sample) is taken, the sampler assigns it a positive number; and the greater the initial air pressure on the microphone's diaphragm, the greater its corresponding output voltage, and the higher the number the sampler will assign it. Similarly, the negative voltages are assigned negative numbers within our sampler. The range of available numbers within the Mirage, by the way, is from -127 to 128.

Now when dealing with sounds that have frequencies in the audio range (and most people can hear sounds with frequencies as low as 20 times per second and as high as 20,000 times per second) our sampling machine must be able to sample very quickly to accurately represent these sounds in terms of numbers. The Mirage has a maximum sampling rate of about 33,000 times per second (usually abbreviated to 33k times per second, or 33 kHz, or more simply, 33 kHz). This sample rate is expandable to about 50 kHz with the optional Input Sampling Filter. This means that for a one-second sound, the Mirage will take as many as 33,000 samples. That's a lot of numbers to store in memory! The Mirage, however, has 65,563 bytes of memory allocated for each keyboard half (upper and lower) in which to store samples. One byte gets one sample, so we can see that for a two-second sound we can have sample rates as high as 32,768 kHz (65,563 bytes/2). By slowing down the rate at which the Mirage samples, we can buy more sampling time, but there's a tradeoff. Lower sampling times yield lower frequency response. This is due in part to a phenomenon unique to sampling called aliasing, and the problem here is that we need at least two samples to accurately represent one cycle of a sound's

waveform. This means that to sample a sound that contains frequencies in the 15 kHz range, we need to take at least 30,000 samples per second. With a 30 kHz sample rate, we can say that our sampler's frequency response is 15 kHz (commonly known as the Nyquist frequency). So if we want nice, clean samples with plenty of high frequency response, we try to take as short a sample as possible at the highest sample rate, and then loop the sample to get it to sustain.

Still with me? Of course you are, you devils, you. There's just one more thing we need to get straight before we actually start getting into the nuts and bolts stuff about looping. And that is how the Mirage organizes its sample memory. Fortunately, it's very simple.

We can think of the memory for one keyboard half of the Mirage as a single strip of 65,536 bytes. This strip is further divided into 256 pages, each of which is 256 bytes long (256 x 256 = 65,536). When the Mirage samples, the sample will go into one or more of these pages (depending on what the Wavesample Start [60] and the Wavesample End [61] parameters are set to). What we are going to try to do is make a sample, and loop a one-page (256 byte) section of it. This is called a short loop (and you thought short loops was some new kind of breakfast food, didn't you?).

First, load the MASOS disk, Program #1. If you don't have MASOS yet, load any sustaining type of sound you have into the lower keyboard half of the Mirage, hopefully a single-sampled sound. If you don't know how to tell if the sound is single-sampled or not, check out my article on "Keyboard Splitting And The Mirage" from the August (it was August, wasn't it Eric?) [Ed. - Issue Number 3] issue of the Hacker. If you don't have a sustaining sound to load into the Mirage, load Sound Disk #2 (the one with all the synth sounds), start with Lower Program #1 (tubular bells) and set Parameter 54 (Release) to about 0.5, and Parameter 53 (Sustain) to 3.1. Now we're ready to roll.

First, set Multisampling [77] on. If Multisampling is off, the Mirage will reset to its default parameters everytime we do a new sample, which isn't what we want. Turn the Looping Function [65] on - yes, looping can be activated before you do any sampling. Set the Sample Time [73] to 35 (more on this in a moment). Now we're ready to do a sample. I suggest sampling your own voice for right now. Plug in a mic, and make a sample. Now play the 'A' key, first one up from the bottom. If the note doesn't play back at the same pitch that you originally sampled, adjust the Coarse Tune [67] and/or Fine Tune [68] until it does. Now go ahead and make another sample, and when you play it back, hold the key down until you hear the pitch change (if the pitch doesn't change, sample a different note from the one you just did. Don't worry, I know what I'm doing).

That new pitch that your sample jumps up or down to is actually our one-page loop, right at the end of the sound, and what's happening is that the loop is so short and is repeating so fast that we are hearing

the pitch of the frequency at which the loop is repeating rather than the frequency of our sample. You see, when we set our Sample Time [73] to 35, we were also setting our sample rate to 28,571 kHz. This means that in one second, our single page can play 28,571/128 times, or about 223 times per second. It just so happens that the frequency of the note 'A' comes in multiples of 55 (110, 220, 440, etc.), so we can see that the frequency of our one-page loop is slightly sharp of 'A' (check it with a tuner if you don't believe me). Now for the fun.

Listen to your sample, and pay attention to the pitch of the sample after the loop kicks in. Memorize the pitch of the loop, then do another sample, but this time sing as closely as possible to the pitch of the loop. It may take a few tries, but when you finally hit the pitch right and play your sample back, the sample should move undetectably into the loop without popping or glitching. The only hint that a loop is present is that the pitch of the sample should become rock stable after the loop point. Got it? Great. Now let's have some fun.

Set Parameter [34] (Osc Mix) to about 3.1 or so, so that both oscillators are at about equal volume. Add some chorusing by setting Parameter [33] (Osc Detune) to about 1.0. Now add some spaciousness by setting [54] (Release) to about 2.2 or so, and mellow the attack a bit by setting [50] to, say, 1.5. Awesome.

Now the bad news. This technique only works for some loops, namely single waveform loops. The reason is this. When you try to loop a sound containing multiple waveforms (such as a string section or vocal choir) it is very difficult, if not impossible, to get all the different waveforms to line up exactly within the boundaries of one page. If they did, then it would only be because they were all playing at exactly the same pitch. If they were doing that, then they wouldn't sound as rich and chorusing as we would want. You can, however, add chorusing to a single waveform sound after the fact, as we did in the previous example. But some sounds just will not work with single-page loops. For those sounds, looping will require nothing more than patience - sometimes a great deal of patience. By the way, if you plan on short-looping low-frequency sounds, like bass guitar, you may need to go to two or four-page loops to get the loop playback frequency low enough. But don't use an odd number (3,7, etc.) of pages; for some mystical reason the Mirage doesn't like them.

Anyway, to recap for single-page loops: set sample time so that it will yield a sample rate which, when divided by 128, is closest to the frequency of the sample you are trying to capture (see chart). Sample a note. Use the Coarse and Fine Tune Parameters [67 and 68] to tune your sample appropriately for the keyboard area into which it's going. Resample, with the Loop Switch turned on (it will automatically default to setting a single-page loop at the end of your sample). Re-tune the instrument (or whatever) you are sampling so that it matches the pitch that the loop plays back at. Keep sampling and re-tuning until your sample drops into the loop without popping or glitching. Save your sample. Run an ad in the Hacker to sell your sample. Make gobs of money and

become a god of sampling. Retire to a villa in the Bahamas with an elegant but understated guest house for me to stay in when I come to visit. Eat lots of vegetables.

