TRANSONIQ HACKER

The Independent News Magazine for Ensoniq Users

Using the VFX as a Master Keyboard

by Jim Johnson

As you've probably realized by now, the VFX has an absolutely gorgeous sound. Not only does it have an effects section that is as good as any found in the many "workstations" that are flooding the market, it has synthesis capabilities that dwarf anything released by ANYBODY in the last ten years. In the coming months, I'll be talking a lot about the VFX's unique sonic capabilities, and how to make use of them.

But, as they say, you've got to learn to walk before you can fly. In this case, it's important to learn how the VFX interacts with the other instruments in your MIDI system before you actually try and make music with it. After all, anytime you bring in a machine that can send and receive on up to twelve MIDI channels simultaneously, you're going to have to make some changes, and maybe even some compromises, in order to make the most of your system's capabilities.

Because of the VFX's unique poly-pressure keyboard, many keyboard players will want to use the VFX as the master, keyboard in their MIDI sequencing systems. Given this, you'd think that Ensoniq would have gone out of their way to give the VFX the features it needs to be a master controller. Unfortunately, that isn't the case - in fact, it turns out that some of the VFX's features make it extremely difficult to use as a master keyboard in a sequencing environment. However, after some struggling, I have found a way to make the VFX work as a master keyboard.

First, though, let's talk about the settings on the VFX's MIDI Control page, which are the key to its interaction with other instruments. The most important setting here is the MODE parameter, which determines how the VFX will respond to incoming MIDI data. Almost always, this should be set to MULTI. OMNI mode is virtually useless - it's an anachronism left over from the days when people thought MIDI would be used to link multiple keyboards. MONO A and MONO B are both aimed at MIDI guitar players, and are certainly useful for those critters, but I ain't one, so I have nothing to say about these modes. If you already have a lot of synthesizers, and if you're running out of MIDI channels, POLY mode is the mode to use; in this case, the VFX will not be a multi-timbral instrument, which is something that most of us will miss. If you want multi-timbral operation, however, stick with MULTI mode.

Another important control on the MIDI page is the SEND-CHAN parameter, which should just about always be set to TRACK. On my machine, though, something strange happens once in a while: the SEND-CHAN changes back to BASE, for no apparent reason. I don't know why it happens, or what to do about it, but at least you now know that you're not crazy if it happens to you.

In MULTI mode, each of the 12 "tracks" in the VFX's "Multi- set" acts as a separate synthesizer. The key to each track's interaction with the outside world (and hence, your sequencer) lies in its STATUS setting. If the STATUS for a track is set to LOCAL, it neither sends nor receives MIDI data, which is handy for live performance (I guess), but pointless in a sequencing environment. This means that only two modes (BOTH and MIDI) are useful for sequencing. When BOTH is selected, the track will play both from the keyboard, and from MIDI, and it will also send MIDI information. When MIDI is selected, however, the connection between the sound generating circuitry and the keyboard is "broken", so that the track sends MIDI, and receives MIDI, but won't play from the keyboard.

You might think that these two modes would cover everything you need to do with a master keyboard: use BOTH when

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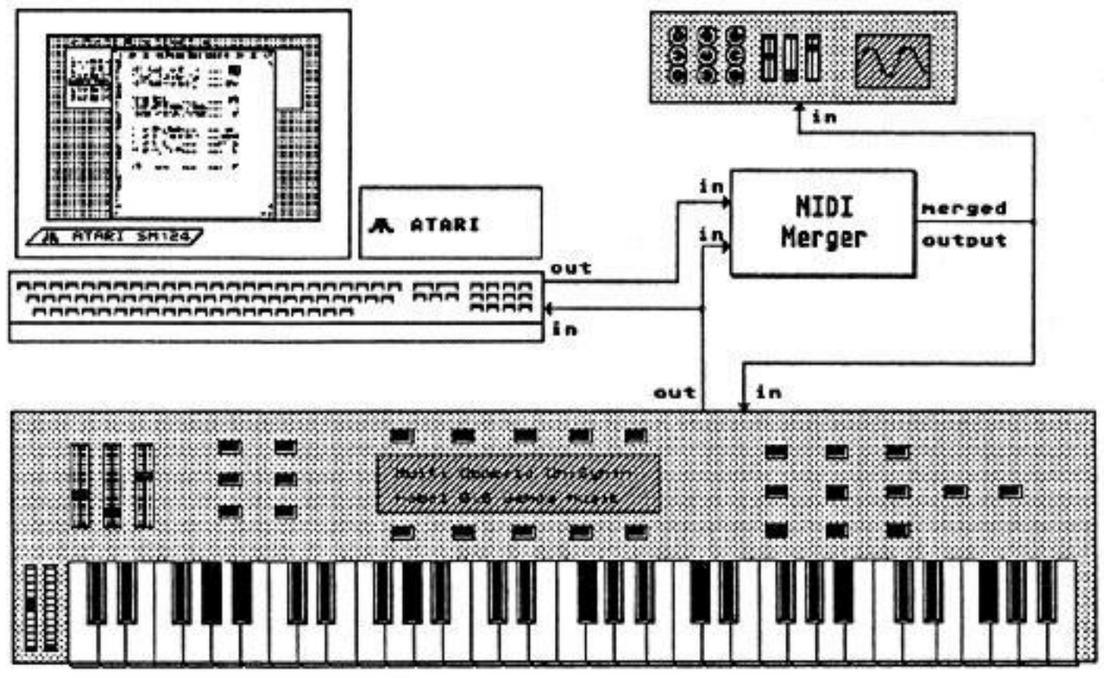
you want to record tracks for the VFX's voices, and use MIDI to record tracks for other instruments. However, there's a problem with this. To understand it, look at the system configuration shown in the figure below.



