TRANSONIQ HACKER

The Independent Newsletter for Ensoniq Users

Dr. T's ESQ-APADE

By Rick Hall

FOR: ESQ-1 and Atari ST
PRODUCT: ESQ-APADE
PRICE: $99 till Aug 1, then $129
FROM: Dr. T's Music Software, 220 Boylston St., Suite 306, Chestnut Hill, MA 02167.
(617) 244-6954.

The highly intuitive, mouse-oriented Atari ST, with its speed, superior graphics, built-in MIDI ports and power-for-the-money has become the machine of choice for many of today's musical types, this reviewer being one of them. And there are many who have invested their hard-earned bucks in the ESQ-1 for much the same reason. Both of these products evidence an extensive consideration for the needs of the user, and where well-thought-out hardware treads, intelligently-designed software is bound to follow.

ESQ-APADE from Dr.T's Music Software is the latest in the Caged Artist series of editing programs designed by Robert Melvin for the Atari ST in conjunction with the ESQ-1, and a more useful or user-friendly application of the power of these two machines would be hard to imagine. Bob has gone out of his way to come up with a program that would be, as he puts it, "...intuitive enough such that the manual is barely necessary...", and there is no question that he has accomplished that goal with ESQ-APADE.The program is quickly learned, and thereafter seems to just sort of fade into the woodwork while speedily going about its various tasks. And what tasks would these be? Well...this thing is a well-structured, easy-to-use patch librarian, a full-featured patch editor with graphic on-screen envelope manipulation, a random patch generator that can be adjusted to randomize only those parameters you choose to fool with, and, oh yeah, there's a sequencer librarian to free you forever from the cruel tyranny of cassette tape storage, and if you're running a bunch of outboard gear you may find it interesting that this program will turn your ST into a powerful MIDI Merge box. Quite a load of utility for the $129 list price. But it's in the using of it that this program really makes its value known.

Setting up is simple; the ST is connected directly to the ESQ-1 through its own MIDI ports. The master MIDI control page must be called up on the ESQ-1 and the Enable function adjusted upwards to its maximum value, which includes Sys Ex enablement. This must be done every time the program is run, as the ESQ does not default to Sys Ex reception. Set the ESQ's MIDI channel to CH 1 (the default Sys Ex channel of the program, which you can change and save to whatever you like; I use CH 3). Booting up the program will now automatically load all of the internal voices from the synth into the computer, and you're ready to roll.

The manual provided by Melvin is clear, well-written and to-the-point, complementing the trim, streamlined programming it describes. Fans of Bill McCutcheon's writing, ie., the ESQ manual, will find here the same kind of intelligent approach and occasional dry wit that makes this manual easy to understand and pleasant to read. After a quick tutorial to save your sounds and sequences from the ESQ, basic operations are systematically outlined and described.

The entire program can be run with the mouse, which is obviously how it was intended to be used, but I was glad to see that nearly every function except the graphic editing can be run from the keyboard as well. If your mouse pad is small, like mine on my

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crowded desk, it is sometimes faster to just reach out and tap a key rather than clumsily adjust the mouse to hit the correct position on the screen. Menu items appear in their own boxes on the right of the screen; selection with the mouse is by pointing and clicking in the usual manner.

One of the truly clever features of the program is the way in which the mouse is used to play the synthesizer. Pressing the right mouse button plays a note, the MIDI note number of which is determined by the left-right position of the mouse. The 80-note range is centered around the G above middle C, which is the approximate centerpoint of the ESQ's keyboard. This feature allows one to easily check out a sound in any octave register. Velocity can also be adjusted by the vertical positioning of the mouse cursor on the screen, with full velocity towards the top and minimum velocity at the bottom. I checked this out using factory sound PIANO 2, and the sensation of pounding out notes on the mouse with varying velocity sensitivity, up and down the keyboard range, is something that must be experienced firsthand.

The mouse can also control modulation, which is added when the left button is depressed while holding down the right. Again, the vertical position of the mouse determines the amount of effect added, and the modulation returns to zero when the note is released. The mouse is assignable from the System Mode page to simulate either Mod Wheel, Aftertouch, and Breath or Pedal controllers. And, as if that weren't enough, a Mouse Glissando function allows you to play glissando notes by sliding the mouse horizontally while holding down the right button. Again, this is something that must be experienced to be believed, but suffice it to say that here we see the trail of a man who has definitely been using his own software...

The operating system is divided into a series of pages called Modes. When a mode is selected, the menu for it appears on the right side of the screen. Once you have selected whatever it is you wish to edit, parameters are adjusted using an outrageously easy and logical system: a hollow graphic slider box with a smaller solid box inside of it stretches vertically like a thermometer down the left-hand side of the screen. Clicking within the hollow slider box will cause the the solid indicator to leap to the position selected, thereby changing the parameter's value; greater towards the top, lesser towards the bottom. So what we have here is a graphic data-entry slider, but get this - the slider can also be moved simply by clicking and holding anywhere on the screen background (wherever there is not a parameter or menu displayed). Keeping the mouse button depressed and moving vertically past the current position of the slider will "pick up" and move the slider just as if you had clicked right on it. In this manner you can work the slider remotely from any area of the screen- a feature that vastly increases the practical speed of editing by eliminating a lot of horizontal mouse-movement. This consideration is not accidental - as Melvin points out: "Since up/down movement with the mouse takes less effort than lateral movement, this is almost always more convenient..." Very thoughtful. Parameters can also be set by direct numeric entry, or through the + and - keys on the numeric pad. Whatever is changed on the computer screen simultaneously shows up changed on the appropriate ESQ page display as well.

The System Mode is the utility page for the program. Here is where you can set default parameters such as System Exclusive MIDI channel and Mouse Mod Controller. The MIDI merge function is also accessed from this menu, allowing you to merge incoming MIDI data with System Exclusive data from the program. Basically, this lets you dump voices and edit the ESQ while a sequence is running, but only when you have another computer or sequencer hooked up to do the actual sequencing chores. One nice feature is the ability, when using a color monitor, to change and save your own custom-designed

color scheme. If you're going to be sitting and staring into your monitor for hours on end (and with this program you could easily be) this option can really help you keep your eyes interested in what's going on.

The Bank Mode is entered automatically when the program is started. The computer will hold up to four banks of forty voices per file, and, of course, you can save as many files as you want to disk. Voices can be jockeyed around quickly in all sorts of convenient ways, and whole banks are easily downloaded into or loaded up from the ESQ's internal banks, although not while the ESQ's sequencer is running. And when you find yourself with a bankful of newly-edited sounds and no formatted disk to store them on, the ability to format a disk without leaving the program will save your, er, hide (we know this never happens to you...).

Edit Mode is where you actually meddle with the patches, and the screen is occupied with the slider graphic mentioned before, along with the usual neat rows of numeric parameters. Everything is laid out in well-defined areas equivalent to the ESQ's page groupings: DCAs, LFOs, Envelopes, etc. In the lower right corner of the screen,the four envelopes are displayed in simple graphic form as a sort of quick visual reference, made even more useful by the addition of a vertical dotted line drawn through the Key-Off point of each envelope, indicating the start of its T4 (Release) stage.

The random patch generator also operates from this mode, and this feature works extremely well. Not only can you control the percentage, or amount, of randomization applied, you are also provided with the opportunity to make some intelligent choices by choosing precisely which parameters are to be affected. Melvin calls this feature the Randomization Mask, and you can save any number of different masks to disk for use in randomizing any sound. Observing the results of one's experiments in this area provides a wealth of programming education.

Envelopes Mode is where the direct graphic editing takes place. ESQ-APADE displays all four envelopes on one screen simultaneously, and although you can adjust the time scale of the graphs, allowing you to "zoom in" on the attack portion of the envelope, when the entire envelope is presented there is still not very much room to show more than a crude representation of the full shape. This does not constitute a limitation as such, but if you're going to work on your envelopes visually in any kind of detail, there should be some way to depict the envelope in its actual, undistorted proportions. A scrolling feature would have been a more useful solution. As it is, the size of each of the envelope graphs is a little larger than the envelope graphic on the front panel of the ESQ. A centered horizontal line bisects the graph to show "zero" and the Key-Off point is indicated in the same manner as described before. This makes it easy to see just what is happening during the entire "Key On" phase, as well as the exact duration of the T4 release stage - useful when trying to adjust a note to a precise length ("Let's see, that gong has to hang out there for six, no, better make it five, beats...").

The Sequence Mode is my personal favorite item of this program. Since I do not own a Mirage, I have always been forced to save my sequences laboriously to tape - a truly royal pain, as any of you out there who have had to do this can attest. With ESQ-APADE, I can load from or dump to disk a full expanded load of sequences in under 15 seconds - fast enough for use in live performance. Individual sequences can also be transferred in a flash. And although all sequence editing must still be done on the ESQ - this is a librarian only -- you can give each sequence its own name of up to 12 characters, which is a great help in remembering just what sequence does what within a song. A large comment field is also provided with each bank of sequences so that you can jot down and save any notes concerning outboard instruments being used, info about the songs, or whatever. It used to drive me crazy not knowing what instrumentation or internal patches I had used in that sequence I wrote six months ago, but owing to the fact that Bob Melvin evidently had the same problem at one time or another, all that is behind me now...

The author includes some helpful suggestions on various set-ups possible with different configurations of outboard instruments and computers. The program's performance and speed can be enhanced even further with the use of a RAM disk, and he tells you how to do that, too. I was only able to crash the program once, and that was when I commanded it to "get all" sequences from the ESQ and it stuck there, "getting" them in perpetuity. And even at that, my suspicion is that a loose MIDI cable could have been the culprit...

I only wish that more software was designed with the intelligence and care that went into this hack. It would be hard to imagine someone not feeling that they got their money's worth with ESQ-APADE. This is an item that very much enhances the performance of two already-outstanding performers: the Atari ST and ESQ-1. It's therefore my pleasure to recommend ESQ-APADE highly to any ST/ESQ-1 owner who wishes to go about the business of making music efficiently, with the least possible amount of technical interference. ■

Bio: Rick Hall is a Philadelphia-based composer, musician, writer and all-around bon vivant. He spends considerable time "drowning in spaghetti" in his own chord-entangled home studio, and has recently had the audacity to form his own music publishing business.

RND (♩♪♪)

MISSING PERSONS DEPT.: Another disconnected phone. This time it turned out to be a false alarm. For future reference, advertisers and other third-party support companies should please let us know if you're moving or getting a new phone system, or have some other reason for getting your phone disconnected. When cutomers call your number and find it to be disconnected, the first thing they do is assume the worst. The second thing they do is to call us and see if we know anything about it. When we can't find out anything then *we* assume the worst. It would also be nice (but we're starting not to expect it) that if you actually are going out of business - let us know! Even going under can be done with a little class.

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CONFUSED PERSONS DEPT.: Jane Talisman the editor wants to make it clear that Eric Geislinger the publisher (that's me) and Erick Hailstone the writer (that's the other guy) are not the same person. We get calls and letters that indicate that our identities may be going through MIX MODE.

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Many readers and writers already know that we have an electronic mail box on the PAN network (address: TRANSONIQ). We now have two more places where we can be reached: the GEnie network (address: TRANSONIQ), and CompuServe (address: 73260,3353). These mailboxes may be used for letters to *The Interface*, uploading articles, or even just letting us know you've moved. For articles and letters to *The Interface* this is actually the way we would prefer to receive submissions - it saves us a lot of re-keying.

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Speaking of *The Interface* - this doesn't have to be just questions for Ensoniq. Our reviewers and writers have mentioned that they'd like to see some feedback. Every reviewer has their own bias - don't let them get away unscathed. Hints, tips, and different opinions are always appreciated.

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TRANSONIQ-NET

The following people have agreed to help with questions:

ESQ-1 QUESTIONS - Tom McCaffrey. ESQUPA. (215) 750-0352, before 11 p.m. Eastern Time.

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

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

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

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

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

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

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

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

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

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

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

BACK ISSUES

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

HYPERSONIQ

NEW PRODUCT RELEASES

Digidesign's Softsynth for the Mirage is now available for the Atari ST computer. Originally released for the Apple Mac, Softsynth will now bring advanced additive and FM synthesis to Atari owners. Softsynth's graphic programming screens, which can control up to 32 oscillators, allow the user to design virtually any sound imaginable. The "Smartsynth" function will intelligently generate sounds based on a list of general characteristics supplied by the user. List price: $295. For more infomation: Digidesign, 1360 Willow Rd., Suite 101, Menlo Park, CA 94025. (415) 327-8811.

