Transoniq Hacker

The Independent Ensoniq Mirage User's Newsletter

NOTE CRUNCHING

TEXTURE AND MIDI SEQUENCER SOFTWARE

by Clark Salisbury

Greetings, campers! This month I want to take a look at a new sequencer program from Cherry Lane Technologies. But first, a mea culpa:

REVIEW REVIEW: REVISING A REVIEW

In last month's article ("A First Look at the Mirage") I stated that the 333-event sequencer in the Mirage counted each note-on and note-off as a separate event, giving it a capacity of approximately 160 notes. Not true. Steve Coscia of Ensoniq informs me that one note-on/note-off is counted as a single event, and that the sequencer will yield 333 notes if no other continuous controllers are utilized. I apologize for any misunderstanding.

By way of defense, though, it was a former Ensoniq representative who gave me my original information. Matters became further confused when I found that the Mirage I had been evaluating seemed to hold rather short sequences. Mr. Coscia has informed me, however, that a few early Mirages were shipped with a minor defect in which the mod wheel is, in effect, always on slightly, causing sequencer memory to be used rather quickly. The problem has since been corrected, but if you think you may have a defective unit, there is a simple test. First, set your sequencer to Record Mode, (make sure the mod wheel is all the way down), then play one note on the keyboard to get the sequencer started, and wait. If the sequencer shuts itself off after a couple minutes or so, bingo! Your mod wheel section needs attention. This problem will be remedied for you by Ensoniq, at no charge. Contact your dealer for help.

BUT ENOUGH ABOUT MY FAUX PAS...

TEXTURE is a new software program from Cherry Lane Technologies, with about a zillion different features. Some are fairly standard, (auto-correct, looping, chaining, etc.) and some are not so standard. Developed by keyboard whiz Roger Powell (probably best known for his work with the band Utopia), Texture is billed as a modular recording system for MIDI devices. This means that music can be recorded, edited, and processed in small bits first, and then the bits can be linked together to form finished compositions. Those of you who have experience programming drum machines will probably find this a familiar concept.

I ran the program on an "IBM-PC compatible" computer, and a version should soon be available for the Apple IIe. (Are those of you who plan to use the Apple IIe with the Mirage Visual Editing System taking notes?) Texture requires 128k of memory and runs on Roland's MPU-401 interface. Retail price for the program is $195.

Texture's modular approach to recording allows the user to create up to 64 different patterns. The user can also import and export patterns to disk, if need be. Through the use of copying, transposing, erasing, excerpting, and so on, many variations of a single pattern can be quickly created. The idea is to take advantage of the repetitive nature of most music to save time for the composer. The component parts of a piece need only be recorded once each, and then simply plugged into the composition at appropriate points, hopefully eliminating the need to re-record similar bits of music.

Boot-up Texture and you'll first be confronted with a screen that's divided into seven different windows (did I mention that this program does a lot of stuff?). Each window provides information in a way that, at first, may seem rather confusing, but will actually make a great deal of sense once you become familiar with it.

The first window is the Indicator Window. It gives information on tempo, the number of beats that have elapsed in the current pattern, and the number of times the pattern has played (if the Loop Function has been enabled).

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The next window is the Song File Status Window. This is where the title of your song goes.

Then there's the Current Pattern Window. It tells you the number (1 to 64) of the pattern you are currently working on, what its duration is, and provides a handy space for naming your pattern.

Next is the Workspace Window. This rascal changes displays occasionally depending on what you're doing elsewhere in the program. One display, for example, lists the eight tracks available for recording, with the current track highlighted. There are more handy spaces for naming each track, (lots of naming goes on in this program, and I'm all for it - with 64 patterns of eight tracks each, it doesn't take much to lose your place), and memory-used is displayed, in bytes, for each track, with total memory still available displayed at the bottom.

Next is the Current Track Window. It allows you to select which track you will be recording and assign its MIDI channel. It also lists which of the eight tracks will be monitored.