In this system, the VFX and all of the other synths receive MIDI information from both the sequencer and the VFX keyboard via a MIDI merger. It's possible to do this without a merger, if your sequencer has its own MIDI merge function, but conceptually its the same thing: all instruments receive data from both the master controller and the sequencer.

Now suppose you want to record something on a VFX sound. You select the appropriate VFX track, set it to BOTH, and then play. Because the data that is sent out is being echoed back to the VFX, each note that you record is played twice by the VFX--once from the internal connection, and once via MIDI. You could change the track status to MIDI to eliminate this problem, but there's another. Suppose that you'd like to record a part on one of your slave instruments from the VFX keyboard. You select a track on the VFX, set its status to MIDI and its channel properly--but when you play on the keyboard, both the VFX and the slave play the part! This is because when a track is set to MIDI, it both sends and receives on the same channel, which is the VFX's Achilles heel when it comes to using it as a master keyboard.

There are several solutions that you might be thinking of, and it turns out that only one of them will work. If you think you can create a "dummy" program in the VFX (one with all six voices muted), and then assign that to the track you wish to use to control your external instruments, think again--each time that you make a patch change from the sequencer, the program in the VFX will change, too. Of course, you could disable program changes in the VFX, but that means you won't be able to changes the programs on your other tracks. Eliminating the merger won't help, because this problem occurs even when the sequencer is playing by itself.

After some serious experimentation, I have only been able to come up with one solution to this problem, which is dependent on the features of your merger (or your sequencer's merge function). Here's how it works:

First, set the status for all of the tracks that you intend to use in the VFX to BOTH. (If you've got many other instruments, you probably won't want to use all twelve tracks. In my four-synth/one-drum machine system, I only use four tracks in the VFX.) Set all but one of the remaining tracks to *OFF*, and set the last track's status to MIDI. This is the track that you'll use to control and record on other synths. The channels of the tracks set to BOTH are critical, of course, but it doesn't matter what the channel of the "control" track is set to, as long as it's not set to some channel that's already in use. (I use the VFX's base channel, since it isn't used for anything else in MULTI mode.)

Now comes the tricky part. Hopefully, your merger has some kind of "rechannelize" feature, which takes data from one (or all) channels and then transmits it on some other channel. If you don't, you're sunk, because I know of no other way to do this. The reason that this is necessary is that, if you don't rechannelize, then the data will just come back around and play on the program that's selected for the control track.

In order to record a track to play on the VFX:

1) Select the track on the VFX.
2) Turn MIDI merging/rechannelization off.
3) Do it.

To record a part for one of your slave synths:

1) Select the control track on the VFX.
2) Turn merging on.
3) Set the merger's rechannelize channel to the channel you wish to record on.
4) Do it.

Depending on how your merger or sequencer is set up, this can be easy or painful. In Dr. T's KCS (my axe), all you need to do to turn merging with rechannelization on or off is to click on a single button. Others may have it tougher, but either way, this is really the only solution. Sharp- witted synthesists, however, may have noted that there are at least a few variations on this basic scheme. For example, if you leave the control track selected all of the time, and just change the rechannelization channel, you can access all of the VFX's tracks directly from the control track. You can even change the programs on the other tracks this way, using the control track's PROG control.

One final piece of advice: I recommend that you set the PRESSURE parameter for the control track (which can be found by pressing the Patch Select button twice) to CHAN, so that other none-Ensoniq instruments will recognize the MIDI data generated by the pressure you exert on the keyboard. If you also have an instrument that will recognize poly-key pressure (an ESQ-M, for instance), you might want to create an additional control track, that is identical to the first except for its PRESSURE setting, which should be KEY, and use that track for recording on those instruments.

So now you know the secrets of using the VFX as a master keyboard in a sequencing environment. It may seem a bit tricky at first, but the advantages of being able to record everything from one keyboard is worth the effort. And by the way, if you're intimidated by the VFX, don't feel left out; this is an amazingly complex instrument, which can create equally complex musical results in the hands of any musician who is willing to take the time to learn its ways.

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.*

Front Panel

RND (♪♪♪)

News from Ensoniq:

VFX-SD'S are now available - check your local dealer.

VPC-101, 102, 103 and 104 are also now available!

SLT-7 New Synth Sounds, SLT-8 Contemporary Drum Sounds and SL-T 9 and 10 Holophonic (tm) sound effects are shipping in October.

It has come to our attention that Jasmine has changed the drive mechanism in their hard drive series of products. Until we have time to test these new units we must remove Jasmine from our list of approved hard drive manufacturers. As always, we suggest that you test drives for compatibility before purchasing.

Regarding Arthur Entlich's article on changing Mirage disk drives:

Each disk drive used during the production of the Mirage is clearly labeled - you do not need to remove the aluminum plate. The following chart contains the status of each disk drive used during the production run of the Mirage.

Label	Status
SHUGART SA300	Single-sided
EPSON SPM-3924	Single sided
PANASONIC JU324	Single-sided
PANASONIC JU364	Single-sided
PANASONIC JU253	Double-sided

NOTE: The following important information is specific to DSK-8'S with Shugart disk drives.

There was a jumper that was cut at connector J1 on the DSK-8 mainboard. This jumper disconnected pins 10 and 16 of J1. If a Shugart drive is replaced with a different drive, this jumper must be shorted. Some mainboards did not have the jumper, in this case pins 10 and 16 of connector J1 must be hard-wired underneath the connector.