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Patch/Works announces Q-SPECTRUM - new, studio-quality, professionally created sounds for the ESQ-1. Programmed by renowned synth programmer Jed Weaver, these sounds are used in many of the top New York recording studios. Two different 80-voice volumes are currently available with more to be released shortly. Both volumes contain complete "mixed bags" of all types of instruments, acoustic, and synthetic sounds. 80-voice ROM cartridges are $49.95 each (160-voice: $79.95), 80-voice RAM cartridges are $69.95 each (160-voice: $134.95). Voices are also available on data cassette or librarian disk. For more info: Patch/Works, PO Box 450, New York, NY 10024. (212) 873-2390.

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Acoustech is now offering two software packages (both presently for the Apple II+ and IIe); a waveform editior for the Mirage and a sequence/patch librarian for the ESQ-1. In addition to the usual editing and MASOS features of most waveform editors, Acoustech's package for the Mirage also features FM, FM with complex modulator, Karplus-Strong, additive, additive with alternate basewave, and freehand synthesis. The ESQ-1 librarian can save over a thousand patches on one disk and comes with many excellent sounds already on it. For more info: Acoustech, 5035 Pine Bark Cir., Atlanta, GA 30338. (404) 391-0842.

CHANGE OF ADDRESS

Please let us know at least four weeks in advance to avoid missing any issues. The Post Office really will NOT reliably forward this type of mail. (Believe us, not them!) We need to know both your old and your new address. (Issues missed due to late or no change notification are your own dumb fault - we mailed them!)

MIRAGE SAMPLE REVIEWS

By Erick Hailstone

FOR: Mirage
PRODUCT: LL-1, LL-2, LL-3
PRICE: $19.95 ea., 3 for $49.95
FROM: Leaping Lizards, 10026 36th Ave. NE, Seattle, WA 98125. (206) 527-3431.

We have 3 disks from LEAPING LIZARDS this month. A unique feature of these disks is their operating system. It is called E.2 and it is basically Ensoniq's O.S. 3.2 with sampling functions removed to make room for a copy protection routine. That's right, you can't copy these disks. Leaping Lizards will provide backups for $5 and will replace defective disks for free. While this is certainly an inconvenience for the average honest user, I can certainly understand the manufacturer's motivation and, if successful, I suspect we'll see this system used by others.

LEAPING LIZARDS DISK LL-1

1. GHETTO BLASTER

L1/U1: From C1 to G#1 we have a sound that resembles a car motor turning over. A1 to A2 is a horn blast ala "Yes". A#2 to G#3 is a Scratch sound, as in Rap music. A4 to D#4 is Scratch 2. E4 to G4 is an electronically processed voice saying "Lots of Space". G#4 to B4 is the same type voice saying "No Sound Effect". C5 to C#5 = Bass Drum. D5 to E5 = Snare Drum. F5 = High Hat. F#5 to G#5 = Tom Toms. A5 = Handclaps. A#5 to C6 = a voice saying "Ah Ha". The drums are the gated reverb type. All in all what we have here is a Rappers tool box.

L2/U2: The same sounds only chorused.

L3/U3: A dip in pitch is applied using the LFO.

L4/U4: L2/U2 and L3/U3 are combined.

2. AMBIENT MOUTH DRUMS

3. AMBIENT MOUTH PERCUSSION

I started off listing all of these sounds, but the more I listened to them, the more I think a simple explanation is in order. These sounds [as you would guess] are all created using your mouth. Ssss, Pop, Click, Boom, Gaa. Just imagine the cartoon balloons from a Batman fight scene. They were recorded using reverb. The accompanying literature states "These are the sounds that European Mirage owners have been raving about over a year. Original and entertaining, you'll find plenty of use for these sounds." I haven't been to Europe lately, but I can't help but think this is a bit overstated. These sounds are entertaining and somewhat interesting but limited by their own individuality.

Again, the fact that these disks are copy protected is quite interesting. Perhaps the most interesting thing about them. The price is $19.95 + $2.50 shipping and handling. Add to this $5.00 if you wish to have a backup copy. With Ensoniq's disks priced at $10.00 I think $26.95 is a bit steep. Steven Fox is credited with the creation of these samples and, while these disks are imaginative, I hope they will broaden their scope a bit next time around.

LEAPING LIZARDS DISK: LL-2

1. SOLINA STRINGS

L1 & U1: Solina strings refers to the Solina String machine made in the 70's by, I believe, an Italian company. It was an analog string device built using organ-like technology. The sound is buzzier than real strings and is an ensemble sound covering the range from bass violas to violins. It sustains slightly after you release the keys. While this sound would never be mistaken for real strings, it is a good representation of the original sound. Great for nostalgic recording sessions. A slight click can be detected at the loop point in the upper range. This is a well done sample.

L2 & U2: The sound releases immediately after you release the keys.

L3 & U3: Additional chorusing is added.

L4 & U4: The attack is slowed down so the notes ease in slightly after you press down the key.

2. LOWER: AMBIENT DX BASS
   UPPER: DX VOICE

L1 & U1: Ambient DX Bass is a killer! The lowest [E] is an octave lower than a bass guitar. In this part of the range it is not melodically useful but still has validity for its percussive effect. The attack is crisp and sounds as if two pieces of wood were slapped together coupled with an electric/like bass sound with a breathy hiss. The sound takes a moment to decay. I raised the top note [72] to 61 covering the upper range and liked it up there as well. This sound is not looped. The upper sample, DX Voice, is like a synth sound and voice coupled together. It sounds heavily processed. It is chorused and when the loop comes in there is a fast mid-frequency vibrato which is rather buzzy.

L2: The release time is longer so the note sustains a brief moment after you release the key.

U2: The release is longer here as well and a downward filter sweep has been added. When you press down the note [A4] you hear the author's name "Steven Fox" making the usefulness of this sound questionable.

L3 & U3: Both of these sounds have their releases set so they decay the moment you release the key and again, the author's name.

L4 & U4: The LFO Depth [32] is set at 99. This causes the pitch to slide up and down slowly. Perfect for taking an inebriated audience to a seasick conclusion. And again "Steven Fox, Steven Fox, Steven Fox".

3. LOWER: CASIO VL-TONE DRUMS
UPPER: VIOLIN, PIANO, FLUTE, GUITAR

My worse nightmare realized. My incredibly hip space age sampling device reduced to a $49 toy keyboard. I must say that "Steven Fox" has nailed these sounds. They are good samples. I just wish he had done it to Casio's FZ-1 and not my poor Mirage.

L1 thru 4: There are no variations. Thank God! The lowest note is a pong sound right out of the popular video game "Pong". The next note is a trashy white noise snare. The next note is a higher pitched pong.

U1: Violin Casio style. This is actually a little better than you might think. You do get velocity control of your Casio. For some reason there are no notes above [G4] on U1 thru U4. All kidding aside, these are well done samples and even with the term "Casio" connected, this violin is somewhat useful.

U2: It's painful to see the word "Piano" attached to this sound but this is as close as the $49 wonder could get. The attack is percussive, somewhat like a piano, but the release is set to sustain like an organ.

U3: Flute. This is a reedy organ sound with a moderate vibrato. It is flute/like.

U4: Guitar/like. In the upper range the attack is somewhat like a guitar. The lower range reminds me of a saxophone.

Again, all seriousness aside, technically the sampling here is excellent. Don't construe any negatives concerning these sounds with the job of sampling that Leaping Lizards has done. These Casio sounds are for special applications, novelties, wild imaginations, etc.

LEAPING LIZARDS DISK LL-3

1. LOWER: GUNK1
UPPER: GUNK2

L1 & U1: These sounds are near identical with the lowest starting an octave lower than the upper sound and the upper sound extending an octave higher than the lower. All right, now how do I describe this? The literature states "Human sounds, not exactly novelty but not your average voice sounds." Gunk is noise you make in your throat to simulate swallowing. Get it? Well, imagine doing that in an empty gym. Actually, even though there is a lot of reverb, everything cuts off as soon as you release a key so it does not inhibit phrasing. The sequence demo has a boogie woogie song which with this sound seems suitable for a 50's Rotorooter soundtrack.

L2 & U2: A long release time has been added which really lets the reverb fly. It hangs on for about 4 seconds.

L3 & U3: There is a downward filter sweep that last about 2 seconds and some chorusing.

L4 & U4: The attack time is set so the sound swells in over a 3 second duration. Detuning and filtering are set to create a breathy whoosh. It decays immediately after you let go of the keys.

2. LOWER AND UPPER: NYMPHOMANIAC

This sample consists of a series of nine grunts, groans, giggles and sighs. The accompanying sequence is an orgasmic little piece which shows them at their best. All four programs are slight variations of the above. I would certainly place these in the novelty category. Short of a burlesque show I can't think of many other applications.

3. LOWER: AIRY MVOICE, M"OO", MGUNK, M"DOO"
UPPER: GLASS FVOICE, F"OO", FGUNK, "FDOO"

L1: Very airy "AH" with a quick vibrato underneath that almost sounds like a cello being bowed quickly. It is in the bass range.

L2: An airy "OO" with a long release.

L3: A cross between "Gunk" and a clicking sound.

L4: Again very airy "Doo". In all of these, applications are limited by a certain amount of high frequency noise.

U1: This sounds like a cross between someone humming and a coke bottle being struck with a metal object.

U2: A female voice saying "Ah" with a moderate release.

U3/U4: These are the same as L3/L4 but in an upper [female] range.

My favorites in this group are L2 and U2.

FOR: Mirage
PRODUCT: Disk 1
PRICE: $20.00, Seven for $100.00
FROM: Minotaur Studios, 4 College St., Canton, NY 13617.

MINOTAUR STUDIOS DISK ONE

VIOLA - Sampled from three rare acoustic instruments (treble, tenor, and bass viols). Renaissance bowed strings, a nice complement to modern string sounds. In traditional Viol playing, vibrato is used sparingly. Viols have frets but these frets can be moved and are often 'tuned' to provide perfect 5ths and 3rds .

RECORDERS - Sampled from Renaissance Wooden Flutes (soprano, alto, tenor, bass).

LUTE - Sampled from rare acoustic instruments, double sets of gut strings plucked with the fingers.

The sounds on this disk are so unique that I have included the descriptions provided by their creators. I must make two comments before we dive in:

1. The overall quality of the sampling is excellent.

2. These are ancient instruments and I am not qualified to judge them in terms of historical accuracy. With that in mind, let's carry on.

1. VIOLS

L1 & U1: These instruments are related to modern stringed instruments and can be used in a similar manner. From the

lowest note on the Mirage you are starting in bass viola range. The highest note is in the viola range, not quite into the upper range of a violin. There is a slight bounce of the bow at the attack point of the note. It is a little harsh in the third octave. I cannot detect any loops so they I assume they are hidden in the bow bounce. This is a clean dry sample and benefits from reverb and other processing. It is quite useful as a solo instrument in a contemporary setting or even as a country fiddle.

L2 & U2: A chorus effect is added, controlled by velocity and a longer release time. The filter is closed down a bit and there is a slight change in the filter envelope which lowers the filter as the note decays.

L3 & U3: Seems the same as L1 & U1 with a chorus effect added (nonvelocity controlled).

L4 & U4: Again, very similar to L1 & U1 but the filter is closed down a bit for a mellower sound.

2. RECORDERS

L1 & U1: Initially, something seemed odd about this sample. I realized when I have heard recorders played in the past the players are applying vibrato and other articulations. This sample, like the Viol, is as dry as can be to let you have the maximum control. The recording quality of the sample is excellent. The loop is hidden in a small tonguing sound at the attack.

L2 & U2: The attack and release times under velocity control have been changed to allow for longer release and slower attack.

L3 & U3: Chorusing is added, the filter is lowered and the attack is slowed down. Creates a mellower organish sound.

L4 & U4: The filter is lower and the filter resonance is raised. The filter envelope is altered to created a quick filter sweep. This is a synth type sound.

3. LUTE

L1 & U1: Of the bunch this is my favorite. The lower half has double sets of gut strings. A very interesting sound. Its range is low enough to be used as a bass guitar - in fact, it sounds as if it could be a bass guitar that is going through some amazing digital effects. I can hear many applications for this sound in contemporary music, let alone in historical literature. It just knocks me out. The upper sound is very similar to a steel string acoustic guitar. Again for this type of instrument the sample is well done.