Anyway, that's about it for this time out. I'd just like to thank Ensoniq for allowing me to use their Sample Rates Chart from the MASOS manual.

#### SAMPLE RATES FOR EQUI-TEMPERED PITCHES

Note Name	Freq	Freq*128	Sample Time	Sample Rate	Nyquist
a	110	14080	71	14084	7042
b flat	117	14917	67	14925	7462
b	123	15804	63	15873	7936
c	131	16744	60	16666	8333
c sharp	139	17739	56	17857	8928
d	147	18794	53	18867	9433
e flat	156	19912	50	20000	10000
e	165	21096	47	21276	10638
f	175	22350	45	22222	11111
f sharp	185	23679	42	23809	11904
g	196	25087	40	25000	12500
g sharp	208	26579	38	26315	13157
a	220	28160	35	28571	14285
b flat	233	29834	34	29411	14705
b	247	31608	32	31250	15625
c	262	33488	30	33333	16666
c sharp	277	35479	28	35714	17857
d	294	37589	27	37037	18518
e flat	311	39824	25	40000	20000
e	330	42191	24	41666	20833
f	349	44700	22	45454	22727
f sharp	370	47358	21	47619	23809
g	392	50174	20	50000	25000

Clark Salisbury is Product Specialist with Portland Music Co. in Oregon, and is also a partner in "The Midi Connection," a Portland-based consulting firm. He has been actively involved in the composition, performing, and recording of electronic music for over five years, and is currently involved in producing and marketing his own pop-oriented compositions.

# CLASSIFIEDS

## USER GROUPS

M.U.S.E. - Mirage User Group for Elmhurst, IL area. 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.

## SAMPLES

Dallas Area Samplers - please contact Arthur Cronos re swapping samples. Also have DX7 with mucho voices. (214) 980-1000.

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, Manhattan Beach, CA 90266.

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# THE MIDI CONNECTION

Erick Hailstone

Hi, everybody. Here we are again to explore the world of M.I.D.I. In previous articles we have talked a bit about sequencers and drum machines. There are several other devices that can be controlled by M.I.D.I. Not all of these are musical, per se.

There are a variety of controllers now with several different duties. Yamaha and Roland both make master keyboard controllers, both having weighted piano-like actions to satisfy those of you who prefer this touch. They also can send information over all sixteen channels. You can address two keyboards at once by assigning a split point and have one MIDI channel assigned upper and one assigned lower. These

can be layered on top of each other as well. Several others are available with organ-like keyboards with many of the same functions. Mobile units exist with the same type features that are light-weight, battery powered, and can be strapped on like a guitar. All the pitch bend and modulation controls are where you can easily reach them.

Now, let's look at some controllers that don't have keyboards. Last year Roland introduced the first MIDI guitar controller, a two-piece system consisting of the guitar and a sequence controller. So I connected up to the Mirage via MIDI, being curious and a guitarist and having played the Roland system before. Playing guitar and hearing synthesizer



sounds is quite amazing but playing connected to the Mirage is just startling! Hearing acoustic sounds like piano and trumpet from the fretboard, wow!!!

This past year at least half a dozen different manufacturers have come out with MIDI controllers. Most of them use the Roland electronics installed in their guitars. By the way, Roland now has a MIDI bass controller. Octave-Plateau has a guitar controller with their own electronics - quite innovative, probably quite expensive as well. Cherry Lane has come out with a guitar system whose electronics is equally unique. They use the same system for a device called the Pitch Finder. Its signal source comes from a microphone and is converted to MIDI data. This opens the door for horn players as well as singers to trigger synthesizers like the Mirage as well as any other MIDI devices. The other new MIDI controllers are percussive pads. These are mainly for triggering drum machines but can also trigger keyboards.

A lot of signal processing gear is coming under MIDI control. Several new digital delays were introduced at the recent NAMM show. The least expensive at \$695. Most of these have several presets (10 - 64). The device is assigned a MIDI channel number and the presets respond to the electronic equivalent of keys on a keyboard. Presets can be all types of echo as well as chorus and flanging. One device can use its memory to sample. Cute, huh? Digital reverbs that work the same way should be in your local store by now. All of the MIDI digital reverbs I have heard so far sound superb. Akai introduced three products that are signal processors but innovative because they work only with MIDI devices. The first is a MIDI arpeggiator - a sequencer dedicated to a specific task, creating arpeggios. Second is a dynamics controller which works with touch-sensitive keyboards. It will control four MIDI synthesizers at once and allows you to mix their levels. The third device is a MIDI digital delay, which allows you to perform delay effects by interrupting the MIDI data and either sending it back to the original keyboard or to other keyboards. The signal comes back so fast you can set it for octaves as well as actual delays. Because you're triggering the keyboard again the frequency response is perfect, compared to the way a conventional delay works. What else you ask? Mixing boards. That's right - with these devices you can do a mix down and store it via MIDI. You get similar results to the big expensive computer-assisted boards in studios. Along the same line, J. L. Cooper has a light controller for stage lights. If you have a song sequenced, while listening to it being played back you mix the lights and store the information on a MIDI channel. The end result is an automated light system that is always in sync with your music.

Back to the guitar for a moment. Peavy introduced an amp which stores ten presets which are made using front-panel equalization and distortion controls. So now the guitars can preprogram changes from preset to preset into any MIDI sequencer.

You know 16 channels seems like a lot but look at this possible system.

## SEQUENCER

1. Arpeggiator
2. Dynamics Controller
3. MIDI Delay
4. Digital Delay
5. Stage Light Controller
6. Mixing Console
7. Digital Reverb
8. Drum Machine
9. Mirage
10. Synth
11. Synth
12. Guitar Synth
13. Guitar Amp
14. Microphone (horn/voice)

Let's save the last 2 channels for a MIDI-controllable graphic E.Q. and a compressor/limiter.

You know a one-man band can be pretty spectacular with this kind of horsepower. This stuff also represents the future for recording companies.

Last, but not least, software.

There is now music software out for every popular home computer. The first to appear were sequencer programs. The new ones kept getting better and better, some of them printing your sequence in musical notation. Of special note is the Ensoniq Visual Editing System for the Mirage. This runs on the Apple IIe with an 80-column card and along with MASOS and the new input filter will greatly enhance the Mirage's capability. (Of course, there'll be more on this particular piece of software in future issues.)