Ensoniq does not suggest that end users open their Mirages. All technical work should be performed at an Authorized Repair Station.

* * *

What's-the-latest-scoop-regarding-Heaven Dept.: Things have been very quiet after we announced a few months back that Heaven was shipping out all unfilled orders, turning their patches out to the public domain, and providing us with a new address where we could refer any further complaints. Unfortunately, not *completely* quiet. We have heard from one lone reader who was left out in the cold. We passed along the new address, he wrote them and soon received his letter back stamped "Attempted - Not Known" by the Post Office. There's little more we can do at this point. Are there any others out there? Heaven, are you listening...??? Anywho, Patch-Hacker Sam Mims presents us with four of Heaven's patches in this month's slightly-different *Hackerpatch*.

* * *

Transoniq Hacker is typically on a 4-week, 4-week, 5-week schedule. You should receive the next issue (#54) in approximately 5 weeks.

TRANSONIQ-NET
HELP WITH QUESTIONS

ALL ENSONIQ GEAR - Ensoniq Customer Service. 9:30AM to 6:30PM EST Monday to Friday. 215-647-3930.

SEQUENCING - Larry Church, Danlar Music, 503-692-3663. Call anytime.

SQ-80 QUESTIONS - Michael Mortilla, 805-966-7252 weekends and after 5 p.m. Pacific Time.

EPS QUESTIONS - Garth Hjelte. Rubber Chicken Software. Pacific Time (WA). Call anytime. If message, 24-hour callback. (206) 242-9220.

ESQ-1 AND SQ-80 QUESTIONS - Tom McCaffrey. ESQUPA. 215-830-0241, before 11 p.m. Eastern Time.

ESQ-1 QUESTIONS - Jim Johnson, (602) 821-9266. 8 a.m. to 5 p.m. Mountain Time (AZ).

MIRAGE 24-HOUR HOTLINE - M.U.G. 212-465-3430.

ESQ-1 QUESTIONS - International, Brendon Sidebottom, (03) 689-5731 Australia. No calls between 4 a.m. and 10 a.m. Australian ES Time.

SAMPLING & MOVING SAMPLES - "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) 392-6296 during business hours, Eastern Time (Toronto, ONT) or call MIDILINE BBS at (613) 966-6823 24 hours.

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

MIRAGE OPERATING SYSTEM - Mark Cecys. West-Coast Time. Days. (408) 253-8547.

MASOS - Pete Wacker. Whenever. (602) 938-0906.

BACK ISSUES

Back issues are $2.50 each. (Overseas: $3 each.) Issues 1-9, 11, 13-23, 27, 29, 30, 36, and 38 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. SQ-80 coverage started with Number 29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage started with Number 30. (But didn't really get going till Number 35.) VFX coverage got started in Number 48. Permission has been given to photocopy issues that we no longer have available - check the classifieds for people offering them. Reprints in our "Quick and Dirty Reprint Series" are available: MIRAGE OPERATIONS, for $5, and MIRAGE SAMPLE REVIEWS for $4. Each contains material from the first 17 issues.

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!)

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NEW PRODUCT RELEASES

Maartists announces *MUSIC PACK EPS/SCSI*, the SCSI Interface Card for the MUSIC PACK EPS memory expander and Ensoniq EPS sampler. The interface card is installed on the memory expander inside the EPS to allow a Macintosh compatible SCSI hard drive to communicate directly with your EPS. The hard drive allows very fast loading and saving of all samples, sequences, banks, and sysex information. Installation by an authorized Ensoniq service center is recommended to prevent damaging your warranty. The installation requires no soldering, trace cutting, or jumpering of the EPS, and is entirely a reversible mechanical installation. The *MUSIC PACK EPS/SCSI* has a suggested retail price of $149.95. For further information contact: Maartists, Inc., PO Box 956172, Duluth, GA 30136. Phone: 1-800-832-2737, Fax: 1-404-623-1293.

EPS Sequences are now available for your MIDI setup. All you need is an EPS and a drum machine. 2x or 4x expander recommended. For more information, call or write: PO Box 261, Clifton Heights, PA 19018. 215-626-8890.

SYNTAUR EXPANDS *SOUNDSET* FORMATS. Syntaur Productions, vendors of the popular *Soundset* 1 and 2 collections of patches for the Ensoniq ESQ-1 and SQ-80, is now offering the sound data in two new formats. Formerly available on data cassettes and Mirage-format disks, the two *Soundsets* are now available on SQ-80 disks and EEPROM cartridges. Each *Soundset*, with its accompanying booklet of over 20 pages of programming notes, patch sheets, and performance tips, sells for $17.95 in cassette or in either disk format; both sets purchased together are $29.95. The 80-voice programmable EEPROM cartridge, containing both *Soundsets*, sells for $59.95. Available directly from Syntaur Productions, 11116 Aqua Vista #2, North Hollywood, CA 91602, and soon to be marketed through retail music outlets.

Tested and Approved Hard Drives for the EPS

MANFACTURER	MODEL
Jasmine (Early versions - see RND)	Direct Drive 45, 70 100, 140
Rodime	45plus, 60plus, 100plus, 140plus
CMS	43SD, 20SD, 30SC, SDU30
Microtek	Nova40
Eltekon	OVD-20, 30, 40, 50, 60, 80, 90, 120
General Computer	Hyperdrive FX/20
Mass Micro	Mass 30e
Supra Drive	MacPlus 20

EPS Grab Bag O' Tips

by Clark Salisbury

I've been working with the EPS for something like a year now, and I'm still amazed by the things it can do, and by how much I still enjoy working with the machine. So I thought I might collect a few of the ideas and tips I've come up with over the last 12 months and stick 'em together into a grab bag of stuff to try with an EPS.