Next comes the Current Menu Window. The top of the window lists which of the six menus (create, edit, modify, link, options, and system) you have selected. You make your choices from the menu with a cursor and the Enter key.

Finally is the Communications Window. It lists 10 direct-key commands. These are selected by typing the first letter of the command you choose. You can choose MENU, (type "m"), to see the six menus, GOTO to choose a new pattern, PLAY, RECORD, LOOP, TRACK (to assign a new track and/or MIDI channel), COPY, ERASE, NAME (handy), FILE (for disk utilities), VIEW (my favorite - allows you to see the actual MIDI data stream for the current track), and QUIT.

Still with me? Did I mention that this program does a lot of stuff?? It may be informative at this point to delve into Texture's treatment of our friend from the music world: the beat.

In Texture, beats are used primarily to set boundaries. In a 2-measure pattern in 4/4 time, there are eight quarter-notes, or eight beats. Each beat can be further subdivided. In the MIDI system, each quarter-note is subdivided into 24 clock pulses, and it's no accident that Texture also subdivides a beat into 24 sub-beats. In Texture, our 2-measure phrase is said to have a duration of eight beats. It begins at Beat 1:00 (with the zeros representing sub-beats) and ends with the last beat at 8:23. To move one eighth-note into our phrase, we would set our start boundary at Beat 1:12; if we wish to erase one eighth-note at the beginning of the second measure, we would set our start boundary at Beat 5:00, our end boundary at Beat 5:12, and erase everything in between.

This may seem something of a hassle at first, but you need this notation to do some other pretty cool things. One thing is that you can excerpt information within any boundaries to create new patterns. Or you can execute a command called "Fill," which allows you to excerpt part of a pattern and replicate the excerpt throughout the duration of the pattern to create instant audio tapestries. My favorite process though, is called "Rotate." If you take a 2-measure phrase and rotate it by one beat, (one quarter-note), the computer will play back the phrase starting with its second quarter-note, pasting the the rotated first quarter-note back onto the end of the phrase. (This is analogous to what "Rotate" does to wavesamples when using Ensoniq's MASOS.) By copying one track into a number of new locations and rotating one copy by a sixteenth-note, another by a thirty-second note, another by a dotted sixteenth-note, and so on, you can get some really keen echo-type effects. Rotating works great with the percussion sounds for the Mirage, too. With it you can create some truly strange rhythms.

Texture allows you to quantize (auto-correct) your timing during or after recording. You can quantize anywhere from quarter-notes to thirty-second notes, and it works REAL WELL. Tracks within a pattern can be transposed up or down independently of each other, a wonderful feature. Tracks can be blended (mixed), and patterns can be spliced onto each other, end to end. You can even filter out unwanted data, like pitch bend or program change, without affecting the data around it.

But if you really want fine control while editing, then the Edit Menu is for you. When Edit is invoked, the work space window fills with numbers and letters representing the actual MIDI data stream. A typical screen might show four columns of information. The first column will be the beat and sub-beat at which a particular event, such as note-on, occurs. The next column might give a note name such as C#5, or a program number in the case of program change information. The next column might show key velocity, and the last column is status information - i.e., NTN for note-on, PGM for program change. By moving the cursor around and deleting and replacing, etc., you can perform some fairly intense micro-surgery on your music. What fun!

Anyway, after your separate patterns have been recorded, edited, and processed to god-like perfection comes the task of linking them all together to form a complete song file. This is a pretty straight-forward part of the program, but there is still some fun to be had here. For example, a pattern can be repeated up to 255 times within a link; any or all tracks can be transposed up and/or down; any or all tracks can be muted so as not to be played during selected links; and tempo can be increased and/or decreased during playback.

If it isn't obvious by now, I'll say it. Texture is REAL COOL. Probably the only real drawback to the program is that it does so many interesting things that one could easily spend a good deal of time exploring avenues of composition that the program itself suggests, and end up spending more time on a piece than originally planned. Also, there is no score-writing capability with Texture, and this is something to consider. But I had a ball with it.