Patch librarians and editing programs are showing up for practically every MIDI synthesizer. Along these lines are System Exclusive programs. These allow you to store the manufacturers' system exclusive information. You can store data for several MIDI devices in one file, recall the file and load all the devices virtually at once. Be careful when buying one of these programs because they won't work with everything. Sample data requires so much more memory than most conventional synthesizers that I won't be surprised if this puts the Mirage out of reach of this type software.

Last but not least is software that allows you to set up delays and arpeggios; the same features as the units I mentioned earlier manufactured by AKAI.

Well, that about covers it for now. About every musical device I could imagine exists now and reasonably-priced products like the Mirage are putting these devices in all our grasps.

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.

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ENSONIQ PARAMETER LIST - BY NORTHERN LITES AND SOUND STUDIOS

\* - INDICATES MASOS ONLY  
 \*\* - INDICATES EXTERNAL INPUT SAMPLING FILTER ONLY

NOTE : PARAMETERS THAT DO NOT HAVE A REF. PAGE # CAN BE FOUND ON PAGES 26-31 IN THE RED MUSICIAN'S MANUAL.

PARAMETER #	PARAMETER NAME	RANGE	PAGE #	PARAMETER #	PARAMETER NAME	RANGE	PAGE #
10	none todate			40	FILTER ATTACK	00-31	
11	SAVE LOWER KBD. SOUND			41	FILTER PEAK	00-31	
12	SAVE UPPER KBD. SOUND			42	FILTER DECAY	00-31	
13	SAVE BOTH KBD. SOUNDS			43	FILTER SUSTAIN	00-31	
14	SAVE CONFIG. PARAMS			44	FILTER RELEASE	00-31	
15	COPY PROGRAM TO LOWER			45	FILTER ATTACK VEL. SENS.	00-31	
16	COPY PROGRAM TO UPPER			46	FILTER PEAK-VEL. SENS.	00-31	
19	none todate			47	FILTER DECAY-KBD. SCALED	00-31	
				48	FILTER SUSTAIN-VEL. SENS.	00-31	
				49	FILTER RELEASE-VEL. SENS.	00-31	
20	none todate			50	AMPLITUDE ATTACK	00-31	
21	MASTER TUNE	00-99		51	AMPLITUDE PEAK	00-31	
22	PITCH BEND RANGE	00-12		52	AMPLITUDE DECAY	00-31	
23	KBD. VEL. SENS.	00-63		53	AMPLITUDE SUSTAIN	00-31	
24	KBD. BALANCE	00-63		54	AMPLITUDE RELEASE	00-31	
25	UPPER/LOWER PROG. LINK	ON/OFF		55	AMPL. ATTACK-VEL. SENS.	00-31	
26	WAVESAMPLE SELECT	1-8		56	AMPL. PEAK-VEL. SENS.	00-31	
27	INITIAL WAVESAMPLE	01-08	13-14	57	AMPL. DECAY-KBD. SCALED	00-31	
28	MIX MODE	ON/OFF	10,13-14	58	AMPL. SUSTAIN-VEL. SENS.	00-31	
29	MONO MODE	ON/OFF		59	AMPL. RELEASE-VEL. SENS.	00-31	
30	none todate			60	WAVESAMPLE START	00-FF	17
31	LFO FREQ.	00-99		61	WAVESAMPLE END	00-FF	17
32	LFO DEPTH	00-99		62	LOOP START	00-FF	18
33	OSC. 2 DETUNE	00-99	10	63	LOOP END	00-FF	18
34	OSC. MIX	00-63	10-11	64	LOOP END FINE ADJ.	00-FF	18
35	OSC. MIX-VEL. SENS.	00-31	10-11	65	LOOP SWITCH	ON/OFF	18
36	FILTER CUTOFF FREQ.	00-99		66	WAVESAMPLE ROTATE	00-FF	24
37	FILTER RESONANCE	00-40		67	RELATIVE TUNING-COARSE	00-07	19
38	FILTER KBD. TRACKING	00-04		68	RELATIVE TUNING-FINE	00-FF	19
39	none todate			69	RELATIVE AMPLITUDE	00-63	20
				70	RELATIVE FILTER FREQ.	00-99	20
				71	MAX. FILTER FREQ.	00-99	20
				72	TOP KEY	01-61	12
				73	SAMPLE TIME ADJ.	30-99	22
				74	INPUT FILTER FREQ.	00-99	22
				75	LINE(ON)/MIKE(OFF)	ON/OFF	23
				76	SAMPLING THRESHOLD	00-63	23
				77	USER MULTISAMPLING	ON/OFF	23
				78	none todate		
				79	none todate		
				80	none todate		
				81	MIDI OMNI MODE	ON/OFF	
				82	MIDI CHANNEL SELECT	01-16	
				83	MIDI THRU MODE	ON/OFF	
				84	MIDI CONTROLLER ENABLE	ON/OFF	
				85	EXT. SEQ. CLOCK	ON/OFF	
				86	EXT. CLOCK JACK SELECT	ON/OFF	
				87	INTERNAL CLOCK RATE	00-99	
				88	SEQ. LOOP SWITCH	ON/OFF	
				89	SEQ. FT. SW./SUS. PEDAL	ON/OFF	
				90	none todate		
				91	EXT.COMP.PORT ENABLE	ON/OFF	
				92	SER.PORT BAUD RATE SW.	ON/OFF	
				93	none todate		
				94	none todate		
				95	none todate		
				96	none todate		
				97	SOFTWARE VERSION NUMBER	00-99	
				98	DISK ERROR CODE	01-08	
				99	DISK CONTRL STATUS CODE		
				---	MASOS FUNCTIONS		77-81
				17*	COPY WAVESAMPLE TO LOWER		26
				18*	COPY WAVESAMPLE TO UPPER		26
				19*	ROT. CUR. WSAMPLE LEFT		25
				20*	ROT. CUR. WSAMPLE RIGHT		25
				85*	SOURCE START-PAGE #	00-	80
				86*	SOURCE START-SAMPLE #	00-	80
				87*	SOURCE END-PAGE #	01-	80
				88*	SOURCE END-SAMPLE #	FF-	80
				89*	DESTIN. START-PAGE #	00-	80
				90*	DESTIN. START-SAMPLE #	00-	80
				93**	EXT.INPUT FILTER FREQ.		79
				94*	DESTIN. BANK SELECT	L0-	80
				95*	SCALE FUNCT. STRT FACTOR	00-	80
				96*	SCALE FUNCT. END FACTOR	FF-	80

# MIRAGE DISK FORMATTER

Mirage owners no longer need to buy expensive pre-formatted disks. Let your Mirage format inexpensive 3 1/2" blank diskettes for your sound and sequence storage. This program will quickly pay for itself. Included is a back-up utility allowing you to copy any Mirage operating system from one disk to another. Send \$39.95 for the TRITON DISK UTILITY.