L2 & U2: A high filter resonance is added and a high to low filter sweep to create a very synth/like sound.

L3 & U3: Chorusing is added.

L4 & U4: A longer release is added.

I'm quite impressed with the quality of these samples. Minotaur has six other disks available. If they are at the same level as this first disk, they are a welcome addition to the Mirage library. ■

LEAPING LIZARDS SOFTWARE
MIRAGE MONITOR V1.0 FOR COMMODORE

By Philip E. Rosine

FOR: Mirage
PRODUCT: Mirage Monitor V1.0
PRICE: $39.95
FROM: Leaping Lizards, 10026 36th Ave. NE, Seattle, WA 98125.
(206) 527-3431.

Leaping Lizards Software (aka Steven Fox) recently announced a monitor for the Mirage and Commodore (C-64 or C-128). I have had a chance to work with a pre-release copy of this software, and if you've got a Commodore, a MIDI interface, and a Mirage you are in business. Of course, it helps if you are a computer hacker as well as a musician, but the monitor can be handy just for musical applications.

I now have a tuning for the Mirage which matches my Chinese bamboo flute, so I can accompany myself. Can't do it with equal temperament. I also have (so far) one just temperament which I prefer to most other tunings (for my own purposes - to each his own). I haven't gotten into really fiddling with the operating system, but I may. Who knows what I'll do next?

A monitor, for the uninitiated, is the computer software (didn't know the Mirage was a computer?) which listens to you and changes things like parameters. The monitor is a part of the operating system, which is software designed to make the hardware do specific functions. For the Mirage you normally use OS 3.2 (Operating System version 3.2) which allows you to play music, sample sounds, and make/use sequences. The OS 3.2 monitor accepts data from the keypad and displays things on the Mirage display.

The Leaping Lizard monitor is both more and less than the monitor from Upward Concepts (aka Dick Lord). Both of these monitors go one step further than OS 3.2. Both have dropped the sampling function and replaced it with a new monitor which allows you to access and change data directly in the Mirage memory, including all the things you can't get to with the OS 3.2 commands. Better yet, you are not limited to the Mirage keypad and display. The Leaping Lizard monitor uses a Commodore computer to display and manipulate the data from the Mirage and requires that you have a C-64 (or C-128) with a disk drive and a MIDI interface. The Upward Concepts Monitor only requires that you have a computer terminal with an RS-232 interface with all data manipulation done using the computer power of the Mirage. Both of the monitors work very well, but Steven Fox's system has quite a bit more power.

The Leaping Lizard monitor system comes with disks for the Commodore and the Mirage, a user's manual, and some notes on programming for the Mirage. The Mirage must be booted up using the supplied disk (called LLMON-1). The program for the Commodore (Mirage Monitor V1.0) is loaded from the Commodore disk drive. You are prompted (on the Commodore) to select the correct MIDI interface from a menu and then the monitor itself is entered on the computer. When you press either SAMPLE UPPER or SAMPLE LOWER on the Mirage keypad the Mirage display goes blank and the Commodore has control of the Mirage.

The list of things you can do with the Monitor at this point is almost overwhelming. You can operate on data either in Mirage memory or in two different blocks of Commodore memory and you can format, read, and write disks on either machine. In addition, the Commodore can be used as a terminal so you can work with programs like Dick Lord's Mirage Monitor. The possible monitor operations are (briefly):

- disassemble or assemble 6809 code (this is probably the biggest and most important addition of this monitor over Dick Lord's monitor).

- interpret memory (list data in hexadecimal and ASCII).

- store data to memory (hex data rather than assembled code).

- fill a block of memory with a data value.

- convert numbers from hex to decimal and vice versa.

- toggle a printer on/off (I didn't have a printer, so couldn't test this - it is restricted to Commodore device 4 and the plotter I had is a different device).

- manipulate the Commodore disk drive (list directory, format disks, erase files).

- save or load a block of memory (Mirage or Commodore) to (from) a Commodore disk file.

- switch between Commodore and Mirage memory.

- move data between Commodore and Mirage memory.

- exit the monitor by jumping to a location in Mirage memory and executing the code at that location.

- load a new operating system on the Mirage.

- save an operating system to a Mirage disk.

- format a Mirage disk.

- read or write a sector on a Mirage disk.

- quit the monitor (returning to the current operating system on the Mirage - the monitor program remains operational on the Commodore).

- enter terminal mode.

- store and recall the data on the Commodore display screen.

- display help screens showing the monitor commands.

As near as I can tell from short-term use of this system it works extremely well. You can explore the Mirage in detail and modify OS to suit your needs. However, to do any heavy work like changing the operating system will require some serious knowledge of the Motorola 6809 computer chip and its machine language. Steven Fox supplies some information on this, but obviously can't give all the details. The 6809 is a bit different from some of the other Motorola 68xx microprocessors, so even those who have done some assembly language hacking will have to study a bit.

The notes on the operating system supplied with my pre-release version are not very complete. Without the notes I had previously received with the Upward Concepts monitor I would have been lost. I expect that this defect will be remedied when the final version is released, since the documentation seems to be the only thing not quite finished. [Last minute note - I just received a copy of the final documentation and it's much more polished. There are a few more notes on the operating system, but no major change.] Even with Dick Lord's OS documentation I have found that I needed to supplement the notes with his articles from TH, particularly issue 17 (Nov '86). If you are primarily interested in exploring non-equal temperaments (which is my prime interest), Dick gives all the instructions as part of his examples in the user's manual but none of this is in the Leaping Lizard stuff as I received it.

I have found one minor bug in the monitor dealing with the disassembler and assembler. The TFR (transfer register) and PSHS (push stack) commands do not assemble/disassemble completely. These commands work with registers, and instead of being disassembled to logical register names only the hex data values are given (e.g., 'TFR A,B' is listed by this disassembler as 'TFR #$89'). Likewise, assembly requires that you give the hex value rather than the symbolic name ('TFR A,B' will not assemble). Minor but irritating since it means that you have to hand decode (encode) the registers.

One tip to pass on. If you are into changing temperaments you will want both a monitor and the Upward Concepts multi-temperament disk. The monitor allows you to build your own tuning tables, and the temperament disk allows rapid switching between tunings and changing of the base key in which you play (important for non-equal temperament). The tuning tables in the multi-temperament disk took a bit of searching to locate, but they are at address 9740-97FF. They are stored on disk track 01, sector 00. For those of you who are into alternate tunings, the Mirage uses a table lookup system which Dick described in his article on 'Playing between the Keys' (TH #17).

A monitor is a very useful tool if you are into serious Mirage hacking. If you have (or have access to) a Commodore with a disk drive and a MIDI interface I recommend the Leaping Lizards monitor. If you don't have a Commodore you will need the Upward Concepts monitor, at least until someone writes a monitor for other computers which includes a disassembler and assembler.

Good luck and happy hacking. ▬

DICK LORD/UPWARD CONCEPTS MICRO-TONAL SCALES DISK

By Kenn Lowy

FOR: Mirage
PRODUCT: Micro-Tonal Scales Disk
PRICE: $39.95
FROM: Upward Concepts, Bennett Rd., Durham, NH 03824.
(603) 659-2721.

It seems like just yesterday that I was asking for a Mirage operating system that would allow me to create my own scales. Either Dick Lord [of Upward Concepts] is a very fast worker, or he was working on this before I reviewed his "Equal Temperament disk". This new [revised Mirage 3.2] operating system is a little more complex than the equal temperament system reviewed a few months ago. Dick has included several new tunings on the disk as well as three samples. You might recall that I wasn't really thrilled with the three samples on the equal temperament disk [2 were ok], but Dick had informed me that he was more concerned with getting the disk out the door and that he wasn't very happy with the all of the samples either. And besides, no one [to my knowledge] was buying this for samples anyway. There are three samples on this disk as well and all of them are quite good - a harpsichord sample, an organ flute [interesting] and a good steel drum.

But again, back to the real reason why you plunked down your cash for this disk. Once again Dick has been forced to remove sampling from the operating system to make room for the new scales option, and once again, you won't miss it because you are supposed to use MASOS for sampling. He has also removed parameter #66 [Wavetable Rotate] which apparently took up quite a bit of space in the operating system. You won't miss it while you're constructing new scales.

There's a bit of hard technical information to pour through while creating new scales. This is not the kind of thing you sit down and do in a few minutes. For those of you who are happy with what you have now and are not really interested in alternate tunings and scales, I would say, don't bother with this. It's my opinion that most people are offended by weird sounds, and these different tunings can indeed be quite odd. I think they have a very important

place in modern music, and intend to use this new information. But when I play music by Wendy Carlos or The Residents [they're compared to each other all the time] most people ask if I have any "other records". So the thing to remember here is that alternate tunings are not for everyone. But if you're still reading this then I have to imagine that you have some real interest in it.

The specifics: the manual that comes with this disk is 11 pages long, double sided. That should tell you that there's quite a bit to this system. Some of the new parameters on the disk include #73 - Alternate Scale On/Off - you can actually have two different scales loaded at one time and alternate between the two using the sustain pedal. This is a great feature and very useful. Parameter #89 controls the sustain pedal's four options: start and stop sequencer, normal sustain, and switch scales. The only problem with this is that you have to hold the sustain pedal down for the alternate scale. Once you take your foot off, it's back to scale one. Not a serious problem. I can deal with it. The fourth option controls both sustain and scale select. Parameter #90 is used to transpose the keyboard. Parameter #91 is the "scale length" parameter. It accepts values from 1 to 61 [for those long whole-keyboard octave scales].

There are also a few new buttons, sort of. The Sample Upper button is now used to Load Scale. By the way, loading a new scale takes about a second. It is very fast! Sample Upper now Saves a Scale that you have presumably designed and might want to use again some day. As I mentioned earlier, Dick has included some scales to give you a starting point. Some of these scales are quite useful and you may find that you don't need to create any scales of your own - for now. There are 8 scales [A & B - using the sustain pedal to switch between A & B] on the disk. I won't describe all of them as there should be a few surprises left in the world, but here's a sample of what's available: 12 Tone Equal Temperament, 1/4 Tone Temperament (24 notes to an octave), Ascending Pure Thirds (and fifths), and a 21-note octave scale. A few of the scales included on the disk sound a lot like the scales Wendy Carlos used on "Beauty In The Beast", and for good reason - they are those same scales! In fact, Wendy Carlos would like people to use them. For those who haven't heard about Beauty in the Beast, Carlos spent a bit of time playing with alternate scales and tunings and Dick Lord has put them on the disk for your use! These scales are referred to as "Alpha", "Beta", and "Gamma". Many Mirage owners may find themselves using these scales quite a bit instead of creating their own. That would make people like Wendy Carlos very happy and probably make the music business open an eye [or maybe two].

But the real crux of the matter is this: how do you create scales of your own and how easy is it? These are not easy questions to answer. Some people find sampling on the Mirage to be a huge time consuming job, while others look at it as a simple series of routines. In essence, if you really want to program your own scales, you can do it, but it will take time, energy, patience and some knowledge of how the Mirage and Dick Lord's system operates [not to mention some basics on how scales are constructed]. Dick has included all the information you'll need in his manual as well as a BASIC program listing you'll find useful when setting up the parameters for a new scale. Wait - don't stop reading yet - I imagine about half of you have just tossed this article into the air and walked away saying "I need a BASIC program to set up a scale?" No, you don't NEED it, it's included because it can be helpful and the real scale freaks out there will use it. Personally, I won't, and most of you won't. But the point is that this is a very complete package.

To adequately explain how to program your own scale from scratch would take up a bit of space. If you really are interested in this, then you should invest the time [and a little money] and get this package and dive in! I really don't think I'll program more than two or three scales in the immediate future, but somewhere down the road I may want something that I don't have [i.e., a 14 note scale], and I'll be able to get it! Or I may get really lazy and just use the scales on the disk. Let's face it, no sane person would bother to use more than a few different scales. You'll experiment and find a few that suit you and your music, and go from there. There is one little problem, however, these scales will work great on the Mirage, but what you do with your DX7 or ESQ is sort of up in the air. My advice is to be patient. With people like Dick Lord out there, you never know what's going to show up next. ■

Bio: Kenn Lowy is an e-bowist/guitarist/stick player who uses various synthesizers. His first album is due out in the fall on the October label. For pure relaxation he runs road races and competes in triathlons.