Anyway, if you have trouble locating this program in your local music or computer store, write to Cherry Lane Technologies, PO Box 430, Port Chester, NY 10573. Keep on rotating!

I welcome any sort of correspondence, questions, comments, or good jokes - address, mail to me, care of this publication. Until next time -

Clark Salisbury

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

QUESTIONS & ANSWERS

QUESTION: How does the Input Sampling Filter enable me to get a sampling rate of 50 kHz?

ANSWER: The Input Sampling Filter actually has its own Analog/Digital converter and 7-pole filter (approximately 75 db/octave) built in. When the Filter is plugged into the Mirage, it disengages the internal 30 kHz A/D converter and 24 db/octave filter. (MASOS Parameter 93, in addition to controlling the cutoff frequency of the external filter, can also return control to the internal filter by being set to 0.)

QUESTION: Will the Visual Editing System be available for other computers beside the Apple IIe?

ANSWER: Ensoniq tells us that, unfortunately, their software people are presently too tied up to support anything other than the Apple. However, they've been getting a BUNCH of calls asking for IBM-PC and C-64 versions. A few third-party software developers have also expressed interest, so even if Ensoniq doesn't come out with something, there's a good chance someone else will. (If someone wants to develop some software for the Mirage, it seems to us that the perfect match would be to write it for the new Atari 520 ST. With 512k, high-res monitor, 1/2 Meg 3.5" disk, and built-in MIDI - all for $800 - who's going to be buying Apple IIe's a year from now?)

QUESTION: Will there be an option to expand the internal memory for longer sample times?

ANSWER: Unfortunately, no. This is actually part of Ensoniq's custom chip. To change it would require a whole new chip-development cycle - not a small undertaking.

QUESTION: Why does my disk drive pause during the initial system boot? Is this normal operation?

ANSWER: About halfway through loading the operating system, it stops and tunes the filters and then continues with the remainder of the load. Perfectly normal.

QUESTION: Can the Mirage be modified so different samples or different halves of the keyboard have separate audio outputs?

ANSWER: According to Ensoniq, there's no way to accomplish this because of the dynamic-voice-assignment method they use to assign voices to the keys. Depending on exactly what kind of effect you're trying to achieve, you might be able to get close by using external filters or reverb units to send different signals to different speakers.

RANDOM NOTES

Ensoniq Corp. has begun manufacturing Mirages in Italy for the European market. Plans are also underway for manufacturing in Japan for the Asian/Australian market.

Sound disk Number 6 is in the works - no hints yet.

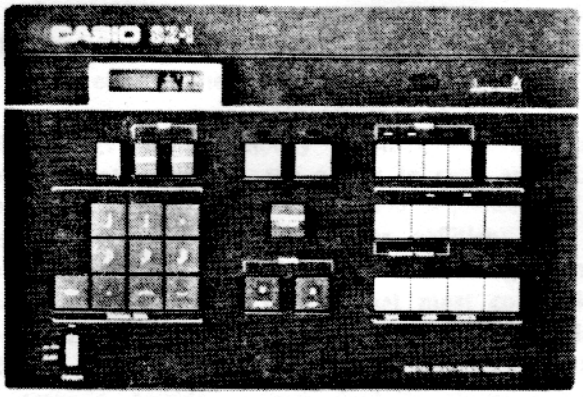
The Input Sampling Filter and the Visual Editing System should be released by the time you read this.

FREE CLASSIFIEDS!

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

HYPERSONIQ

- New Product Releases -



CASIO introduces their first stand-alone MIDI sequencer.

Casio, Inc. announced their first stand-alone MIDI sequencer, the SZ-1. The SZ-1 has both real time and step entry, 4 tracks, and an 1,800-note memory. The SZ-1 records all MIDI data including touch and program changes and allows for overdubbing and copying of material. The SZ-1 stores data onto optional RAM cartridges or conventional cassette tape and runs on batteries or with an optional AC adapter. ($399.00)

KAMLET Electronic Products announces the MIDI Patcher (tm).