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RND(♪)

Ensoniq has provided us with an exclusive channel to their engineering department for answering technical questions. Normally, companies build a "protective buffer" around their engineers so they can spend their time engineering - instead of answering the phone all day. If Ensoniq's "protective buffer" (usually Steve Coscia) can't answer your questions, he'll usually refer you to us. Sometimes we can help over the phone, but usually the best way to deal with us is to PLEASE send your question in writing. We'll try to answer it or find someone who can. We realize that many of you need answers a lot faster than this process can provide. To that end, we'd like to try the following (drum sample Maestro):

#### MIRAGE-NET

See your name in REAL print. Fame & fortune. Get interesting phone calls. Volunteer to be listed as an "expert" in one or more of the following areas:

- Sampling
- Sequencing
- Operating System(s)
- MIDI Connections
- Hardware
- Computer Interfacing
- Other (you tell us)

Actually, (no foolin' now), we 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, and your time zone. Give us a call. (503) 245-4763.

\* \* \*

Since Ensoniq updated their operating system to Version 2.4, the handy Parameter Chart supplied by Dick Lord and published in the last issue should have the range of Parameter 22 changed from 0-34 to 0-12. Ensoniq also states that the new, full-octave range on the pitch bender allows it to track the DX-7, and that some bugs causing missing notes on the sequencer have also been fixed.

\* \* \*

Still in the rumor stage - Somebody out there is supposedly working on a VES that will run on a Commodore 64. We'll have more info as it becomes available.

\* \* \*

Ensoniq is putting on some displays and seminars in the Hollywood area in early November. If this gets to you on time, call Bob Wehrman at (408) 338-9351 for details.

\* \* \*

Another rumor - Under development by an independent party: a handy way to replace the 64k RAM chips in the Mirage with 256k chips and add a "bank select" switch so you can load 4 times as many sounds and then instantly select among them.

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## SUBTONIC

CONFESSIONS OF A TECNO-WIDOW

By Sonya Kazen

Computer terminal. The end of conjugal life as we know it. No cure for the hacker.

Symptoms appear with the onset of a synthesizer, spread to a drum machine and a sequencer, advance in the late stages to a complete computer-linked home studio. ENTER computer/DELETE spouse.

No weekly Monday Night Football or Solid Gold dancers vie for his attention. He's interfacing nightly - fingers on keypad, eyes on monitor, mind on MIDI.

He speaks machine language, samples your voice in split-second allotments only. Bytes like "dishes," "mother-in-law," or "why don't we" are relegated to an endless loop in a closed circuit ...your requests are just noise generators in his new program. Up the ramp wave with you.

Social interaction? His idea is a user-group modem transfer. Think synchronized pulse-width modulation sounds sexy? Think again. How about getting away for a family vacation to beautiful Silicon Valley, or maybe exciting Digicon? No oscillating about it. Your disk has been filed.

A forgotten pre-teen vow of poverty and chastity taken while watching "The Nun's Story" on t.v. comes back to haunt you. \$2.97 folding chairs and empty equipment cartons serve as living room furniture. \$2,970 synthesizers decorate the studio. Sex? You're not the one being "booted up." Imagine snuggling up together to watch a late night database.

No routine "Good Night." Just an EXIT command... b-l-e-e-p... and system's down. He's fast asleep with visions of schematics dancing through his head.

Sonya Kazen is a Portland-based singer/songwriter who is currently undergoing treatment for acute technophobia.

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## BACK ISSUES

Back issues are available for \$1 each. Some back issues are no longer available in their original printed form and a photocopy will be substituted.

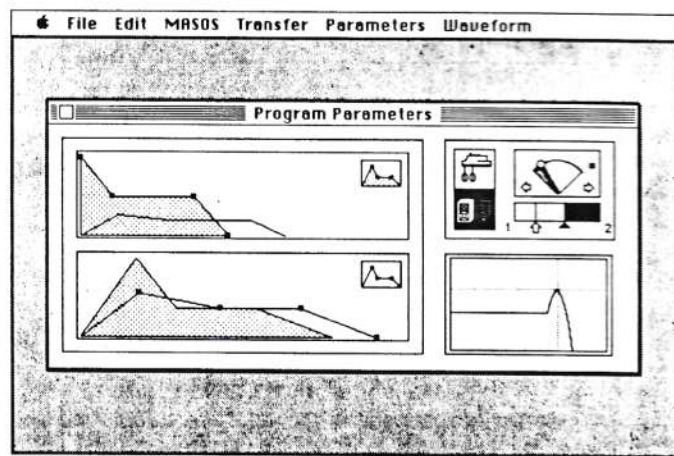
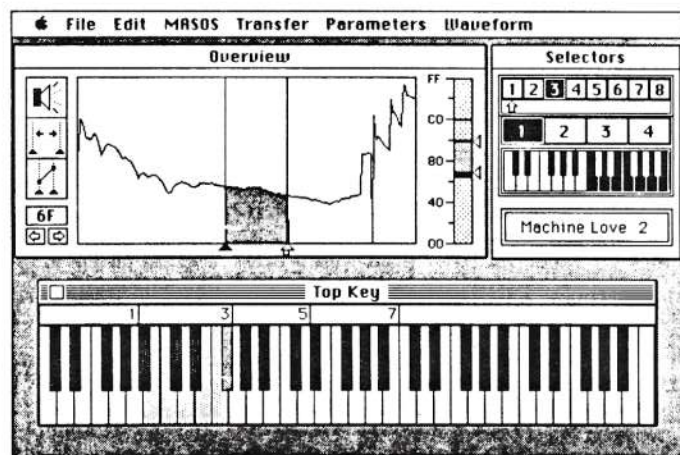
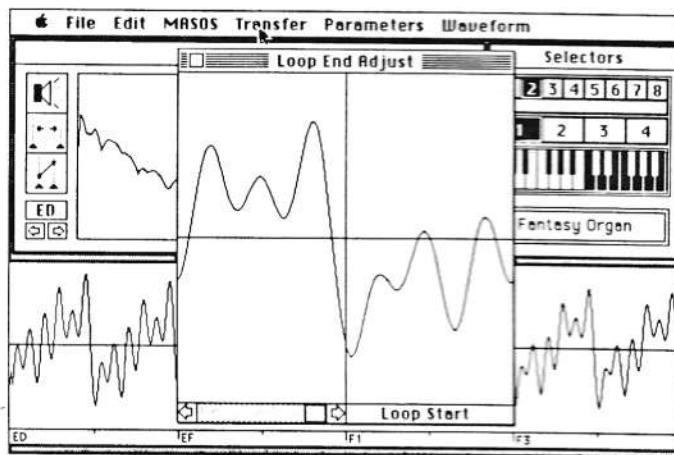
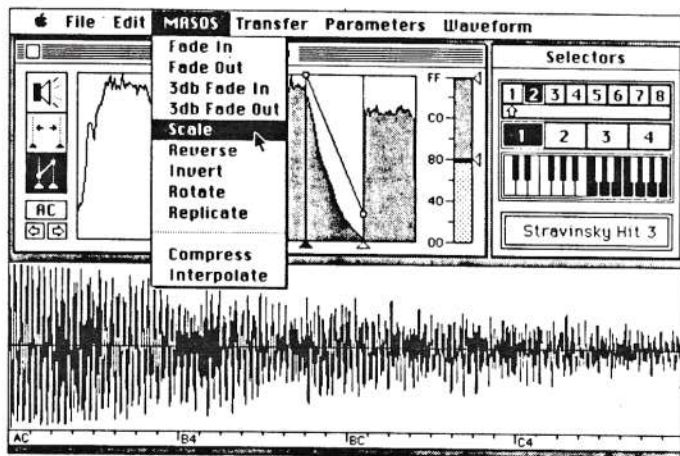