Some of this is fairly essential information, but most is more from the "just for fun" territory. You know - it's a rainy day, nothing on cable, and even your cat doesn't want to have anything to do with you. So you think, "Hey! Why don't I try some new stuff on the EPS for some cheap entertainment!" So here's some ideas for any of you rainy day samplers out there.

Custom Samples

First let's take a look at what happens after you press that innocuous little button. You know - the one marked "Sample." The whole thing seems straightforward enough, but there's a couple of handy things to know when it comes time to turn your spouse's favorite wok into a Chinese gong.

The first thing you'll need to set, of course, is the input volume. The EPS display acts like a VU meter when in level setting mode, with the word AMP flashing to indicate clipping. Input setting is not extremely critical as you can always use the "Normalize Gain" command (COMMAND/AMP) to bring a quiet sample to its maximum volume before clipping. As a matter of fact, you should always normalize the gain on your samples, no matter what. Normalizing the gain increases the amplitude of a soft EPS sample to the maximum possible without inducing clipping (distortion). This will never damage a sample, but it can bring a weenie sounding sample back to life by bring its volume up and getting it over the noise floor.

The next thing you will need to do is to decide on what sample rate to use. This will depend completely on the material you want to sample. Note, however, that using a higher sampling rate than necessary is inefficient - a sample rate of 52.1 kHz will not necessarily give you a better sample than a rate of, say, 39.1 kHz if your input material has no frequencies above 15 kHz or so. One trick, however - try the sample at a relatively low sample rate, say in the 30-40 kHz range or so, but open the input filter all the way, to 20 kHz. You will find that most material that you sample will not have frequencies present that might cause aliasing - unless you are sampling acoustic instruments using high quality microphones. With the input filter opened up, you don't end up filtering anything out of the sample, but you can probably get away with lower sampling rates. This is especially true if you are sampling other digital instruments - their outputs have already been filtered, and will generally roll off steeply in their upper ranges.

If you are creating a library of samples to work with, and don't want to spend a lot of time sampling each sound a bunch of times to try to come up with the perfect sample rate, simply sample everything at 52.1 kHz. You can always use the "Convert Sample Rate" function to convert the rate down later on.

If you are multisampling, try to do the samples is some order or other - low to high, high to low - since each new EPS sample is assigned a consecutive number. It's a lot easier to keep track of multisamples if the lowest one is numbered "1," the next one up is numbered "2," and so on. Also, when setting the keyboard range for the high and low samples on the keyboard, it's usually a good idea to use the data slider (rather than playing a note on the keyboard) and set the low and high note to the maximum allowable. That way if you should need to transpose the entire instrument up or down by using the "Set Keyboard Range" button, you won't end up with blank notes at one end of the keyboard or the other.

Processing

The EPS provides tons of processing for the dedicated samplist - way more than I could ever hope to cover here. But there are a couple of favorite tricks that can help turn one of those "so-so" samples into something really exciting.

By now, most of us have learned the trick of copying a layer (COMMAND, layer, scroll to "Copy Layer," press enter, select "Params Only," press enter). Since a copied layer takes up almost no memory, and layers can be treated independently in terms of stereo placement, pitch detuning, and so forth, a lot of sounds seem to make use of this technique. So here's a couple of ideas for things to do with those extra layers.

Detuning a second layer makes for a nice chorusing effect, but applying a slow, subtle LFO to one of the layers tends to produce a bit richer, more realistic chorusing effect. Hit "Edit," select the layer you want to process, then hit the LFO button. Try a speed of around 25 or so, to start. Set the LFO depth anywhere between 20 and 60, depending on the depth of the effect you are trying to achieve, and set "delay" to 00. Hit the PITCH button, and scroll to the "LFO AMOUNT=" page - this should be set to around 1.0, unless you like your sounds really wiggly. You might even try setting "LFO MOD=" (on the LFO page again) to something like PRESS if you want to control the chorusing depth from key pressure.

You can create an interesting doubling effect by copying a layer and then setting the start time of the samples in one layer a bit later than that of the samples in the original layer. If the original sample has a pronounced attack, though, setting the start time of its copied version later will have the effect of chopping off a bit of the attack (since moving the start time of a sample back has the same effect as starting the sample a bit earlier - after the initial attack, in some cases). A good way to deal with this is to move the copied sample back in time. This can be accomplished with the "Copy Data" function located in the COMMAND/LFO section. Performing this operation on a copied wavesample, however, will cause the EPS to duplicate the original wavesample in the copy, which takes up more memory than necessary. The way around this is to work on the original samples, and then copy them after the process is complete. So before copying the original layer, select the sample you want to process in the original layer - press "EDIT", select "LYR=1," underline "WS=" and play the key that has the sample you wish to work on. Hit COMMAND, then LFO, and scroll to "Copy Data." Press enter. The display will show you something like "FR INST=1 LYR=1 WS=1." This means "Copy from instrument 1, layer 1, wavesample 1." If you want to copy from, for example, instrument 3, layer 2, wavesample 9, you would underline "INST=" and press TRACK/INST button 3. To select layer 2, underline "LYR=" and use the UP/DOWN buttons to set change this number to 2. You can then set "WS=" using the UP/DOWN buttons, or by simply playing the appropriate note on the EPS keyboard. Press enter and you'll be asked for the start address - in other words, where in the sample to begin the copy from. Leave this set to 00 - we want to get the whole attack in. Pressing enter again will take you to the end address page - this is also set to 00. We want to copy the entire sample, so set the coarse adjust (the number in parentheses) to 99. Press enter. You'll be asked "To INST=X LYR=X WS=X." Set these numbers so they match the ones you just entered for "FR INST..." - in this example we'll be

copying the data back into the same wavesample. Now press enter. You will then be asked for the destination address - this is where you specify the location where you want the copy of the sample to begin. For now, let's go with a short slapback delay effect - set the coarse adjust (parentheses) to 5 or so. Hit enter.