ESQ1 LFO SYNCHRONIZATION AND MAGIC TEMPI

By Jim Johnson

All right, everybody, raise your hands. How many people think that LFOs are boring? Hmm.. quite a few. I guess that's understandable, though. I mean, all they're good for is vibrato, right?

Wrong, Kemosabe. While an LFO (which stands, by the way, for Low Frequency Oscillator) may not be as glamorous as a 32 waveform digital oscillator or as handy as a five stage complex envelope generator, there are a lot more uses for this modulator than simple vibrato. For panning, timbre modulation, or any time you want to add a little bit of motion to a sound LFOs will do the trick.

Most synthesizers only provide us programmers with a single LFO, but the designers of the ESQ1 have seen fit to bless us with three of them. This may not seem to be too big a deal at first, but when you start combining the LFOs in different ways, you'll realize that tripling the number of LFOs doesn't just give you three times as many neat applications - it's more like cubing your LFO power. In fact, I'd say that the ESQ's 24 independent LFOs are one reason that the ESQ1 sounds so much thicker than the DX7 with its measly single LFO. (Oops - are my prejudices showing?)

One patch which is a good example of the synergy of multiple LFOs is the LESLIE patch by Sam Mims that was published in the January 1987 issue of the Hacker. Here, the mod wheel is used to fade between one LFO and another set to a higher frequency, to simulate the changing speed of a Leslie rotor. While the patch sounds fine, I was a little suspicious of Sam's claim that an LFO frequency of 34 is exactly twice as fast as a frequency of 17. How come? Normally, digital synth designers tend to bunch up the frequencies in the center of the LFO's range, to give finer control over the vibrato frequencies, and spread them out at the high and low ends, for a wider variety of "special effect" frequencies.

So I put together a little test patch and sat down with my ESQ1, a calculator, and a metronome (actually, the ESQ's sequencer) and calculated the frequencies for most of the LFO FREQ settings under 46, as shown in the table below.

FREQ	Freq. (Hz)	FREQ	Freq. (Hz)	FREQ	Freq. (Hz)
1	0.037478	14	2.518519	26	6.296296
2	0.083951	15	2.833333	27	6.611111
3	0.134926	16	3.148148	28	6.925925
4	0.179894	17	3.462963	30	7.555555
5	0.224868	18	3.777778	32	8.058058
6	0.269841	19	4.029253	34	8.814815
7	0.314815	20	4.407407	36	9.444444
8	0.629629	21	4.722222	38	10.074741
9	0.944444	22	5.037037	40	10.666667
10	1.259259	23	5.333333	42	11.333333
11	1.574074	24	5.666667	44	12.133333
12	1.888889	25	6.066667	46	12.592592
13	2.203704				

An interesting exercise, for sure, but what GOOD is a table of LFO frequencies? By itself, not much, though I'm sure that a few hackers out there will appreciate having this information handy. What is really important is knowing the relative LFO speeds. Sharp-eyed readers have probably already noticed that frequency 26 is twice as fast as frequency 16, that frequency 9 is three times as fast as frequency 7, and that frequency 5 is six times as fast as frequency 1. In fact, there are a number of different frequencies that are exact multiples of other frequencies - and that's what this article is all about.

Anybody who has worked with digital delay line and a sequencer knows the advantages of setting the delay time to be a multiple of the sequencer's tempo. When things are set just right, the echoes will be in sync with the music, which adds all kinds of rhythmic interest. Since we know the LFO frequencies that the ESQ1 produces, we can now do the same thing with synchronized LFO modulation. And, since we know how the LFO frequencies relate to each other, it's possible to create patches in which the three LFOs each create a different rhythmic pulse which is still in sync with the music. Wild, huh? There's only one catch - since the ESQ, like any digital instrument, only has a few different LFO frequencies, there are only a few different tempos that will sync up properly. Hence, the next table, which shows the ESQ's "magic tempos", and the LFO settings needed to produce specific rhythmic values.

	Note length								
Tempo (BPM)	Whole	1/2	1/4	1/4T	1/8	1/8T	1/16	1/16T	1/32
76	7	8	10	12	14	16	22	30	38
80							23		40
85					15		24		42
91							25		44
94			11		16	21	26	36	46
99							27		
104					17		28		
113		9	12	15	18	24	30	42	
121					19		32		
132			13		20	27	34		
142					21		36		

This table shows most of the tempos which are related to one or more LFO frequencies by simple, musically common ratios. As you can see, some tempos are more "magic" than others. This table only covers a single octave of different tempos; for others outside this range, just multiply or divide the note values in the table by two. There are also many holes in the table, for tempos that are only evenly related to one LFO speed. These can be calculated using the equation:

$$T = 240 * (f/n)$$

where T is the tempo, f is the LFO frequency (from Table 1), and n is the number of beats per measure (eight for eighth notes, etc.).

Another omission in the table are other more unusual frequency ratios, such as threes, fives and sevens, many of which can be derived from Table 1 using intuition and a calculator. Such ratios can be used to create more interesting rhythms than the metrically regular divisions in the table. Multiplying a frequency by five, for example, will result in a quintuplet rhythm, and dividing a frequency by three will create a dotted note pattern.

When synchronizing two or more LFOs, RESET should be ON, and HUMAN should be OFF, for each LFO. This ensures that the LFOs will start and stay in phase. Depending on the LFO waveforms used and where they are routed, all kinds of effects

can be created. If two synchronized LFOs are used to modulate the same parameter, the resulting modulation is equivalent to the effect of a single LFO with a complex variable waveshape.

For example, make the following changes to a simple brass or organ patch:

OSC1, OSC2, & OSC3: MOD1 = LFO1, DEPTH = 24, MOD2 = LFO2, DEPTH = 12

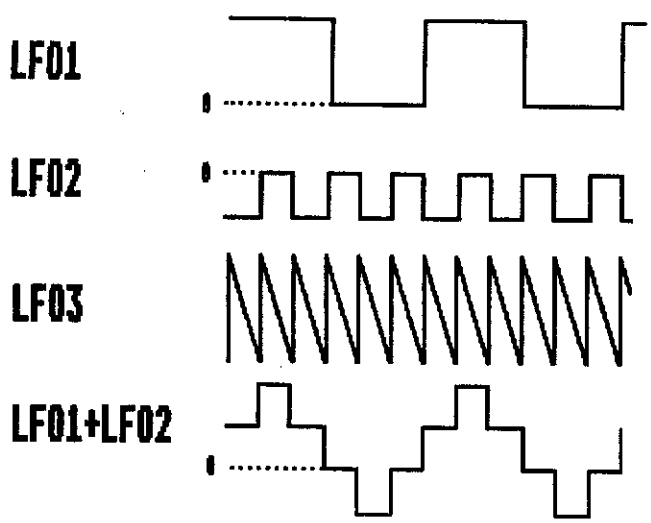
LFO1: FREQ = 10, RESET = ON, HUMAN = OFF, WAV = SAW, L1 = 63, DELAY = 0, MOD = OFF

LFO2: FREQ = 10, RESET = ON, HUMAN = OFF, WAV = TRI, L1 = 63, DELAY = 0, MOD = OFF

The result is a flattened sawtooth pitch modulation. Try setting the two LFO frequencies to evenly related ratios (10 and 14, 8 and 10, etc.), or set the oscillator modulation depths to different values for other complex modulation waveshapes.

Synchronized LFOs can also be used to control different parameters, as in Sam's LESLIE patch. Try changing the frequency of LFO2 to 28 in this patch, which results in the 2:1 frequency ratio Sam sought.

If the synchronized LFOs are set to produce square waves, their outputs can be combined to produce "staircase" waveforms which are similar to those produced by sample and hold modules on older analog synthesizers. The patch at the end of the article uses this technique to create a classic analog sample and hold burble. LFO1 and LFO2 have a frequency ratio of 1:3, and are both routed to the filter, creating a repeating stepped pattern as shown in the diagram below.



LFO3 produces a sawtooth at twice the frequency of LFO2, which articulates the filter steps when routed to the three DCAs. The DELAY and L2 settings on LFO1 introduce a slight change in the stepped waveform by decreasing LFO1's output slowly. Finally, routing LFO2 to OSC2 (which is synced to OSC1) adds a mild periodic timbre change which adds further interest to the sound. A sound like this works best when played at a tempo which locks into the groove produced by the LFOs. The second table shows that tempos of 85 and 113 BPM both sync up with the LFO frequencies in this patch. Playing at the first will produce an eighth note feel, and the second tempo produces a triplet feel.

As usual, exploring all the possible variations on this technique would require much more space than we have here. Start with this patch and experiment with different frequencies, levels, and waveshapes; you'll quickly see how many different effects can be created with synchronized LFOs. ■

PROGRAM: LFOSYC

	OCT=	SEMI=	FINE=	WAVE=	MOD#1	DEPTH	MOD#2	DEPTH
OSC1	0	0	0	EL PNO	LFO1	0	ENV1	0
OSC2	0	0	0	BELL	LFO2	14	ENV1	22
OSC3	0	0	4	BASS	LFO1	0	ENV1	0

	LEVEL=	OUTPUT=	MOD#1	DEPTH	MOD#2	DEPTH
DCA1	63	ON	LFO3	-63	LFO3	-63
DCA2	63	ON	LFO3	-63	LFO3	-63
DCA3	57	ON	LFO3	-63	LFO3	-63

	FREQ=	Q=	KEYBD=	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	14	18	34	LFO1	42	LFO2	-32

	ENV4=	PAN=	MOD=	DEPTH
DCA4	63	08	KBD2	0

	FREQ=	RESET=	HUMAN=	WAV=	L1=	DELAY=	L2=	MOD=
LFO1	9	ON	OFF	SQR	63	4	22	*OFF*
LFO2	15	ON	OFF	SQR	63	0	63	*OFF*
LFO3	24	ON	OFF	SAW	63	0	63	*OFF*

	L1=	L2=	L3=	LV=	T1V=	T1=	T2=	T3=	T4=	TK=
ENV1	63	0	0	26	52	0	59	47	0	10
ENV2	-9	36	-24	5	53	40	31	29	6	36
ENV3	-1	-24	-60	19	52	13	19	14	31	12
ENV4	63	35	23	13	4	0	48	43	46	32

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

SPLIT/LAYER - OFF LAYER - OFF SPLIT - OFF

Bio: Jim Johnson, an electrical engineer, has played synths in several Phoenix, AZ bands. He's written for Electronic Musician, KCS, and co-wrote Dr. T's Algorithmic Composer package. He is owner of JAMOS Music, a MIDI programming and consulting firm. He looks like a young Donald Sutherland.

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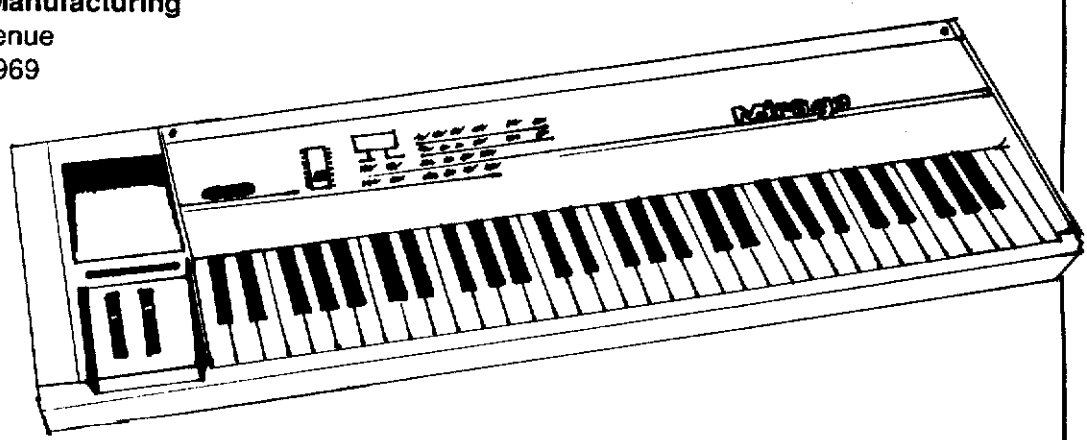

*Compatible with the Mirage, Mirage Rack and Mirage-DSK

ESQ-1 PATCH REVIEWS

SONGWRITER SERIES 1 FROM MUSIC BANK

By Larry Krall

FOR: ESQ-1
PRODUCT: SONGWRITER SERIES 1
PRICE: $19.95
FROM: THE MUSICBANK, 18522 Mountain View Ave., Los Gatos, CA 95030. (408) 353-5040.