# HYPERSOVIQ

New Product Releases

Further information on SOUND LAB (announced here last month): SOUND LAB by Blank Software is an extremely powerful sound design program for the Mirage and Apple Macintosh. SOUND LAB features graphics-based waveform and parameter editing, computer assisted modification and creation of waveforms, extensive digital audio processing, a sound librarian (allows sounds to be stored on regular Macintosh disks), and

graphic looping aids. The SOUND LAB makes extensive use of the Macintosh user interface of mouse-driven pull-down menus, and multiple windows. (See photo.) The SOUND LAB will be distributed by authorized Ensoniq dealers. For more info, contact: Blank Software, 2442 Clay St., San Francisco, CA 94115. (415) 922-8538.



## THE INTERFACE

Hello There Hackers...

Just a quick letter to let you know I'm still alive and trying to master the sampling capabilities of the Mirage (it's a little tougher than I thought, but results are on the way!) I have enclosed a listing of the parameters and their location in the Advanced Sampler's Guide. I find it very difficult to find needed information in the manual using the given index so I wrote my own and am offering it to you as a programming aid. Hope it becomes useful to the advanced programmers. [Tracy Lord's index is reproduced elsewhere in this issue. Ensoniq has also mentioned that they're updating the Guide and will incorporate info of this sort in the newer editions. - Ed.]

I do have a batch of new questions for you and I hope you can print the answers in your next newsletter.

First: I have a Drumtrax drum machine that I am currently using in my studio (along with a MXR 185, but that's another story.) and was trying to set up my MIDI and sync patches so that the Mirage was the "timing boss" and all tempos would be set with the Mirage's clock control. Now, in doing this I discovered an interesting problem. I set the Drumtrax to MIDI External Clock Receive and set the Ensoniq up to record a sequence. Once I hit the Enter button to start recording the Drumtrax took off at about 99 mph! - meaning it was playing at about twice the tempo originally wanted for the sequence.

Why is this? I would have thought that 48 beats/minute would be the same for one MIDI machine as it would be for another. I can get good results from patching the sync jacks together (Drumtrax Sync Out to Ensoniq Sync In), but I would have thought the same would be true of the MIDI clocks.



This problem is not so important to me now since I've just bought a Hybrid Arts Midimate 16-track digital recorder and it is now the boss for everything, but I thought it was an interesting problem that might save someone else in the same situation - plus I'm curious about the answer.

Another interesting problem for Drumtrak users is that it can be played on the lower octave of a MIDI keyboard. This can be neat, but also a pain when you don't want to hear a kick drum every time you play your lowest C.

Second: While using the Hybrid Arts Midimate Recorder with my Atari 800XL I was trying to put down a bass track that had some very quick arpeggiations. When I went back to listen to the track that I had just recorded (and heard while recording) there were dropouts of some of the notes. The same bass line was then rerecorded using a Korg DW 6000 and there were no problems. The Ensoniq bass line that was recorded was then played back on the DW 6000 and the dropouts were still there. This leads me to believe that the Ensoniq did not send out the MIDI info to be recorded. The DW 6000 bass line can be replayed on either synth and is complete (ie., no dropouts).

What could the reason be?

Once again thanks for the info that was in your last letter and keep us all posted on new developments as they become available - or unavailable as the case may be.

Tracy Lord  
Georgia, VT

[Clark - The reason for the dropout problem is that there was a bug in the Mirage Operating System before Version 2.4. This has been corrected in the current OS, so if you remember to boot with a 2.4 disk, everything should be peachy. (Naturally, this will NOT fix sequences recorded with older OS - they will need to be re-recorded.)]

[Ensoniq's response to your strange clock problem - "In almost all cases, it makes the most sense for the drum machine to be the master clock since drum machines usually have a metronome, tape, and quantizer. Setting Parameter 85 to ON, and Parameter 86 to OFF, then connecting the Mirage's MIDI Input to the drum machine's MIDI Output works perfectly. Set the Mirage Sequencer to RECORD, start the drum machine, then start your sequence on the down-beat. The Sequencer will not record the delay between the start of the drum machine and the first note you play on the Mirage. The first note will occur on the first beat of the drum pattern. The playback of the Sequencer will stop and start automatically when you stop or start the drum machine as the Mirage responds to MIDI Stop and Start commands. The Mirage really works best as a slave."]

[Ed. - Ensoniq also has an explanation for the strange results you got - but I only heard it once (real fast!). Something about the framitz defaulting to the quarzod's clock. Anyway, the bottom line was, "Use the Mirage as the slave."]

Hi there:

Here are a few suggestions that I think would be well received by your readers:

1) A regular listing of the complete factory sounds library. Apparently, Ensoniq is adding new sounds regularly but they haven't as yet established any obvious means of communicating what's available.

2) Ensoniq has at least implied (in their brochures and manuals) that we can expect more great products in the future. I think a sneak preview column would be of interest to most of us.

3) As the antithesis of the sneak preview, how about a "wish list" column for readers to suggest ideas for new products and/or product improvement?