Kamlet's new MIDI Patcher is a MIDI switch box that accomodates up to eight MIDI slaves, allowing each to be controlled by one of four simultaneously running masters. It allows the user to route one master to all eight slaves at once or to send one master to a few slaves while using other masters to control other slaves. Uses linear switches and "console design." ($269.00)

Manufacturers are requested to send information regarding new products to: PRODUCTS, Transoniq Hacker, 5047 SW 26th Dr., Portland, OR 97201.

THE MIDI CONNECTION

Welcome back. I had originally planned to publish the M.I.D.I. SPEC 1.0 for those interested in doing their own programming. For now, I'm going to give you some sources to get this information, and devote these articles to dealing with a hands-on approach. First of all, there is a clearing house for MIDI information called the INTERNATIONAL M.I.D.I. ASSOCIATION. This is an on-going association you can join, with yearly dues, newsletters, and other benefits. SEQUENTIAL CIRCUITS will sell you a copy of MIDISPEC 1.0 at minimal cost ($5.00). The ROLAND CORP. also publishes a magazine called the "ROLAND USERS GROUP" that aside from plugging their own products, usually has at least one good technical article per issue. In issues Vol. 2, #4 and #5 there is a very good technical explanation of the MIDI code and its roots. "KEYBOARD" magazine also has a range of articles pertaining to MIDI keyboards and many related topics and will soon have a regular MIDI column. Also, check out their ads, especially the small ones. For any subject imaginable (software, hardware modifications, new sounds, etc.) there is some independent out there working on it.

One of the potential problems I see with this column is that as soon as I say the MIRAGE can't perform some particular function, there's always a chance that someone will write some new software that will make it possible. So we'll try to stay on top of things and keep you updated. (If you're developing software, please keep us updated.)

As a quick review, here's what MIDI can do: MIDI can send and receive information. There are 16 different channels. A device may utilize any one channel, or different combinations of all 16. Information sent over MIDI can change presets, do pitch wheel and modulation changes, turn sequences on and off, and includes data on sustain pedals, keyboard velocity, aftertouch, portamento, synthesizer parameters, and, of course, which key is played.

Now, all the things listed above are available, but not all of them are necessarily included in a given product. Naturally, a particular synthesizer will only respond to MIDI information that falls within its capabilities (e.g. if you send key velocity information to a keyboard that isn't velocity sensitive, it won't respond because there's nobody there to listen).

Many of these machines can be changed with new hardware or software. This can be in the form of EPROMS, disks (in the case of the Mirage), and a few

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other possibilities. If you have a MIDI product that doesn't do what you want, check with the dealer, repair center, or manufacturer. There may be a simple update that brings it up to current MIDI standard or gives it new system exclusive commands. I have a synthesizer on its 9th update - all covered under warranty.

Now let's look specifically at the Mirage. I'm going to refer to several different systems using conventional MIDI devices and compare them to the Mirage to see what it has to offer in these situations.

The Mirage has a velocity sensitive keyboard, pitch and modulation wheels, the ability to send and receive on all 16 channels, and an on-board sequencer. If the conventional synthesizer has these abilities, they can be controlled by the Mirage and the Mirage can be controlled by it. One feature that most conventional synthesizers have is a patch preset change. The Mirage will not respond to this because of its unique method of creating sounds - from digitally stored samples.

A typical setup might have a transmitter that can split its keyboard and address two different MIDI channels. We could be transmitting on Ch 1 and Ch 2 and have two synthesizer modules receiving on Ch 1 and Ch 2. We use such a setup so we can have, say, an organ sound on module 1 and a piano sound on module 2 and control them from a single keyboard. Actually, the Mirage can perform this function very well all by itself, using a slightly different process. We split the Mirage's keyboard and have an organ sampled on the lower half and the piano on the upper half. Of course, patch preset changes can also be simulated using this method. (Several of Ensoniq's sound disks are specifically set up to be used in this fashion - with different splits in different positions on the keyboard.)