We now have our original sample starting at a new, later address - 5 percent later than the original. But what's occupying the first 5% of the copied wavesample? Well, it's the first 5% of the original sample, so when you play this new version of the sample, you'll get a double attack. To get rid of it, select the wavesample in question, and press COMMAND, LFO, and then scroll to the "Clear Data" page. Hit enter. Leave the start address set to 00, and for the end address use the same number that you used for the start address of the copied wavesample - in this case a coarse adjustment of 05. Press enter, and the data at the beginning of the copied wavesample is cleared, giving you nice, clean silence before the wavesample actually attacks. To finish up this sound, then, make a copy of this layer, and make sure that both the original and the copied layers are turned on. Now use the "SMPL START" parameter (located in the EDIT-WAVE section) to set the start times for the samples in the original layer back into the sample to where the wave actually starts playing - in this case, set the coarse adjust to about '5' - this will cause the original waves to begin playing playing at the beginning of their attacks, while the copied waves begin playing 5% later. To add a final touch of spice, you may want to pan one layer left and one layer right to achieve a nice stereo effect. You might wish to adjust the volume or filtering on the "delayed" sample to add a little realism to the echo effect, or you might want to try applying a bit of LFO to the second layer for a bit of a chorusing effect.

Hybrid Instruments

If you don't happen to have a lot of exotic instruments hanging around to sample, don't despair. Some very interesting sounds can be developed using samples you already have.

One of my favorite techniques for creating exotic textures is to combine the attack from one sample with the sustain from another, and it couldn't be easier on the EPS. Load two different instruments into the EPS - perhaps something like a drumset and a choir sound. Now create a new instrument (COMMAND, INST, scroll to "Create New Instrument," enter). And while you're at it, create two new layers (COMMAND, LAYER, scroll to "Create New Layer," enter).

Now select the drumset instrument. Turn off all layers except for layer 1 (press EDIT and double-click INST to go directly to the layer setup page). Now press the EDIT button, make sure that layer 1 is selected, and underline "WS=." Now select a sample to use for the attack of your new hybrid sound by playing a note on the keyboard - a cowbell sound or a conga might be nice, for example. Select "Copy Wavesample" from the COMMAND/WAVE page. Press enter - the EPS should select your new, "UNNAMED INST" as the destination. If it doesn't, you can fix that by tapping the Instrument/Track button associated with your new instrument. Press enter - the EPS will ask if you want to copy the wavesample into layer 1 - answer "Yes." Now go find a sound from the choir sample to copy into the new instrument, and repeat this procedure, but this time copy the wavesample into layer 2. Now you should have the two samples layered on the keyboard. You may need to adjust the keyboard range of one or both of the samples - whatever range they used in their original instruments is maintained in the new instrument. If you want, you might also experiment with tuning or volume for each of the layers.

At any rate, you now have a hybrid instrument created out of the two samples from two other instruments. Now how about creating a few attack samples to use in other hybrid instruments, a la D-50? For example, you can turn a piano sample into an attack wave that can be grafted onto other sustain waves by selecting a piano sample, turning the loop off, and applying a digital fade out. Select a piano sample and use the sample end point adjustment while listening to the sample to help you determine how long the sample should be, and when you've found what seems like a reasonable end point, truncate the sample. Then press COMMAND/AMP, scroll to "Fade Out," hit enter, leave "start address" set to 00, and set the end address to 99. You now have a piano attack that can be layered with whatever - your favorite dog barking sample, maybe, or that "one hand clapping" sample you've never been able to think of anything to do with.

If you come up with a really good hybrid sound using this method, you may wish to conserve memory by merging the two samples together - merging creates a composite wave created by fading out of one sample while fading into another. A couple of tips, though, on merging. Make sure that you merge from the attack sample into the sustain, rather than the other way around, and that the "fade zone" is appropriately set - 50% should usually work pretty well, but for longer fades, use a higher percentage. Also, you may wish to experiment with the settings of the scale depth. The default is 3.0, which will give you a nice linear fade. Higher values will create more abrupt, exponential fades.

And one other thing. Pay attention to the loop setting for the destination sample. If the attack sample hasn't been faded all the way out before the destination sample begins looping, some of the attack sample will show up at the beginning of the loop, rendering the loop useless, probably. If the sound can't be re-looped, you'll need to be sure that the attack sample has been completely faded out before the loop starts in the destination sample.