Being one of those musicians who goes through the classifieds every day seeking something new to add to my musical inventory, I was really looking forward to reviewing the Songwriter Series 1 by Music Bank for my own purposes as well as for you.

According to Music Bank, 40 "all new" patches have been created. I could hardly wait to load the data.

OH BOY, THOSE DATA CASSETTES! After a few trying minutes and a few choice words, finally - success. A quick hint on loading the data cassette. If your tape deck has a speed control, I find that a 20% increase in tape speed and a hot signal to the ESQ seems to be the ticket to get the data to transfer.

The Songwriter series has a demo cassette as well as a data cassette and a separate small note containing loading instructions with some helpful hints for program range and thoughts on the split/layer mode. I found this addition useful.

Now we're set to take a look (a listen?) at these 40 patches. The contents of the tape includes guitar, sax, flute, trumpet, harp, acoustic and rock bass, brass, string, and percussion sounds. At first, following my initial run-through, I was glad that I hadn't sent my money in to Music Bank. At this point, I just was not that impressed. The demo cassette states that "Series 1 concentrates on the basics." - that these patches are intended to provide the songwriter with what's needed to compose on the ESQ without a ton of outboard gear. My opinions were open to change.

I started with the percussion sounds. Kick drum, tom toms, high hat, snare drum, gated snare, claps, and wood (rimshot). The drum sounds fill the bill as far as supplying the basic drum kit and are very similar to the Roland 505 and other like machines, with only the kick drum lacking the sound of the original.

Next I went looking for some different bass sounds. I found that the two bass sounds offered, rock bass and jazz bass, were adequate, but not inspirational. However, again keeping in mind that the Songwriter Series 1 is supposed to supply "the basics," it was fulfilling that purpose.

Their Hammond offering is one of the best I've heard to date. But, remember the Vox and the Farfisa? These patches either fall short of the real thing, or my memory is going.....mmmm, a possibility. On the other hand, how often do you use those sounds, anyway?

Brass, strings, analog filter sweeps - yes, folks, they have them all. The bottom line here is that these sounds are not really "new sounds" even though they are original. All the sounds are variations of sounds we have all heard before. However, in spite of this, I can still recommend them as a worthy addition to your personal library. Looking at the whole set - drum sounds, a terrific Hammond patch, a couple of other real usable sounds, it's a good deal for the $20. One thing this set of patches will do is change the way you use - and view - your current library. However, the real strength of the Music Bank offering is in the percussion section; it alone is worth the price, and, with the added attraction of not having to go to a separate drum machine to get your complete drum set sounds -- well, there you go.

There's an extra bonus to this group of patches that I discovered only over a period of time. Although it was designed for the songwriter, I'd been taking the patches on a few jobs and found that several of them worked even better in live performance. So just don't file them away for studio use - take them on your gig.

Music Bank's next offering will demand an even greater creative effort if they are to meet the demands and needs of the working musician, songwriter, and hobbyist. And, it will be worth watching to see what they come up with next. ■

Bio: Larry Krall is a business manager, singer and keyboard player in the highly successful northwest band PANAMA, and, additionally, a stockbroker. He's been playing synths since 1970.

ENSONIQ ESQ VOICE CARTRIDGE VOLUME #3: LAYERS

By Don Slepian

FOR: ESQ-1
PRODUCT: Volume #3
PRICE: $49.95
FROM: Ensoniq Dealers or Ensoniq, 155 Great Valley Parkway, Malvern, PA 19355. 1-800-553-5151.

I have just spent an enjoyable several hours with the Ensoniq Layers voice cartridge programmed by John Greenland, and can happily report that there's not a dull or useless sound in the lot.

Throughout the cartridge the voices feature 4 voice polyphony and double the normal thickness of sound, as if you had an invisible second ESQ-1 MIDIed up to your machine. Adjusting your playing style to having only four simultaneous notes available may take a little practice, but this is well rewarded by effectively doubling the sound of your instrument. These adjustments are just as important to the creation of sequenced parts as they are to live playing.

Two rules when using this cart will make your live playing cleaner, your sequences smoother and less glitchy, and your overall life easier: avoid your customary voice doublings, and use finger legato techniques rather than the sustain pedal to smooth over your sounds.

Many players will express the root of a chord by playing an octave in the left hand. When transferring your parts to take advantage of the sounds in the layers cart, avoid this octave habit and just play the lowest note. Four note polyphony can sound very full when each note played is different (no octaves or unisons). Try keeping the lowest note of the chord (not necessarily the root) an octave or two away from the other three notes. Often the customary third of the chord can be dropped, leaving more opportunities to add the color tones of 7ths, 9ths, 11ths, and 13ths.

Because of the reduced polyphony of the doubled sounds on the layers voice cart, the sustain pedal will not produce the same "wash" of sound it does with single sounds. Use the pedal sparingly, and adjust by holding each note longer with the fingers so that the sound transitions from one note to the next are smooth, graceful, and even. Once you get a feel for this technique you won't miss the sustain pedal, and by mixing this legato finger technique with judiciously placed staccatos and accents in the same phrase or line, you will have the great pleasure of developing your powers of musical expression by developing control over your articulation. The ESQ-1 responds beautifully to dramatic articulation. Try these techniques first on single-note lead lines in Unison mode, and than transfer them to the 4-voice polyphony of the layers cart.

Standout sounds in this fine collection are "Herald", CRTA3, layering a vocal attack with a deep sawtooth bass, and "Spats", tuned air with the chiff of an organ pipe. Out of a series of "Atmosphere" voices I like best "Atmosphere 5", a beautiful, hollow, multi-octave drone. CRTB1 holds a splendid Latin percussion kit, with an unusual deeply flanged "Ride" cymbal. On CRTB2 I especially liked "Slit +", with its high minor 3rd harmonic riding way above a deep damped sinusoid.

A voice cart of this excellence is a tribute to the powerful potential of the ESQ-1. It is well worth the adjustments of your playing techniques to 4 note polyphony to add these sounds to your music. ■

Bio: Don Slepian has been an active performer in electronic music since 1970 and video art since 1976. He has twice been sponsored by the French Ministry of Culture to perform electronic music and computer graphics in Paris and La Rochelle, and presently consults in these areas for Bell Communications Research. His album "Reflections" is on the Audion label distributed by JEM Records.

ESQ1 Editor/Librarian

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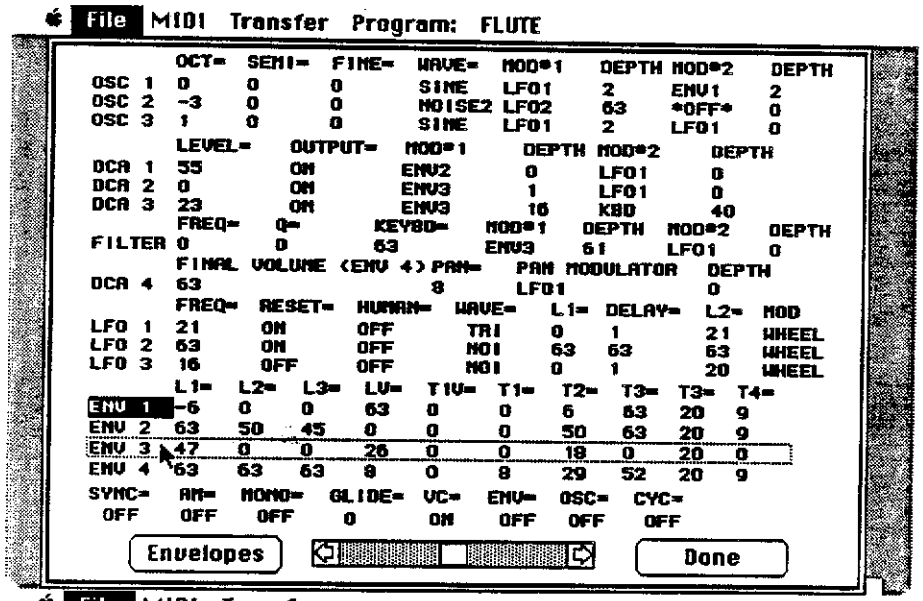

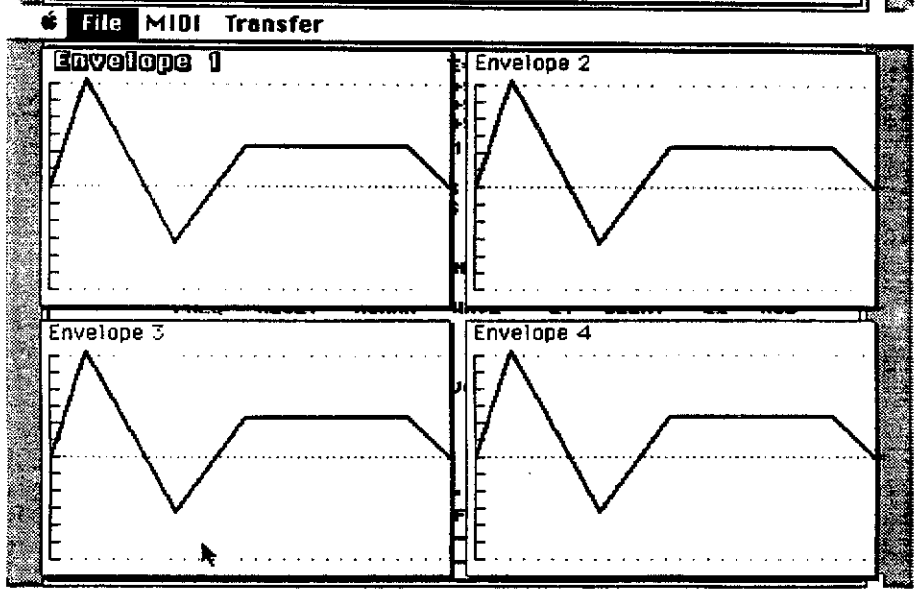

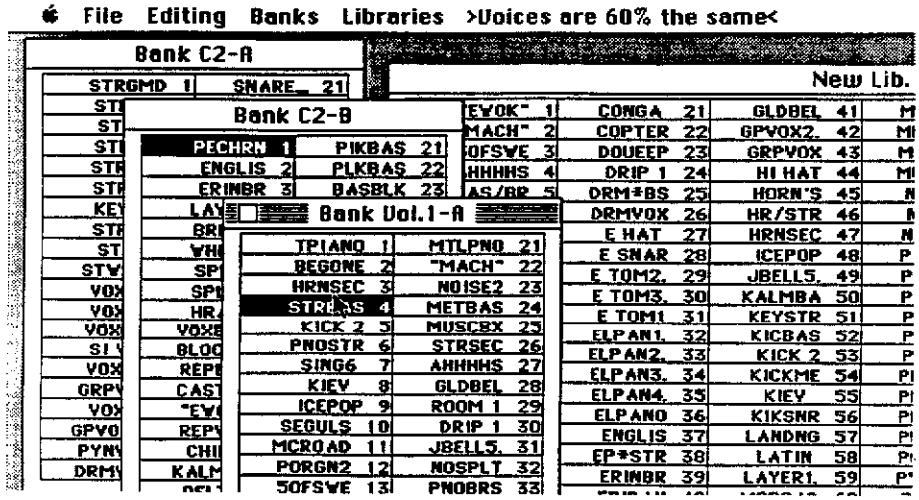

USING MIX MODE

MIRAGE PARAMETER 28 REVEALED

By Joseph Palmer

I really thought I knew mix mode. I mean, I'd read the Advanced Samplers Guide (really slow in parts, and no plot to speak of...) and I had even made my own samples with chorusing and mixing. But after all of that, I was still left somehow unfulfilled by mix mode. This condition is frequently referred to as "The Heartbreak of Parameter [28]". So...after owning a Mirage for almost two years, and I finally decided to sit down and spend the time to figure out just what this mix mode can do. I spent a quiet evening with MASOS, Sound Lab, and sound disk 1.4.

What I learned left me a bit in awe of the architecture and possibilities of the Mirage, and I stumbled over a great feature, which is really more a lack of limitation than a feature.