Another common setup is to have each half of a keyboard control two or more sound modules - such as getting organ and brass on the lower half and piano and strings on the upper half. One way the Mirage can approximate this is simply to split the keyboard into four sections - organ, brass, piano, and strings. The Mirage can also be configured so you get pairs (or more) of sounds with each key depression. You can also have two different sounds occupy the same "space," and configure them to respond to key velocity (play soft and get one sound, play hard and get another), or so the mix is controlled by the mod wheel.

Often a sequencer will be added to the setup. Here again, the Mirage has its own built-in sequencer. Out of the box, it will store 333 event sequences. With the optional sequencer cartridge, you can store 1333 events.

So you can see, it's fairly easy to come up with systems that once might have taken a half-dozen different devices to implement that can now be done completely on the Mirage. Depending on the system and the individual devices, functions, and parameters, there may be some radical differences in the two different implementations, but again, taking into account the price range, the Mirage is very powerful and flexible.

In the Multi-Sample Mode we can have up to eight different sounds per keyboard half. This will take special planning to make sure we don't run out of sampling time, but it can be done. You can also have sounds triggered by even just a single key, so you can adjust the key allocation to the most appropriate division. With every new sample and new setup you can have completely different configurations custom-made for each specific application.

One thing that a conventional synthesizer can do that's hard to duplicate on the Mirage is to change instantly from one preset to another. Changing between different samples on the Mirage does require waiting while they are loaded from the disk.

In a typical system configuration consisting of one or more conventional synths, a sequencer, and the Mirage, the system sequencer can address all of the devices at once. The Mirage's sequencer can run concurrently with the system sequencer, saving its memory for other devices, or it can respond directly to the system sequencer. While the other devices are being played and going through preset changes, the Mirage is restricted to whatever samples are loaded at the time. With the possibility of up to 16 sounds at once, this is usually an acceptable trade-off. (Of course, disk transfer rates are always increasing in the computer industry, so there's always a chance that the future will bring a faster Mirage disk - or maybe even an upgrade.)

While on the subject of upgrades, another thing I'd like to see is a way to assign a specific MIDI channel to each sample - or at least to the upper and lower halves of the keyboard. Being able to change samples via MIDI commands would also be nice.

Erick Hailstone

Ref:

International MIDI Association
11857 Hartsook St.
North Hollywood, CA 91607
(818) 505-8964

Sequential Circuits
3051 North 1st St.
San Jose, CA 95134

Roland Users Group
Roland Corp. U.S.
7200 Dominion Circle
Los Angeles, CA 90040

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

LETTERS

To the editor:

Please enter my subscription for 12 issues of TRANSONIQ HACKER.

As a computer music enthusiast of many years, I was pleased to hear about the introduction of the Mirage. This instrument fills the need for an economically-priced digital sampling keyboard for those of us who would not otherwise be able to afford the more expensive samplers. As a computer programmer, I was pleased to read about your newsletter. I realize the need for an accurate and unbiased source of applications oriented material for an innovative new product like the Mirage.

Congratulations on an excellent idea, and keep up the good work. I will be looking forward to receiving my first issue in the near future.

David Adamski
Tulsa, OK

Ed.: Thank you. We expect to see the Mirage attract quite a few technically-oriented music enthusiasts - and as their numbers increase, we also expect to acquire and pass on more useful information to our readers.

To the editor:

First off, thank you for your publication. This is obviously a great ax, but needs all the help it can get in the information department.

My experience with the Mirage has turned from love to frustration, back and forth. When I first heard the sounds possible from it, I bought one thinking I would eventually be able to sample my own just as well. I am a guitarist with a fairly good aptitude for technical dealings on the digital scene, and my sampling results so far have been disastrous.