So there's a grab-bag o' stuff to try on your EPS on one of those rainy days. So button up your overcoat... ▬

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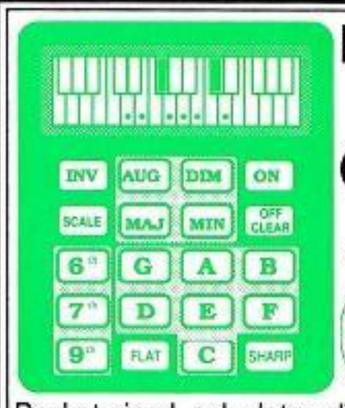

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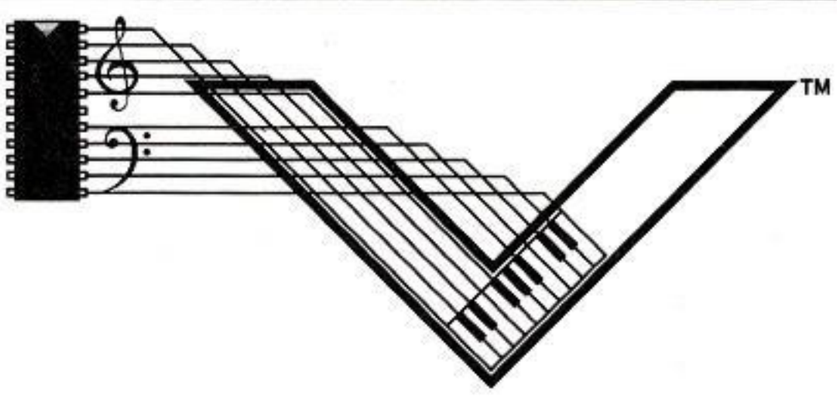

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10/24	Georges Music	Rte 202 & Rte 63, North Wales PA	215-699-4040	Doug Nestler
10/24	Guitar Center	2059 N. Snelling, Roseville MN	612-631-9420	Mike Lundin
10/24	House of Guitar	645 Titus Avenue, Rochester NY	716-544-3500	Bob Stillman
10/25	Marguerites Music	2409 S. 10th St, Moorehead MN	218-233-7546	Mike Lundin
10/25	Osiecki Bros.	2201 Parade St, Erie PA	814-453-6565	Bob Stillman
10/26	Freds Music	212 W. Lancaster, Shillington PA	215-777-3733	Doug Nestler
10/26	Morrell Music	2306 W. State Street, Bristol TN	615-764-2171	Bruce Wismer
10/26	Morrell Music	510 E. Center St, Kingsport TN	615-247-9891	Bruce Wismer
10/26	Nickelson Music	1327 Banics Avenue, Superior WI	715-392-8070	Mike Lundin
10/26	Onondaga Music	412 S. Clinton, Syracuse NY	315-422-8423	Bob Stillman
10/27	Keyboard Shop	5626 SW Freeway, Houston TX	713-781-3786	Rick Parent
10/27	Roger Dodger	154 Blake Rd N., Hopkins MN	612-932-9441	Mike Lundin
10/31	Fawley Music	371 McClellandtown, Uniontown PA	412-437-9750	Doug Nestler
11/01	Metronome Music	40 S. Trimble Rd, Mansfield OH	419-526-3838	Doug Nestler
11/01	Soundpost	101 W. Prospect, Mt. Prospect IL	312-259-0470	Mike Lundin
11/02	AB Stephens	2828 Drake Avenue, Huntsville AL	205-880-1234	Bruce Wismer
11/02	Soundpost	1239 Chicago Ave, Evanston IL	312-866-6866	Mike Lundin
11/02	PI Keyboards	2121 Brookpark Rd, Cleveland OH	216-741-1400	Doug Nestler
11/06	C & S Music	5125 Old Granbury Rd, Ft Worth TX	817-292-7614	Rick Davis
11/06	MississippiMusic	4430 Robinson Rd, Jackson Ms	601-922-1200	Bruce Wismer
11/07	Ace Music	2990 S. Main St, Harrisonburg VA	703-434-4722	Doug Nestler
11/07	Al Nalli Music	312 S Ashley, Ann Arbor MI	313-665-7008	Mike Lundin
11/07	Guitar Center	3430 Stevens Crk, San Jose CA	408-249-0455	Bob Wehrman
11/07	MississippiMusic	2415 S Frontage Rd, Meridian MS	601-693-6317	Bruce Wismer
11/08	Arnoldt Williams	5701 Canton Center Rd, Canton MI	313-453-6586	Mike Lundin
11/08	MississippiMusic	4620 Pass Road, Biloxi MS	601-388-6547	Bruce Wismer
11/08	Peates Music	52 Franklin Square, Utica NY	315-735-8563	Bob Stillman
11/08	Stage Sound	103 8th Street, SE, Roanoke VA	703-342-2040	Doug Nestler
11/09	Arnoldt Williams	211 15 Mile Rd, Sterling Hgts MI	313-979-0300	Mike Lundin
11/09	MississippiMusic	100 N. 39th Ave, Hattiesburg MS	601-264-0150	Bruce Wismer
11/09	Northern Music	29 Market Street, Pottsdam NY	315-265-8100	Bob Stillman
11/09	Roberts Piano	1015 Main Street, Lynchburg VA	804-845-7257	Doug Nestler
11/10	MississippiMusic	104 N. 16th Ave, Laurel MS	601-693-6317	Bruce Wismer
11/13	Brook Mays	652 W. Mockingbird La, Dallas TX	214-631-0923	Rick Parent
11/14	American Music	2597 Eash Ashlan, Fresno CA	209-221-0233	Bob Wehrman
11/14	Bills Music	733 Frederick Rd, Baltimore MD	301-747-1900	Doug Nestler
11/14	Kraft Keyboard	20101 W. Blue Mound, Waukesha WI	414-782-4988	Mike Lundin
11/14	Music Snd World	2715 S. Memorial, Tulsa OK	918-664-2555	Rick Parent
11/14	Union Music	142 Southridge St, Worcester MA	508-753-3702	Bob Stillman
11/15	Jerrys Music	702 N. 3rd Avenue, Wausau WI	715-842-3272	Mike Lundin
11/15	M & M Music	2006 Delsea Drive, Vineland NJ	609-691-6611	Doug Nestler
11/15	McMurray Music	10201 Page Avenue, St. Louis MO	314-428-8600	Rick Parent
11/15	Ricks Music	190 Taunton Avenue, Seekonk MA	508-336-6164	Bob Stillman
11/16	Henris Music	511 West College Ave, Appleton WI	414-739-9163	Mike Lundin
11/16	Virginia Music	8801 Three Chopped Rd, Richmond VA	804-282-4261	Doug Nestler
11/16	Sounds Great	1940 S. Stewart St, Springfield MO	417-883-4543	Mike Lundin
11/20	Sound Chek	3215 Edenborn, Metarrie LA	504-454-6331	Rick Parent
11/21	Irv's Music	1639 Atlantic Ave, Atlantic Cty NJ	609-345-6643	Doug Nestler
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12/02	ProSound	7405 E. Iliff, Denver CO	303-751-7575	Rick Parent
12/05	Far Out Music	2008 Coopers Ln, Jeffersonville IN	812-282-1122	Doug Nestler
12/05	Simon Music	4303 44th Avenue, Moline IL	309-762-6834	Mike Lundin
12/06	Owensboro Music	2350 New Hartford Pk, Owensboro KY	502-684-2156	Doug Nestler
12/06	West Music	1212 5th Street, Coralville IA	319-351-2000	Mike Lundin
12/07	Music Unlimited	8631 Douglas, Des Moines IA	515-278-4685	Mike Lundin
12/07	Opus 1 Music	3810 1st Avenue, Evansville IN	812-464-2909	Doug Nestler
12/14	Be Bop Music	2560 Government, Baton Rouge LA	504-343-7433	Rick Parent