I booted my Mirage with MASOS and loaded U/L 3, 8 wavesamples per keyboard half. This "sound" has the spoken words "one" through "eight" in each respective wavesample. The advantage of this is that it is very easy to hear the mixing of wavesamples, as you hear the two words at once. The internal workings of the Mirage have two "oscillators" which are mixed together to make each of the voices. We all know that the oscillators are really memory pointer counters that "play" each wavesample. The mix mode switch controls which wavesample is "played" by oscillator 2. With the mix mode on, and your initial wavesample set to 1, oscillator 1 plays wavesample 1, and oscillator 2 plays wavesample 2. With the mixed mode off, both oscillators play wavesample 1. Simple enough, except if you set the initial wavesample to 8 with the mix mode on. Then oscillator 2 will seemingly play whatever catches its fancy. This is not recommended, even though the sound that comes out is truly weird. Oscillator 2 ignores wavesample boundaries and ploughs through memory until it finds something it thinks means enough already, shut up! Sounds a bit like something from Jean-Michel Jarre's Zoolook album. This is not the great feature I mentioned above. That great feature has a lot more to do with loops.

The Advanced Samplers Guide tells us that mix mode does a few things to the wavesample played on oscillator 2. It substitutes the first wavesample's coarse and fine tunings, relative amplitude, relative filter frequency, and top key. What the A.S.G. fails to point out is that mix mode does NOT impose the first wavesample's loop switch, start, end, and fine end settings. It never occurred to me to look at what mix mode didn't do. The point of all of this is that it is possible to have two different length loops mixed together in one sound! I set wavesample one to loop the whole sample, and wavesample 2 to loop only a little section. The result was ONE..... ONE..... ONE..... mixed with TWO.OO.OO.OO.OO.OO.OO.OO.. Not a very great sound. So I turned off the loop switch for wavesample 1.

What I got was ONE..... mixed with TWO.OO.OO.OO. OO.OO.OO.OO.. Now THAT sounded so totally unlike a piano, I decided I had to see how Ensoniq had done the piano samples.

I loaded the Acoustic Piano from sound disk 1.4 into the Mirage and uploaded the sounds into Sound Lab. The sound was done with mix mode using a short loop of the sustained sound of a piano mixed with the non-looped attack of a piano. Mix mode was no longer a mystery, I felt fulfillment.

I looked through the A.S.G., the Sound Lab manual, and all of the back issues of the Hacker and I found no mention of the use of mix mode for mixing different loop lengths and non-looped sounds. I had assumed the Mirage would use the loop points from the initial wavesample for the loop on the next wavesample. This revelation opens a universe of difficult to loop sounds to new possibilities. Perhaps I missed this feature somewhere in the documentation, I really don't remember seeing it anywhere. Well, anyway, now we all know. ■

Bio.: Joseph Palmer is a design engineer who lives in the very heart of Silison Valley with his cat "Eno" and one of the early Mirage keyboards. He built his first Input Sampling Filter from scratch (since retired) when none were available from Ensoniq.

SYNTHESIZER ON A MIRAGE DISK

By John C. James

As Dick Lord has so aptly demonstrated in previous Hacker articles, the Mirage is a computer. It has a disk drive, a memory, a display and a CPU. See Dick Lord's articles in issue numbers 12, 13, 17, 19 and 22.

It is possible to develop a software synthesizer for the Mirage which can be completely contained and stored on the standard 3 1/2 inch Mirage diskette. The synthesizer would require no peripheral hardware but instead use the Mirage itself as a computer.

This article will provide a preliminary design of an additive synthesizer (AS) for the Mirage. What is needed is a computer program with the following two characteristics. 1) It can be loaded into the Mirage like a sequence. 2) It can access parameter values and can generate waveforms.

Ensoniq's standard OS for the Mirage can be used to enter the needed parameters. For example, an AS with sixteen oscillators, each with a three stage envelope, would use the following parameters:

#26 oscillator select (8 oscillators in each memory half). Then for each oscillator the following parameters must be specified:

#60 Attack in pages

#61 Sustain level

#62 Sustain pages

#63 Release pages

#64 Frequency

#66 Wave select

#68 Detune

Parameter #61 is a "%" but in hex. Parameter #64 has an implied "hexadecimal point" between the two hex digits. Parameter #66 allows the user to select from a table of up to 256 different waveforms. Each waveform is one page in length. The hexadecimal representation of a sine wave is given at the end of this article. Parameter #68 specifies the number of samples the oscillator will be detuned, in other words, shifted to the left.

How will the computer program compute the value of each of the samples for each of the oscillators? Let X point to the desired sample. The value of the "#64" harmonic at (X minus "#68") is the value of the fundamental at ("#64" times X). The value of the fundamental is taken from the wave selected by "#66". There does not appear to be any advantage to rounding as opposed to truncating the results. For these calculations to work correctly hex '01' must represent decimal -127 and hex 'FF' must represent +127 (see page 65 of the ASG).

The result from the previous paragraph must be modulated by the envelope parameters #60, #61, #62, #63. Let S be the value of the sample computed in the previous paragraph. If the current page (C) being computed is less than #60 this is the attack portion of the envelope and the final value (V) of the sample is given by the equation:

$$V = C/\#60 \times \#61/hex\ 'FF' \times S$$

If the current page being computed is greater than or equal to #60 and less than (#60 + #62) then this is the sustain portion of the envelope and the final value of the sample is given by the equation:

$$V = \#61/hex\ 'FF' \times S$$

If the current page being computed is greater than or equal to (#60 + #62) and less than (#60 plus #62 plus #63) then this is the decay portion of the envelope and the final value of the sample is given by the equation:

$$V = ((\#60 + \#62 + \#63) - C)/\#63 \times \#61/hex\ 'FF' \times S$$

Ultimately, the values for all 16 oscillators must be added together. After all sample values for the entire waveform have been computed and stored in memory the standard Ensoniq OS for the Mirage can be used to write the waveform to disk as a standard Mirage sound.

In addition to the articles cited previously, Dick Lord provides documentation about the Mirage when selling his "monitor" disk. TRS-80 Color Computer Assembly Language Programming by William Barden Jr ... Radio Shack catalog number 62-2077 is an inexpensive and useful book. Books about the Motorola 6809 can often be found in libraries, for example, Microcomputer Interfacing written by G. Jack Lipovski and published in 1980 by Lexington Books of D. C. Heath and Company.

A software synthesizer for the Mirage would allow the musician to easily and inexpensively create an almost infinite array of sounds without having to spend a small fortune on computer equipment. Perhaps this article merely describes a fantasy that will never materialize but if anyone is talented enough to bring a SYNTHESIZER ON A MIRAGE DISK to the marketplace then the world of Mirage owners, including myself, will surely beat a path to their door. ■

Hexadecimal representation of a sine wave:

80 83 86 89 8C 90 93 96 99 9C 9F A2 A5 A8 AB AE
B1 B3 B6 B9 BC BF C1 C4 C7 C9 CC CE D1 D3 D5 D8
DA DC DE E0 E2 E4 E6 E8 EA EB ED EF F0 F1 F3 F4
F5 F6 F8 F9 FA FA FB FC FD FD FE FE FE FF FF FF
FF FF FF FF FE FE FE FD FD FC FB FA FA F9 F8 F6
F5 F4 F3 F1 F0 EF ED EB EA E8 E6 E4 E2 E0 DE DC
DA D8 D5 D3 D1 CE CC C9 C7 C4 C1 BF BC B9 B6 B3
B1 AE AB A8 A5 A2 9F 9C 99 96 93 90 8C 89 86 83
80 7D 7A 77 74 70 6D 6A 67 64 61 5E 5B 58 55 52
4F 4D 4A 47 44 41 3F 3C 39 37 34 32 2F 2D 2B 28
26 24 22 20 1E 1C 1A 18 16 15 13 11 10 0F 0D 0C
0B 0A 08 07 06 06 05 04 03 03 02 02 02 01 01 01
01 01 01 01 02 02 02 03 03 04 05 06 06 07 08 0A
0B 0C 0D 0F 10 11 13 15 16 18 1A 1C 1E 20 22 24
26 28 2B 2D 2F 32 34 37 39 3C 3F 41 44 47 4A 4D
4F 52 55 58 5B 5E 61 64 67 6A 6D 70 74 77 7A 7D

Bio: John C. James (not his real name) uses a Mirage for his own personal enjoyment and is busy pursuing a PhD in business at the University of Pittsburgh.

STEINBERG RESEARCH'S MIRAGE TERMINAL EDITOR FOR THE COMMODORE-64

By Steven Fox

FOR: Mirage and Commodore-64
PRODUCT: Mirage Terminal Editor
PRICE: $149.00
FROM: Steinberg Research. Distributed in the U.S. by Russ Jones Marketing (17700 Raymer St., Suite 1001, Northridge, CA 91325, 818-993-4091), or from local dealers selling other Steinberg Research software.

Mirage Terminal Editor is a visual editor for the Commodore-64. It was written by Steinberg Research of Germany (who also wrote the excellent PRO-16 sequencer software for the C-64). Despite terrific sales and wide acclaim in Europe, Steinberg Research's Mirage Terminal Editor has remained virtually unheard of in the States. This is unfortunately and entirely due to the near zero amount of promotion Russ Jones Marketing (who currently distributes all Steinberg Research software in the States) has put into it.

Mirage Terminal Editor won't give you any features you don't already have using MASOS 2.0. But it does allow you to sit down in front of your Commodore and easily control the Mirage from the computer keyboard. All parameters can be viewed and edited with Mirage Terminal Editor from two of its three screens.

The first screen displays all the configuration and program parameters, including four visual graphs showing the APDSR envelopes for the amplitude and filter settings. The selected keyboard half, program number and sample number is always displayed at the top of every screen.

Parameters are changed by using the cursor keys to move a frame-shaped cursor over the value of the parameter you want to change. You use the plus and minus keys to either toggle the parameter on or off, or increment or decrement its value. I found that incrementing and decrementing using Mirage Terminal Editor is twice as fast as holding down the buttons on the Mirage. The Mirage's LED display echoes whatever parameter or value you select on the computer screen.

By using the swap-screen command, selected from the "roll-menu" at the top of the screen, the selected sample will be read into memory. The sample is displayed in an odd looking fish-bone or hair-comb sort of fashion. Displayed along the top of the screen are all the wavesample parameters which can be changed as well. Also on this screen are two cursors which allow to zoom in on any part of the wavesample. You may zoom in or out as many times as you like, however, you cannot zoom in closer than one page.

Surprisingly, even an entire 64k sample can be displayed and is easily examined. Moving one of the cursors around the display with a joystick will give you the values of the bytes in the sample. The joystick also lets you redraw portions of a sample, even an entire sample can be drawn. It can also be used to draw one page waveforms. Mirage Terminal Editor supports game-paddles as well, which should make waveform drawing a bit easier than using a joystick.

Getting back to the "roll-menu", it also selects the upper or lower half, sample number, and program number. It allows you toggle the parameter displays between hex (or as you would see it on the Mirage display) and decimal. The top key values of all 16 samples can be graphically displayed as a third screen although the values cannot be changed. Sampling parameters can even be set up, but you must press the SAMPLE button and ENTER on the Mirage keypad to actually sample. By the way, I've found sampling with a computer monitor on nearby can make a really nasty sounding sample. You might want to turn the monitor off while sampling, or even do all your sampling before you start editing with the computer. Loading and saving samples to Mirage disk must be done from the Mirage keypad.

My favorite function in Mirage Terminal Editor is the ability to change all the MASOS parameters. A little window pops up in the middle of the screen displaying all the MASOS parameters but leaving the rest of the display. For someone with a bad memory for numbers, like myself, being able to set the MASOS parameters while also viewing all the wavesample parameters and all the other MASOS parameters at the the same time speeds things up tremendously. Once the MASOS parameters have been set you can activate one of the MASOS functions from a similar window.

As I originally purchased this program well over a year ago in England, I contacted Russ Jones and found that the software is virtually the same now as it was then. My original English version had a terribly translated (from German) manual, and the program worked only in conjunction with Steinberg's own MIDI interface. Mirage Terminal Editor has apparently now been revised with a new manual and now accepts the Passport MIDI interface which is more common here. I couldn't test this for myself as Russ Jones couldn't even temporarily spare a copy of the revised program for review. But, I'll have to take his word for it.