I do own the Advanced Samplers Guide and have read it thoroughly many times. Even the simple waveforms off a Juno 60 are just not being translated correctly (distortion, no high end). I have driven all the parameters (sample time, anti-alias filter, etc..) up and down, and the basic sound seems to remain. Long looping on voices is next to impossible without visual aid - I've spent hours moving the loop points and fine adjust around. The sounds crackle.

I'm wondering if I might be better off in time spent just becoming one of the legion of buyers interested only in factory or other pre-recorded disks, and let someone else do the work so I can get back to creating music again and use their great sounds in it! I wasn't going to, but now I will buy some sort of digital synth to compensate for the sounds I can't seem to sample. I would appreciate yours and others comments on this difficulty. Thank you again.

Nick DiFabbie
New York, NY

Ed.: It's hard to tell without actually seeing your system, but the crackling and distortion seem to indicate that you might have a hardware problem - either in the Mirage or in your inter-connections. Ensoniq has publicly stated that certain types of sampling can be "extremely difficult" - and when the manufacturer says that, you know they're talking HARD. However, before you buy another digital synth, help may be on the way - the Visual Editing System should help with a lot of this, such as the loop points, etc. (of course, it's just being released this month, so we haven't actually seen one yet), and we're starting to see third-party sources for new sounds (see ad this issue).

As always, comments from other readers are very welcome.

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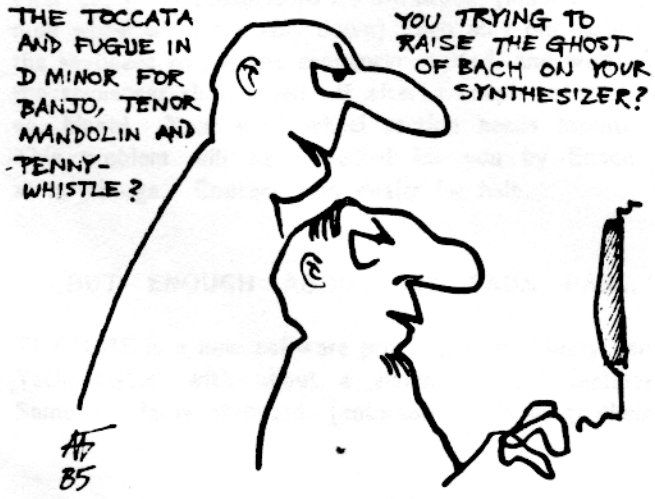
FUTURE ISSUES

We're glad to start seeing some reader-input in this issue. This is essential if this newsletter is to grow and be useful. In addition to questions and comments, we're also searching for full-blown articles. We do pay (4 cents/word), so give it a shot. Couple thousand words or so - about $100. Most of the interest seems to be in sampling techniques right now, so material on this would be especially appreciated.

Again, we need your help - letters, questions, comments, suggestions, articles, and complaints are all welcome.



HINTS FROM READERS

Barney Doyle (who may be doing an article for us in the near future about his adventures in MASOS-Land) has been kind enough to pass on the following information:

At least some of the early MASOS disks lack a file-marker between Samples 1 and 2 on the upper half of Sound 3. (Sound 3 is supposed to divide the keyboard into 16 sections. Where you'd expect to get "Sample 1" at the the beginning of the upper half, you'll get both 1 and 2.) The way to correct this is to follow the procedure for inserting a marker: select U1 and toggle parameter 65 on and off.

MASOS commands 17 and 18 for moving samples around in memory only work if you're moving the same size samples around, and then only if you're moving from a lower-numbered wavesample to a higher-numbered wave-sample (e.g., you can move U2 to U3 or L3, but not to U1 or L1). The "Copy Data" command (#1) will work both directions and is much more useful.

LAST-MINUTE NEWS

A new start-up in Melbourne, Florida, Data One, Inc. is in the process of generating new disks and new sounds for the Mirage. They should be available late this summer. We'll have more info by the next issue.