To help get the wish list column going, here's my two cents worth.

a) Make a 19" rack-mounted version of the Mirage.

b) Add a key mapping option so that two units could be used to extend the key response range to a full 88-note MIDI keyboard. One Mirage

could be mapped to respond to the keys A0 through A5. The second Mirage could be mapped to respond to the key codes C2 to C7. This would not only enable the Mirage to cover the full 88-key piano range, but would also provide 16 polyphonic voices in the overlapping range from C2 to A5.

c) Add some form of MONO mode. This would be very useful when emulating certain instruments, such as a tenor sax. The polyphonic mode in such a situation is only a nuisance because one is forced to play chord arpeggios in an unnatural way to avoid overlapping notes (thereby sounding like more than one saxophone).

Well, those are a few of my ideas.

Robert D. Villwock  
Glendora, CA

[Ed. - We're trying to keep up with the new disks via New Product Announcements and reviews. However, we're presently too short of space to devote too much room to a (mostly repetitive) listing of all disks. Similarly, the "Wish List" exists more as comments in letters (which Ensoniq does read) than as a compilation of all previously-expressed desires. We're also trying to keep up with their other new products, but Ensoniq naturally doesn't want word to leak out before "Official Announcement" because of marketing and competition considerations. (Our relatively short lead-time does often let us be "first-in-print.") Regarding your wish list: Parameter 29 and the new rack-mount Mirage should take care of "a" and "c."]

Dear Hackers:

First the gripes;

Because of the massive success of the Mirage in this country [England - Ed.], it has proven difficult to obtain advice or assistance from either the dealers or the U.K. representative, when sections of the Advanced Sampler's Guide prove less than clear.

Understandably, coping with the supply problems alone is enough for any organization to bear, but with a product of this caliber, the lack of knowledgeable back-up personnel to instruct dealer sales people (or, for that matter, the British Music Fair reps) is clearly a case of false economy. Confused and frustrated customers do not keep companies afloat after the boom crests. Many innovations are ultimately meaningless if they aren't user friendly enough to suit a market of the scale Ensoniq has for the Mirage.

Thus, it is a great relief to find some sort of feedback publication, such as yours, to hopefully reduce the frustration in learning the system, and maximize the pleasure in using it.

As far as "wish lists" go, the inclusion of a third digit on the display window tops the list, but more realistically, a substantial increase in the Mirage's sequencing capacity, ie, a dedicated MASOS type disk exclusively for the recording, editing, and chaining of sequences (is 2000 - 3000 notes too much to ask for?) without the sampling function would seem to be a good trade-off.

Specifically, an Oberheim-type quantising function, for us less than gifted players, to push our pitiful timing to the nearest 4, 8, 12, 24, 32, 48 beat would be nice.

If that is too much to ask for, how about some in-depth information on putting data into the sequencer from a rhythm unit via the MIDI connection. A good example would be to show how Roland, Korg, and Sequential rhythm units send data out through the MIDI bus and how the Mirage sequencer would best receive it.

Lastly, would it not be possible to order the blank formatted diskettes from the European factory? At this point, nearly every dealer is sold out or selling them at L25 instead of the L10 price of two months ago. The whole thing stinks of a rip-off on the marketing end.

Thank you for your kind indulgence and for hopefully providing some light at the end of the tunnel.

Christian Lunch  
London, England

[Ed. - Ensoniq is trying to straighten things out with their distribution channels in England. However, regarding after-purchase support, (as you mentioned) that's why we're here.]

Dear Hacker,

Last night I went to an Ensoniq seminar with Tom Darling. After he sampled from a record he had to play around with 8 different filter settings trying to get it right, that is, sound like the record. Isn't there one setting that will record from a record cleanly?

A few basic questions:

What is a one-page loop?  
What is a short loop?  
What is a long loop?

And a few random comments:

I think changing the operating system to allow for a 20,000-note sequencer with disk storage would be excellent. My QX-7 does only 9,100 tops. This might be a factor in boosting sales.

I have a DX-7 Rhodes sound made by Tom Darling. It kind of flakes out in the high register. However, for one sample it covers quite a large section of the keyboard!

When I set Parameter 35 (Osc Mix) to zero, it doesn't automatically make the mod wheel a mixing wheel. What parameters must also be changed? P28 ON? P34 set in the middle?

Thanks for listing my user group (M.U.S.E.) in your classifieds. I would consider having a computer bulletin board but there is no way to download sounds. Maybe software people could do it with Mac or ST in the future...

It would be neat to have a loop that would play the attack, the sustain, and the release. The release could contain a guitar scratch or a trumpet screech on glissando, putting a tail on the sound when you lifted the key.

J. W. Adams  
Elmhurst, IL

[Ed. - As you've probably discovered by now, there isn't any simple setting for "just recording a sound." Ensoniq's "plain vanilla" (MASOS) settings will usually work, but it depends on the sound. See Clark's article in last month's issue. A one-page loop is any loop that takes up a single page of memory, 256 bytes. A short loop is a loop that covers a single cycle of the input waveform - regardless of memory. P35=0, P28=ON, and P34 in the middle of its range should indeed make the Mod Wheel a mixing wheel.]

[Ensoniq's comments: Regarding the sequencer expansion - would rather not. It could be expanded, but you would not be able to play any sounds on the Mirage since there wouldn't be any RAM left to store the sounds. Regarding downloading - keep in mind that sound RAM is 128k. This is a looong time over the phone. On the problem with making the Mod Wheel a mixing wheel, Mod Wheel mixing will only work on sounds that have been sampled for MIX MODE. Turning Mix Mode (P-28) ON for a sound that wasn't intended to be used in MIX MODE will produce strange results. Note that any sample that uses velocity-controlled MIX MODE can be set to use the Mod Wheel instead.]

Dear Transoniq Hackers,

I am happy to see your publication improving with each passing issue. I've got some ideas and some requests:

I hope you soon have some unbiased reviews of Data 1 Inc.'s diskettes. \$35 is a good piece of change to toss at an untried, unheard item; they offer demo cassettes for \$5 per volume (seems high).

How about a review of Mirage products? Tell us about those disks. Are they recorded well? Are there any more electric pianos lurking about? How's the Input Sampling Filter? What's it good for? How does it improve our sampling? (Increased sampling rate will improve fidelity, but does the filter help to cut down on the noise element - aliasing, table-lookup noise?) I'd like to read a paragraph on how input filter roll-off rates apply to the sampling process. What about the sequence expander? Can we save those 1,300-note sequences to disk?