Overall, Steinberg Research's Mirage Terminal Editor for the C-64 is an excellent program. It's well thought out, the color scheme and screen layouts are very pleasing to the eye, you can even play the Mirage from the computer keyboard if you own a rack-mount Mirage. Mirage Terminal Editor is the only visual editor I use to edit my samples. If Russ Jones would only give it the publicity it deserves, it could take off in a big way. ■

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

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HACKERPATCH HACKING

By Erick Hailstone & Clark Salisbury

With this issue a new slant is being added to the "Hackerpatch" section. We'll (Erick & Clark) select a patch each month and create variations from it. In this manner we hope to show you how to tweak your own sounds and demonstrate some specific techniques. This isn't meant to imply that any particular patch "needs" tweaking (or, on the other hand, isn't suitable for tweaking) - patches are just selected to demonstrate a point. Hopefully we'll all learn something in this process. If you are having trouble creating an effect in a patch make note of it when you send in your patch and if time and space allows we'll see what we can cook up.

The patch we are starting with is called "FAT 5" BY Doug Fietsch and appeared in Issue #24. [Ed. - Typically the patch selected will be one in the current Hackerpatch. Logistics made that impossible this month.] Doug describes this as the infamous Roland JX8P "Fat Fifth" sound.

Let's compare "FAT 5" with "POWER". All 3 OSC's are the same. Notice that all 3 DCA's are being modulated by ENV2. This gives a little shape to the sound and introduces some velocity control to the sound. [Check out ENV2]. Although I have opened up the filter, this is a minor change in these two sounds.

Now for the biggy! On DCA 4 I have assigned ENV2 to control panning at the output. PAN is set at 4 so the sound starts from 1 speaker more than another. Once you release a key the note is slapped across to the other speaker. This gives an ambient effect similar to something you would create with a digital delay or reverb. Experiment with the settings of ENV2. There are many variations possible. ENV4 which controls the overall output has been altered to add shape and velocity control. Velocity control comes from the LV settings. Again, experiment to find your own variations.

Well that about wraps things up this time. The significant changes between these 2 sounds are:

1. Adding ENV2 to all three DCA's to give shape and velocity control.

2. Having ENV2 control Panning.

3. ENV4 now adds shape and velocity control to the final output.

Try these ideas with other sounds. Most of the time they transfer quite well.

Erick Hailstone & Clark Salisbury

The MIDI Connection

ESQ-1 PROG FAT 5 BY: DOUG FIETSCH

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	7	0	SAW	ENV1	63	OFF	0
OSC 2	-1	7	2	SAW	LFO2	0	OFF	0
OSC 3	-2	11	31	SAW	LFO1	0	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	0	LFO1	0
DCA 2	63	ON	OFF	0	LFO1	0
DCA 3	63	ON	OFF	0	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	0	0	50	ENV3	63	LFO1	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	54	8	OFF	0

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	0	0	21	WHEEL
LFO 2	63	OFF	ON	NOI	63	63	63	WHEEL
LFO 3	9	OFF	OFF	SQR	63	0	63	WHEEL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	4	0	0	31	0	9	0	0	0	9
ENV 2	-63	63	0	0	0	0	46	46	0	63
ENV 3	49	0	0	0	0	4	53	24	5	0
ENV 4	63	63	63	2	0	0	29	52	21	9

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

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

ESQ-1 PROG POWER BY: ERICK HAILSTONE

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	7	0	SAW	ENV1	63	OFF	0
OSC 2	-1	7	2	SAW	LFO2	0	OFF	0
OSC 3	-2	11	31	SAW	LFO1	0	LFO1	1

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV2	63	LFO1	0
DCA 2	63	ON	ENV2	63	LFO1	0
DCA 3	63	ON	ENV2	63	OFF	-3

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	35	0	50	ENV3	63	LFO1	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	54	4	ENV2	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	0	0	21	WHEEL
LFO 2	63	OFF	ON	NOI	63	63	63	WHEEL
LFO 3	9	OFF	OFF	SQR	63	0	63	WHEEL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	4	0	0	31	0	9	0	0	0	9
ENV 2	63	0	63	30	0	0	59	44	0	0
ENV 3	49	0	0	0	0	4	53	24	5	0
ENV 4	63	43	63	38	0	0	44	63	27	51

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

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	-	OFF	-	OFF	-	60

HACKERPATCH

HACKERPATCH is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Once something's published here, it's free for all.

PROGRAM: PERCET

By Frank Leister ***(Leister Productions)***

A bitey but soothing patch with autopan and chorusing on the MOD wheel.

PROGRAM: 7TH-FX

By David Bell ***(Morehead City, NC)***

7TH-FX is a patch I did to use for textures. It is useful for two or three note chords with an appropriate bass line. The first OSC is tuned just under an octave with the third OSC tuned to a 7th. Different waves can be used and the ENV can be changed to create a swell overall or for the filter only.

PROGRAM: RTRWIP, RTREOW

By Al West ***(Shreveport, LA)***

If any of you Hackers have been trying to come up with the sound (or something like it) used by Eddie Van Halen in the song "Why Can't This Be Love," I have come up with a reasonable substitute. Note that RTREOW is actually two sounds: one being a modified factory "EOWW" and the other being a patch I created from scratch specifically for this song (RTRWIP). I welcome any input/output from other ESQ-1 owners from around the country. I would like to exchange programming tips and/or patches through the mail (text format). I can be reached (8-5 CST) almost every working day at (318) 222-1000 or (318) 868-3165 after 5 CST. Long-distance calls will be returned. Or - #6 Parkway Commons, Shreveport, LA 71104. Happy Jamming!!

ESQ-1 PROG PERCET

BY: FRANK LEISTER

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	5	PULSE	LFO1	4	ENV1	0
OSC 2	-1	0	6	PULSE2	LFO1	5	ENV1	0
OSC 3	0	0	3	REED	OFF	63	OFF	-32

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	0	OFF	0
DCA 2	60	ON	OFF	35	OFF	-27
DCA 3	63	ON	ENV1	40	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	4	3	44	ENV3	45	ENV2	15

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	8	LFO2	47

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	ON	TRI	0	1	0	WHEEL
LFO 2	12	OFF	OFF	TRI	63	0	20	OFF
LFO 3	62	ON	OFF	NOI	56	0	20	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	0	0	63	0	0	8	0	0	1
ENV 2	63	0	0	0	0	0	0	0	0	0
ENV 3	63	30	1	59	22	0	28	47	37	15
ENV 4	63	47	0	29	63	0	41	63	44	9

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

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

ESQ-1 PROG 7TH - FX

BY: DAVID BELL

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	11	31	PULSE2	OFF	0	OFF	0
OSC 2	-1	0	7	SAW	LFO2	1	OFF	0
OSC 3	-1	7	7	SAW	LFO2	2	OFF	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	0	OFF	0
DCA 2	0	ON	ENV3	63	OFF	0
DCA 3	56	ON	OFF	0	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	25	0	38	ENV3	14	OFF	0

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	OFF	ON	TRI	0	1	20	WHEEL
LFO 2	22	OFF	ON	TRI	0	21	20	WHEEL
LFO 3	6	OFF	ON	TRI	56	0	20	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	0	0	0	0	0	0	0	0	0	0
ENV 2	0	0	0	0	0	0	0	0	0	0
ENV 3	63	36	24	16	22	40	32	0	54	9
ENV 4	63	60	43	22	32	0	28	42	32	9

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

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

ESQ-1 PROG RTRWIP

BY: AL WEST

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	4	SAW	LFO3	31	LFO3	31
OSC 2	-1	0	0	PULSE	LFO3	31	LFO3	31
OSC 3	-2	0	0	PULSE	LFO3	31	LFO3	31

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	0	OFF	0
DCA 2	63	ON	OFF	0	OFF	0
DCA 3	63	ON	OFF	0	KBD	31

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	20	0	0	ENV3	31	LFO2	31

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	2	ENV3	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	20	ON	OFF	TRI	0	0	20	WHEEL
LFO 2	26	ON	OFF	TRI	63	0	63	OFF
LFO 3	26	ON	OFF	TRI	0	3	0	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	46	63	0	0	0	63	63	20	9
ENV 2	63	46	63	0	0	0	63	63	20	9
ENV 3	63	46	63	63	0	0	63	63	20	9
ENV 4	63	60	63	20	0	0	63	63	23	4

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

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	INT 01	OFF	INT 01	OFF	INT 01	

ESQ-1 PROG RTREOW (MOD OF FACTORY "EOWW")

BY: AL WEST

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	0	0	SINE	LFO1	6	OFF	3
OSC 2	-1	0	0	SQR	LFO1	0	ENV1	39
OSC 3	-2	0	1	BASS	LFO1	4	LFO1	0

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	37	ON	OFF	0	OFF	63
DCA 2	52	ON	OFF	35	OFF	-63
DCA 3	55	ON	OFF	63	OFF	0

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	42	0	23	ENV3	50	VEL	0

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	58	8	OFF	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	23	OFF	ON	TRI	0	1	20	WHEEL
LFO 2	22	OFF	ON	TRI	9	52	34	OFF
LFO 3	10	OFF	ON	TRI	27	0	20	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	23	0	27	30	0	0	31	54	20	9
ENV 2	63	50	45	0	0	0	50	63	12	9
ENV 3	50	43	0	0	22	0	17	46	37	0
ENV 4	63	63	63	10	1	0	17	63	0	9

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

SPLIT/LAYER	S/L PRG	LAYER	LAYER PRG	SPLIT	SPLIT PRG	SPLIT KEY
OFF	INT 01	OFF	INT 01	LOWER	RTRWIP	60

CLASSIFIEDS

USER GROUPS

Philadelphia area ESQ-1 user's group. Lots of public domain patches, programming info, sequencing and MIDI tips, and more. Contact Tom McCaffrey, ESQUPA, P.O. Box 427, Bensalem, PA 19020. (215) 750-0352.

SAMPLES

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

TRADE YOUR MIRAGE SAMPLES. Send me a list, or just send some good disks and I'll copy my best on them and send them back. I also would like to trade Apple II+ software, especially MIDI and Mirage programs (no copyright material). Send to: Daniel Wolkoff, 3705 Gates Rd., Vestal, NY 13850.

Five Mirage disks from "Sound Cells" including: Air Choir, Bottle Flute, Sound-Track, Orchestra, Piano-String, Choral Strings, Rock Guitar, 12-String, Guitar, and more! All five disks, $30. Call Kevin (503) 344-3494.

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

SERVICES

Customizing of disks (moving wavesamples). Also interested in trading sounds. Call or write: Jack C. Loesch. 201-264-3512 after 6 pm Eastern time. 162 Maple Pl., Keyport, NJ 07735.

SOFTWARE

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

We've got Mirage Visual Editors for the Atari ST and Commodore 64 in stock and ready for immediate delivery. Also the fabulous new ESQ-Apade ESQ1 editor for the Atari ST. Call or write for an unbelievable price. Visa, Master Card, and COD orders welcome. Leister Productions, 14 Hill Blvd., Mechanicsburg, PA 17055. (717) 697-1378.

PATCHES

ESQ-1 OWNERS! GET THE SOUNDS THAT YOU WANT AND NEED! 120 quality voices you can order as volumes 1-4 or CHOOSE the sounds you want from the MIX AND MATCH VOICE LIBRARY. Write or call for FREE SAMPLE plus sound list.. All volumes just $15.00 for patch sheets, cassette, OR SOS PATCH LIBRARIAN Diskette: C-64/C-128 with Passport or Sequential MIDI. Stores 8 banks of 40 sounds in memory or all sequence data, swap sounds between banks, store hundreds of sounds on one floppy. $75.00 or $85.00 WITH one volume of your choice! STILL VOICE AUDIO, 3041 Sumter Ave. South, St. Louis Park, MN 55426. (612) 927-0451.

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

I am looking for ESQ-1 users in the Burlington, Vermont area. I would like to exchange sounds, sequences, patches, ideas, ... If interested, call or write. Bryan Moore, 1-802-863-5100. 12 Waybury Rd., Colchester, Vermont 05446.

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

ESQ1 PATCHES and Commodore 64 software from JAMOS MUSIC! Two all-original sets of forty sounds each for the ESQ1 on cassette, with full patch listings and application tips, $25/set. All sounds programmed by Hacker author and ESQ1 expert Jim Johnson. ESQRND: An algorithmic patch generator for the C64 and ESQ1. Reviewed in the Feb. 1987 Hacker, ESQRND is a useful tool for pros and beginners alike. $20. MIDIPRINT2.1: A MIDI data display program for the C64. Features real time or buffered display, variable data filtering, MIDI thru, printer or screen output, and hex, decimal and English display modes. An essential tool for troubleshooting and education, this program is a STEAL at $15. For more information send a SASE to JAMOS MUSIC, 1970 N. Hartford #17, Chandler AZ 85224

SEQUENCES

For the ESQ1: Classical music sequences from piano and organ scores. Patches to go with the sequences using SOS software and Commodore 64. Send for a free list. Don Pribble, 6810 Highway 55, Minneapolis, MN 55427.