Sevan Simonian Patches

Reviewed by Chris Barth

For: ESQ-1, SQ-80
Product: Synth Voices - 80 patches.
Price: Cassette, 1 Bank $16, Both Banks $26. Free data sheet.
From: Sevan Simonian, 93 Powell Rd., Emerson, NJ 07630.

From somewhere near the Jersey Turnpike comes Sevan Simonian with 80 new patches for our favorite synths. Some programmers are obviously more comfortable doing acoustic simulations, while others, like Sevan, approach the synthesizer as a new source for sounds which are not copies of acoustic instruments.

The collection starts off with FREE1, FREE2, and FREE - power pads which use saw waveforms set on "fat". SYNTH2, ISO-76 and SENTPZ are in the same category, although the latter ones use reed and formant waveforms for a different flavor. Don't forget to tune these patches by following the advice first given by fellow Hacker Bob Damiano in Hacker #49. For those of you who missed it the first time, Bob described how most fat patches got that way by being tuned one or two oscillators sharp relative to one oscillator set at 0. This results in the fattest patches being sharp relative to any other instruments in your song, whether they be other SQ patches or acoustic instruments like a real bass or piano. By tuning the patches as described in the article, your sounds will be in tune with each other, and sharp only when you want them that way.

SINUP and SINDOWN go one step further by adding a filter sweep. If you sustain single notes or a chord, the filter opens and then closes (or, if you prefer, "rises" and "falls") in a repeating manner, adding motion to an otherwise static sound. Hit the low "C" on the keyboard and you'll recognize this sound from a million movie soundtracks, usually just as some unworldly monster is about to pounce on some unsuspecting teenager. No patch collection should be without sawtooth filter sweeps, at least not if you're into unworldly monsters.

If you're looking for percussion, ELCTOM offers the famous Simmons electronic tom sound, and it's a little deeper than the usual SQ tom imitation. BGBANG surprised me; it's a hollow tom sound, created using each one of the three noise waveforms, yet I don't hear any of the noise sound characteristic of those waveforms. SWOOSH gives you a quick crescendo like those seashore patches, but it's more like a storm surge than a gentle surfing wave. There's one clean kick drum, and another messy one which sounds like it's only being used in one of the two drumset layers consisting of a kick and two different snares. By themselves, these percussion patches aren't going to help much, but layered over a drum machine they can put some new life in the old rhythm box.

GUITAR is really an electric bass sound, useful in the low end only. There are four or five other bass sounds, with the usual variations. I liked ELFIFE, which would work with flute lines. BRASS1 is a decent brass lead sound; I thought BRASS2 was too similar to merit its own memory location. Out of five or so organ patches, a few good efforts were accompanied by two noisy and distortion-filled ones.

BOSSEN and DORFER are the two piano voices, both with less sustain than one usually hears with SQ pianos. They're a little light by themselves, but suitably processed with a little reverb, I thought they were ok. There are six other piano variations, all bell and synth variations.

The last thirty or so patches are hard-core synth patches, by which I mean that they are not for most rock or jazz performers. Instead, they are good for special effects, or setting horror movie ambience, or just messing around. Some of them feature fast rising or falling pitches, so you know they're not your typical top forty fare. I found the Roland-type "breathy" patches like BREATH and PIPER to be more useful than the gimmicky stuff like WAASAG. But then I heard VOICPD, a great vocal pad, and ANASTR, a rich string chorus, and I knew I'd keep these ones.