I've tried a few bi-directional loops according to the book of MASOS. They sound ok but at the splice point (halfway through the loop) I'm plagued by nasty "clicks." I have no VES. I have no computer (other than musical instruments). Anybody out there have a clue to solving this little problem?

The Advanced Sampler's Guide mentions (in passing) we can do algorithmic, digital synthesis with the Mirage. Is that so? Will this require an outboard computer? Will I have to buy a DX 7?

Here's some ideas for user groups - how about offering 60 to 90 minute cassettes which contain high-quality sounds for us to sample. State of the art studio quality - compressed, eq'd, etc. The amount of samples available on a standard formatted disk is limited. Perhaps 12, perhaps 24 or so. Imagine how many samples a good engineer could put on a 60 minute cassette. Entire libraries of sounds; percussion, sound effects, synths, "hits." This may not be workable for all sounds and is obviously not a project for the get-rich-quick kids, but the serious samplists (us old farts) could derive our own collections on disks to suit our tastes and needs. What would I pay for such an item? I know I'd rather send my \$35 in that direction.

If you sample using half-speed tape, remember that the tape is producing little usable for the Mirage at frequencies above 8 kHz. So roll the input filter down to this - or thereabouts. This should help one more noise problem.

People who are interested in trading sounds probably should include recording info. I don't think I'd get a fair trade if "the other guy" was using a dispatcher's mic straight into the Mirage to catch a glass harmonica. "Neumann/Otari/Sound Workshop" means something quite different to me than "Tandy/Coleco/Emerson." I suspect the users groups are the way to go. Sending your \$13 disks to an unknown person seems a bit risky. Trading sessions make sense.

I recommend Clark Salisbury's articles be included with subsequent Mirage manuals. My first few weeks were scary - trying hopelessly to slug through the #2 disk. It seemed like madness - load Lower 3, call Program 4, THEN load Upper Whatever. Otherwise you'll never hear the upper programs. A great arrangement to give a beginner?

Users in the NE area please get in touch with me. Nobody in my band understands this shop talk.

Enough for now. Thanks,

L. Joseph Rose  
PO Box 332  
N. Attleborough, MA 02761

[Clark - You can save (3) 1300-note sequences to disk rather than the usual (5) 333-note sequences.

Bi-directional looping will not eliminate glitching problems when looping; sometimes it even makes the problem worse. Without VES, your major tool for doing long loops is patience. (Lots.) You may have some more luck, however, if you try to "tune" your sample rate to the frequency of the sound you are trying to loop before sampling. This may give you a better shot at getting your sampled waveforms to line up with the page boundaries of the Mirage's wavesample memory. For a more complete look at this technique, as well as a frequency-to-sample-rate conversion chart, see my article elsewhere in this issue.

Regarding algorithmic synthesis; no, you don't need a DX7, but unless you feel like writing your own software, I suggest checking out the VES.]

[Ed. - We've been trying to get review disks from Data 1 for a couple of months now. So far, no luck. But, according to this month's ad, they have dropped their prices.

We've discussed with Clark the possibility of producing a "User's Guide" consisting of a collection of several of his articles. It could happen....]

[Ensoniq's response: The higher sampling rate allowed by the Input Sampling Filter also reduces aliasing and table-lookup noise. The sharp cut of the filter allows more high-frequency content to be sampled, while still suppressing signals which would alias.

We didn't mean to give the impression that the Mirage could do algorithmic digital synthesis by itself. It requires a computer running signal-processing software and dumping the computed waveforms into the Mirage via the Mirage MIDI system exclusive. A number of people outside Ensoniq are working on this.]

Dear Transoniq,

I have recently purchased a Mirage and am happy with it except for one thing: there seems to be a lot of preamp noise (at least I assume that is what it is). The noise I am speaking of occurs without playing a note, when the volume slider is up. Do you think it is possible to modify the output with a cleaner preamp? If so, do you know who can do the work?

The newsletter is great.

Thanks,

Phil Parlapiano  
Sepulveda, CA

[Clark/Ed. - If some of the objectionable noise is 60 Hz hum, it can be minimized by eliminating ground loops. This is sometimes done by lifting the Mirage's safety ground connection. Common 3-prong to 2-prong AC adapters can be used for this purpose. However, we can't recommend this. Your Mirage will no longer have a case at earth-ground - if something shorts out, you could end up completing the circuit to ground with your own little body. This tends to make your heart do funny things. A cleaner preamp might be a possibility - start by checking with your service center.]

[Ensoniq's comments: You may have a service problem. Please contact your service rep. Most problems are difficult to debug via mail - we will help people diagnose problems over the phone (215-647-3930). This should at least help people determine whether they have an actual service problem, have discovered a general bug, or if it's just normal operation.]

Dear Transoniq,

I read about your newsletter in KEYBOARD. I'd like more information - maybe a sample copy. I don't own a Mirage, but am seriously considering it. I was a bit put off when I learned the built-in drive will not initialize its own new disks. Maybe someone knows of some software...?

Brian Ferguson  
North Salt Lake, UT

[Ed. - Actually, you'll find an ad in this issue from someone who's done just that. We've also heard rumors that some standard backup programs for various personal computers will also work. This is also a good way to "update" your earlier disks with the latest operating system - be sure to move the sound samples elsewhere while doing so; formatting erases everything. (We'd also like to mention that we've talked to Ensoniq about this and they've been EXTREMELY understanding. The one thing they don't want to see is people selling their copyrighted operating system. Musicians should certainly sympathize with this.)]

Dear Transoniq,

Thanks for creating a very useful newsletter!

I have a few questions. First, regarding interfacing the Mirage, when I trigger the Mirage from my DX7 keyboard, I find that I don't get full velocity sensitivity response from the Mirage. Also, when I trigger the DX7 from the Mirage, the velocity sensitivity is too strong. Is there any way that I can remedy this short of reprogramming all my DX voices for different sensitivity settings for MIDI use, and having to create duplicate sets of the same voices with different parameters for different uses?

I hope you start a column regarding sampling techniques - maybe a user forum with tips and comments about mic placement, processing, etc. I am sure this would be helpful to many people new to digital sampling. Also, some information on how sampling rates relate to input frequencies. This was not explained in depth in the MASOS Guide.

Looking forward to your next edition,

Hughes Hall  
Los Angeles, CA

[Clark - Try using the DX7 as the master keyboard and setting the Mirage velocity sensitivity parameter (23) for the desired response and writing this setting back to disk along with your resulting programs. A chart showing the relationship between sampling rate and input frequency is on page 73 of the MASOS manual and is reprinted, with permission, at the end of my article in this issue.]