ACCESSORIES

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

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

INSTRUCTION

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

FREE CLASSFIEDS!

Well, - within limits. We're offering free classified advertising (up to 40 words) to all subscribers for your sampled sounds or patches. Additional words, or ads for other products or services, are 20 cents per word per issue. (Unless renewed, freebie ads are removed after 3 issues.) While you're welcome to resell copyrighted sounds and programs that you no longer have any use for, ads for *copies* of copyrighted material will not be accepted.

THE INTERFACE

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

Dear Hacker,

Question #1: Is there anyone who can tell me the location of the potentiometer to adjust the master tuning oscillator on the Ensoniq Mirage? My Mirage has been slightly down in pitch since I purchased it in January of 1986. I did not take it to a certified Ensoniq repair facility because of being told of a possible 2 to 3 week wait. I did not feel I wanted to be without the instrument for that long because of a simple adjustment. I coped with the problem by lowering the value of parameter #21 from (50) to (48). Lowering it to (48) put the master tune oscillator at the concert pitch of A44O.

Question #2: Is there a current detailed factory service manual available for purchase from Ensoniq? If so, what is the cost and where may I purchase it?

Question #3: To anyone using the Sonus Super Sequencer 128 sequencing software for the Commodore 128 (I have talked to Sonus and Ensoniq directly without satisfaction): Please advise me of the MASOS parameter setup for dumping and loading patch data into and out of the "Exclusive System Library" feature of the software. When I talked with Sonus quite a while ago, their Mirage was down at the time and they could not walk me through the procedure, but insisted it could be done.

Question #4: Is there software available for the Commodore 128 so that digitally sampled data residing in the Mirage be transferred onto a standard 5 1/4 inch floppy diskette using the Commodore's disk drive via MIDI? I would like to be able to catalog my digitally sampled sounds on the cheaper floppy diskettes instead of the somewhat expensive 3 1/2 inch diskettes that I now use for the disk drive that came with the Mirage.

Comments & Suggestions: To date, I have had no other problems or complaints with respect to the Mirage, except as noted above. I find the instrument invaluable to me in my profession. It has allowed me to be very expressive and creative beyond my wildest imagination.

Note To Ensoniq: My most heartfelt thanks to all the dedicated men and women at the Ensoniq Corporation for making my life and work much easier. Due to your dedication and persistence, you have helped me to make my goals and dreams come true in so many ways!

Note To Transoniq Hacker: Up until the ESQ-1 came along, I also found the Hacker to be invaluable. I would submit to the editor and/or publisher, if it could be possible to please have a separate publication for the ESQ-1 and leave the much needed editorial space for the still vastly unexplored Ensoniq Mirage. I originally subscribed because and ONLY because the Transoniq Hacker was devoted to the Ensoniq Mirage. I don't think it is quite fair to the original subscribers, and to the non-interested ESQ-1 subscribers, for editorial space to be taken up by an instrument that a lot of us don't even own or want. We all wanted the Mirage at the conception of the newsletter. Just food for thought.

Very truly yours,
Jay M. Meyers
Chicago, Illinois

[TH - (Gawd, I love it when someone gives me an excuse to talk about something that I was just about to talk about anyway!) While there's a surprising number of readers who own both a Mirage and an ESQ-1, there's still a certain amount of "rivalry" that shows up every so often. We still get the occasional letter saying, "More Mirage, less ESQ-1!" or "More ESQ-1, less Mirage!" We've been trying to keep both factions happy by having more of both. It's a pretty safe bet that, no matter when your subscription started, you're getting more coverage now (regardless of the instrument type) than you were when you started - our word count on BOTH has been steadily increasing. Nobody's being cheated. The main reason we're able to do this is because we ARE covering both instruments. In effect, those new ads for ESQ-1 patches and software are helping support increased Mirage coverage. If we split into two publications, everybody's "cost/word" would go up. Those ESQ-1 articles would not magically be replaced by Mirage articles.

There are also long-term benefits to subscribers for us to not tie ourselves to a single instrument. Five years from now, if we're still getting articles on the Mirage and the ESQ-1 then we'll still be publishing them - no matter how rare or sporadic they might be. But if we aren't also covering whatever the latest and greatest Ensoniq product is, then we won't even be around to print ANY Mirage and ESQ-1 articles.

In the very near future you're going to see some new gear discussed in these pages. This will bring extended life, new advertisers, and new subscribers with new ideas. That, by itself, won't cut the coverage on your present instrument (although some of the print may get smaller till we jump the page count again. Nothing's perfect).

Not only that, one of these things could be your next piece of equipment!

P.S. Your cost per issue is still just a measly $1.67 ($1.25 if you're getting the introductory price) - as always, if you're not getting this much value from each issue, we'll gladly refund the unused portion of your subscription. (You'll be the first.)]

[Ensoniq's response - Question 1: There is no pot to adjust master tuning on the Mirage. This value is set by the software each time you boot up. The slightly detuned master pitch you experience could be caused by a faulty crystal on the main board. You will have to see your Authorized Ensoniq Repair Station for service. In the meantime, you can have the Mirage boot-up with a Master Tune value of 48 by creating a customized operation system with the Save Configuration Parameters parameter (14). After setting Master Tune to 48, save the modification to disk using parameter 14 and subsequently use the modified disk whenever you boot up.

Question 2: Our service policy is based on a module exchange program; our repair stations do not handle board-level repairs. As a result, our service manuals cover only the diagnosis and replacement of entire modules (main board, disk drive, wheel assembly etc.) and are available only to Authorized Ensoniq Repair stations. This policy benefits our customers as it is ultimately designed to maintain a consistent quality of repair service as it speeds up the repair process.

Question 3: We are not familiar with the operation of the Sonus sequencer you mention. As a matter of record, however, the Mirage cannot send a wavesample dump on its own. It must receive a wavesample dump request first. If the Sonus software can send such a request, the Mirage will be able to send its wavesample memory to the C-128.

Question 4: We are not aware of any Commodore software package capable of such a MIDI transfer. We can comment, however, on some feasibility issues involved with such a system.

The C-128 does not have sufficient memory to hold an entire Mirage sound, so you would have to save Upper and Lower sounds separately. In addition, the Commodore disk would only store 1 full sound on each 5 1/4" disk as compared with the 3 sound per disk capability of the 3 1/2" Mirage diskettes. The transfer process you describe would also be very time consuming. Slow transfer via MIDI and a sluggish Commodore drive would combine for a transfer rate of several minutes per sound. Finally, you can find boxes of 3 1/2" diskettes at prices competitive with 5 1/4" disks.

We think you will agree that all these factors combine to erode any potential cost savings you could benefit from with the use of such a system.

By the way, we certainly appreciate your "heartfelt thanks". It is always rewarding to learn that we at Ensoniq have helped to make "dreams come true".]

Dear Hacker:

This is an open letter to everyone who has had trouble getting their ESQ-1 to tape load/save patches or sequences.

The following steps will fix all of your ESQ tape ailments:

1. Determine if your motherboard is good. That can be accomplished by visiting your local authorized Ensoniq repair dealer. If they cannot tape load, then have your motherboard swapped.

2. Next purchase any good quality portable tape cassette player. There are many good machines, but one that works quite well is a Tandy Computer Cassette Recorder CCR-81 (Radio Shack, costs approximately $50). This machine has an Automatic Volume Control and will set the "save" volume from your patch or sequence at an optimal record level. This eliminates all the problems associated with manual record volume settings.

3. Tape quality? Any normal bias tape. Any major brand.

Result? Consistent tape SAVE/VERIFY/LOAD.

Now that you can save your patches, you might be interested in joining ESQUG-WEST. We have a free patch library with hundreds of public domain patches.

Sincerely,
Jim Grimes
P.O.Box 365
Harbor City, CA 90710

To the Hacker,

Having just purchased a MIRAGE and ESQ-1, and being a computer type, I was delighted to discover that there is a publication for these instruments/systems written to support users in a manner I have become accustomed to in the computer field.

As I have had several years of computer experience in MS-DOS (bought one of the critters from IBM in January of 1982 when they first came out) and now own an AT, I am very interested in evaluating visual editing software written for the IBM. I would like to hear from anyone who has had experience with any.

I am also available to answer IBM/MS-DOS related questions that any readers may have.

Ph: (518) 266-5792/5722 from 7:30 - 4:00 EST.

Sincerely,
David Austin
RD 4, Box 177
Troy, NY 12180

[TH - Issue #21 had a comprehensive evaluation of the three IBM visual editors available at the time. Jim Willing, who wrote the article, has promised to critique Dr. T's editor as soon as it arrives. And thanks for the offer regarding the MS-DOS questions.]

[Ensoniq's response - While there are several IBM editors and librarians on the market, we recommend that you take a look at VISION and ESQ MANAGER. These packages are manufactured by Turtle Beach Softworks and distributed by Ensoniq.]

Dear Hacker,

Thanks for all the valuable information your magazine provides to us out here in the "real world."

How about some more articles on programming the ESQ-1? Clark started a series of explanatory articles which were extremely helpful. Could he be persuaded to continue?

Keep up the good work.
Gary Frankoff
Zephyr Cove, NV

[TH - We'll have several articles on this (from various writers) in the coming months. Jim Johnson has one in this issue. Clark will have one next month.]

Dear Sirs:

I recently purchased a Mirage and

although I'm pretty happy with its performance, I've encountered what seems to be a common problem. I discovered that the Mirage I purchased was a very early model. I decided to upgrade by having a new main board installed at a cost of about $240. That's where my problems began. I've been through four main boards now. All the problems seem to be traced back to the Mirage factory quality control. I've talked with other owners who've said the same thing. I hope something is being done by Ensoniq to correct this. My Mirage has been in the shop more than in the studio.

As I said, I basically love the instrument - but after all the hassles I've had with bad boards I'm starting to consider alternatives.

Anyway, I still want to subscribe because in the meantime I'm in the middle of a film project and any insight or hints from your newsletter will be much appreciated.

Sincerely,
Steve Hunter
LA, CA

[Ensoniq's response - Needless to say, we are eager to resolve any recurrent service problems of this sort. Your name has been given to our Customer Service Manager, Steve Coscia, and he is anxious to get in touch with you.]

Dear Hacker,

Sorry to quibble, but the "Hackerpatch" section could benefit from a little proofreading. As an example, I cite Erick Hailstone's "HORN BL" patch from Issue #24. Among the bugs in the patch, look at L3 of ENV2. This level causes OSC1 and OSC2 to go sailing off into the boonies - something that I don't think this patch intended to do. Although I have no other specific examples, I think that the other patches in that same issue suffer from problems in the LFO and ENV sections. My guess is that you have a little program that converts patch dumps into a formatted display and that program has bugs.

I've gotten some good patches from the Hacker, so I know that you screen out the bad ones. Just make sure to compare the printed page with what's inside the synth. Good luck in the third year of the Hacker.

Michael Carnes
Arlington, MA

[TH - Thanks for the feedback. Actually your guess overestimates our current level of computer sophistication. Hackerpatch is probably the most labor-intensive section of this newsletter. All of those suckers are entered in by hand (after testing and selecting). We certainly proofread them, too - but we do occasionally mess up. We hope to have a direct computer dump (as you describe) in the not-too-distant future. That should help. Meanwhile, we try to keep improving. Note to contributors: One thing that would help a lot would be clearer printing on the hand written ones. A lot of people's "6's" and "0's" are hard to tell apart. See following.]

[Erick Hailstone - You are indeed correct. L2 of ENV3 should read [00] not [60]. With it set to [60] you end up with something suitable for a Sci-fi sound effect. Even though SOMEONE is bound to love this, it is not the sound intended. [00] is the correct setting. For a slight variation set L2 to [08]. You get a nice (reasonable) detuning effect.

I'm not sure how the error came about (could be my second grade handwriting) but I'm sure the rest of our readers appreciate your bringing this to our attention. Thanks.]

TRANSONIQ HACKER

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Subscriptions: 12 monthly issues; (US) $20/year, (Canada/Mexico) $25/yr, (All others) $30/yr. Payable in US funds.