[Ensoniq - Unfortunately, the DX-7 does not produce full velocity response from its own keyboard, while the Mirage does. Basically, the DX-7 doesn't provide full range over MIDI.]

Dear Transoniq,

Thank you for sending me your excellent magazine - it's very useful.

I have started the Hollywood Mirage Owner's Users Group and our first meeting will be at my studio (Classic Sound) on October 13th at 7:30 pm. [For how to find out about future meetings, see our classified section. - Ed.] After this meeting I will undoubtedly have more user tips and hints and will send you a summary.

About writing a sampling article, I don't think I have enough data for an article but I can certainly pass on some tips. Probably the most useful discovery that we have made is that when we are sampling through the microphone input, if we use a good condenser mic such as the Audio Technica 813 and put it through a microphone pre-amp such as the Electro-Harmonix Ego Booster, we get extra-ordinarily good quality. This is excellent for sampling spoken sentences and also live synths and stuff off tape when we want a fast instant high-quality sample and don't have time to put an AKG 414 through the board or do half-speed tape sampling.

Best wishes,

Tony Rockcliff  
Los Angeles, CA

Dear Sirs,

First the questions. On Sound Disk 2 the "Rock Vamp" (i.e. Lower Sample 3, Program 4) on my Mirage seems to clip the loop splice point making a tick every time that it goes past the loop. This is my third Mirage because the first one had a bad keyboard and the second one had a crackle when it would loop on some of the samples (especially the "Rock Vamp"). It would go "dah dah dah dah bzzzz dah dah dah dah bzzzz ..." so I had it replaced. Now my new one goes "dah dah dah dah tick..." I was just wondering if you were familiar with this and are experiencing the same thing? This is bugging me because I intend to do a great deal of sampling in the future and I need a properly functioning machine. The music store guys start running the other way when they see me coming. I also hate to be a pest if this is normal for this sample.

I have also purchased all the current sound disks for the Mirage and have found this same "tick" on the violin sample when it loops, but oh well. I do wish that the company would take a little more care in making their samples. The violin sample is very noisy and it makes it almost useless for any serious recording - which is why I bought it in the first place.

Enough for the complaints. I have just purchased the Visual Editing System and find it to be a great help in fixing some of these problems with the factory samples. There are a couple of things that I wish that it would do - such as enable you to print the wave samples so they could be studied on paper. Another thing I would like is to be able to view the entire wavesample. All you get is one page at a time. This makes it hard to really see what the sample is doing, especially for multisampling or wave sample rotating.

I have also observed that (at least with paddles) you must take the cursor off the top of the screen to exit the wave drawing mode after pressing Escape or it won't exit no matter what you do. It took me several minutes of frustration until I discovered this by accident. They don't mention this in the book.

I would also like to let your readers know that if they experience their Mirage having weak keys on some of their samples (especially the Piano #1, Sound Program #4) I discovered that the Mix Mode is off on that program and Wave Sample 2 is set for Key 8, Top Key. This wave sample is the "soft piano sound" and it makes the key sound weak in its triggering. With the trouble that I have had with my keyboard in the past, I was ready to take it back until I put it on the computer. When I found this out, boy, was I relieved. Anyway, to correct this, just bring the Wave Sample #2 down one top key to 7, and it will be as loud as the rest.

Keep up the good work. I hope that this newsletter continues to grow and I would like to help contribute if I could. Bye for now. Happy hacking!



# Transoniq Hacker

5047 SW 26th Drive, Portland, OR 97201 (503) 245-4763

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Tarik Roshdy  
Sacramento, CA

[Clark - I have not noticed any "ticking" in these samples. I would recommend trying another disk or having your Mirage serviced by one of the authorized centers listed in the last issue.]

[Ensoniq's comments: Our violin samples have received praises in the British music press. Actually, they aren't perfect - a violin puts out a lot of high-frequency energy and the waveform is really a conglomeration of a bunch of harmonics. There is no nice simple point on the waveform for a perfect splice. Regarding VES: The Apple just doesn't have enough memory to display the entire waveform. However, the new VES package from Blank Software runs on the Mac - which has more than enough memory to do the job.]

Dear Transoniq,

I am a faculty member at the Atlanta College of Art, with a background in painting, however, I have had a long standing interest in sound as a creative medium and I am currently offering a course here at the college called "Experimental Sound."

There are 15 students enrolled in the class and the Mirage is going to be the main tool in this course. As such, I am interested in communicating with anyone who is exploring this instrument in what is primarily an experimental and educational context.

Sincerely,

Bill Nolan  
Atlanta College of Art  
1280 Peachtree St. NE  
Atlanta, GA 30309

Dear Editor,

When I first heard of the TRANSONIQ HACKER I didn't know what to expect. Now that I've received the first three issues I'm quite impressed. I only hope that every Mirage owner supports it! It's especially important for me as I'm quite isolated. Keep up the good work.

I have the following questions and comments:

(1) I get a funny radio or ground "hum" on some of the samples (e.g. piano, electric piano). It is especially noticeable when the sustain pedal is depressed. The sound quickly disappears when you release the pedal or keys. I have a spike and noise filter on the ac line but it still persists.

(2) I originally had the Mirage sharing the same outlet as my tv. It would frequently lock up. The solution was quite obvious - move!

(3) I was semi-disappointed with the new piano disk. Although I love the samples, there is still a fair amount of glitches or noise that shouldn't be there. Is it my disk or the samples? I can minimize the problem by slightly lowering the velocity peak or layering with another synth. Any other suggestions that don't lose bandwidth, etc.?

(4) Is there anyway of getting rid of that rock-band sample on the synth disk? It's a good sample but it has a way of popping up when least expected.

(5) Is there any way to get the organ sound on the synth disk on the upper keyboard with, say, slap bass on the lower?

(6) When will you start doing reviews of existing and new disks?

Hope this isn't too much,

Del Carry  
Frobisher Bay  
Canada

[Clark - I haven't heard the glitches on the new piano disk. I suggest you return it. I don't know of any way to get rid of the rock band sample on the synth disk, but it could conceivably be replaced with another sample, or even a one-page sample of silence. For further info, see my splitting and looping articles.]

[Ed. - We started some disk reviews in the last issue and we hope to do more as new disks become available. You can move the sounds around using the MASOS Copy command (Parameters 17 and 18.)

[Ensoniq's response to your hum problem - You may have a problem in your power supply. If it sounds like ground-loop hum, you might try plugging your sound system and your Mirage into the same outlet. If they're already in the same outlet, try moving them to separate outlets.]