Most of these sounds include CV pedal implementation, which means that you can use your foot on a floor pedal instead of your hands on the mod wheel to get mod wheel type effects. Some of the effects are octave jumps, and since you can't play while the pitch is being raised an octave (just set any modulator on any patch to +24 with the wheel if you want to hear this), I'm not sure there's much of a benefit here. Likewise, filter sweeps tend to consist of single sustained notes, so there's usually a hand free for the mod wheel. Actually, the weak point of most of these patches is the modulation applied to them; if the wheel or the pedal is usable at all, it's either the aforementioned octave jump, or some of that crazy vibrato programmers love to add to the mix. Played with the mod wheel or pedal at rest, most of these patches move pretty well on their own, and some of them are fat enough that they don't have to move anywhere they don't want to. ▬

Hard Disk Storage
Part I

by Bill Lewis

Data, data everywhere; the more we have, the more we need. Where do you put it all and how do you get at it? A primer on the mechanics of mass storage.

In a world where information is as plentiful as salt water, a compact place to archive data is essential. Interestingly, the needs of the music industry have almost exactly paralleled those of the information industry at large: the ability to store more data, in less space, for fewer dollars. In the very brief history of the personal computer and the electronic musical instrument we have witnessed a storage evolution. From no means (no electricity - no data), to tapes, floppy disks, hard disks and most recently optical and floptical disks; the three "R's" have new meaning in the age of information.

A Brief History of Micro Storage

When the Prophet 5 arrived complete with memory, it created the need to permanently save patches. For it, its progeny, and early microcomputers, the only way to save data was on tape. While this worked (most of the time), it was painfully slow and frustratingly unreliable. When, in 1978, Steve Wozniack created an affordable floppy disk system for his Apple II computer, the world of micro storage changed forever.

The ability to store 116 kilobytes of data on a Apple Disk II was an incredible boon. It was actually difficult to imagine just what to use all that space for. Of course, most of us were using 16k computers at the time, so 10 times the internal memory on disk seemed more than sufficient. Today's 3.5" floppies are storing anywhere from 360 to 2000 kilobytes and one California company, Brier Technologies, has even developed a method for storing nearly 45 megabytes on a single HD 3.5" disk. Massive megabyte storage systems have become de rigueur. When it comes to sound/sample data, it's nearly a necessity.

How it Works

Fixed Hard disk drives, the most popular form of mass storage, get their name from the storage medium, namely a non-removable hard disk platter. They are the hybrid cross pollination of a phonograph record a piece of recording tape; basically a metal plate coated with an oxide. The platter, or platters, are hermetically sealed (no environmental contamination) in a metal case, hence the name "fixed disk." They're also referred to as "Winchester Drives" after the code name for a project at IBM. Their popularity stems from speed, storage capacity and most recently, relatively affordable price.

No matter what type of drive we're discussing, hard, floppy, optical, fixed or removable, the same basic principles apply. Information is organized in groups normally called "blocks" and most files occupy multiple blocks. There is a directory or map (most often called the FAT (File Allocation Table)) which tells the system each file's name and in which block to begin the search for related information. Each block contains a header or identifier, like the number on your house, pinpointing where it starts and what file it belongs to, followed by the data itself. At the end of a block there's a trailer telling the system when it ends and where to go next. Unlike a phonograph where the needle is always advancing towards the center, the read / write head in a disk drive has a stepper motor which moves it back and forth across the surface of the disk in discrete increments. All systems store blocks concentrically around the disk surface in separate tracks, therefore a track on a disk is essentially a band or ring of blocks.

The speed advantage is realized from a number of enhancements to hard disk systems over floppies. First, there's an increase in RPM, typically 3000 as opposed to 300 for floppies. There's also no need to turn on the platter motor every time a read or write operation takes place. Once power is applied, the disk continually rotates which, by the way, they love to do and leaving a hard drive on is often recommended procedure. Due to the constant motion, a cushion of air is created between the platter and the read/write head upon which the head floats. Contrasting this, a floppy disk is actually pressed against the head which means there's physical contact between the two. Interestingly, both systems read and write data just like a cassette or reel to reel tape deck, but at supersonic frequencies and only in pulse waves (digital data is only a one or a zero so a bit on the disk surface need only be a charge or lack thereof).

Because of the constant disk rotation and the frictionless cushion of air between head and platter, access time, the interval between a request for data and its access, is typically between 28ms and 65ms (milliseconds) or lower. This compares to 80ms or 90ms for floppy disks. Thousandths of a second might not seem significant, but the distinction between 40ms and 28ms is noticeable.

The air cushion is measured in microns, which is the reason for a sealed unit. Dust, dirt and stray hair attaching itself to the disk surface would be a mountain that our airborne read/write head probably couldn't fly over. Foreign matter can and will render the drive unusable. Most often, when a hard disk crashes, it means the head literally crashed into the disk. Every time you turn a fixed disk drive off, the heads actually do a controlled crash landing as the cushion of air upon which they ride disappears. In a well designed system, the heads will come to rest in the same place every time restricting abuse to same area of the medium. An even better method of "parking" the heads is one where they're physically lifted off the disk surface and locked in an up position.

Optical Data

Optical disks use laser beams of light which bounces off "pits" and "lands" etched in the substrate's surface to determine the ones and zeros. Rather than moving a metal head back and forth across the disk surface for positioning, a lens moves to focus a beam of light on a particular track. Because of the extremely narrow focus of the laser, it's possible to increase data density by decreasing track width and store gigabytes of data. Unfortunately, the techno wizards have yet find a way to allow us serfs to roll our own "true" optical data.

However, there is a commercially available hybrid system called Magneto Optical (MO), a combination of magnetism and light. An MO disk consists of a layer of magnetic material below the disk's polycarbonate surface which, under normal temperatures, is static. A laser beam is used to heat the disk surface raising the "curie" point of the magnetic material, allowing a magnet to alter polar orientation of the medium. The magnet is large enough that its magnetic field can't be reversed

(continued on page 13)

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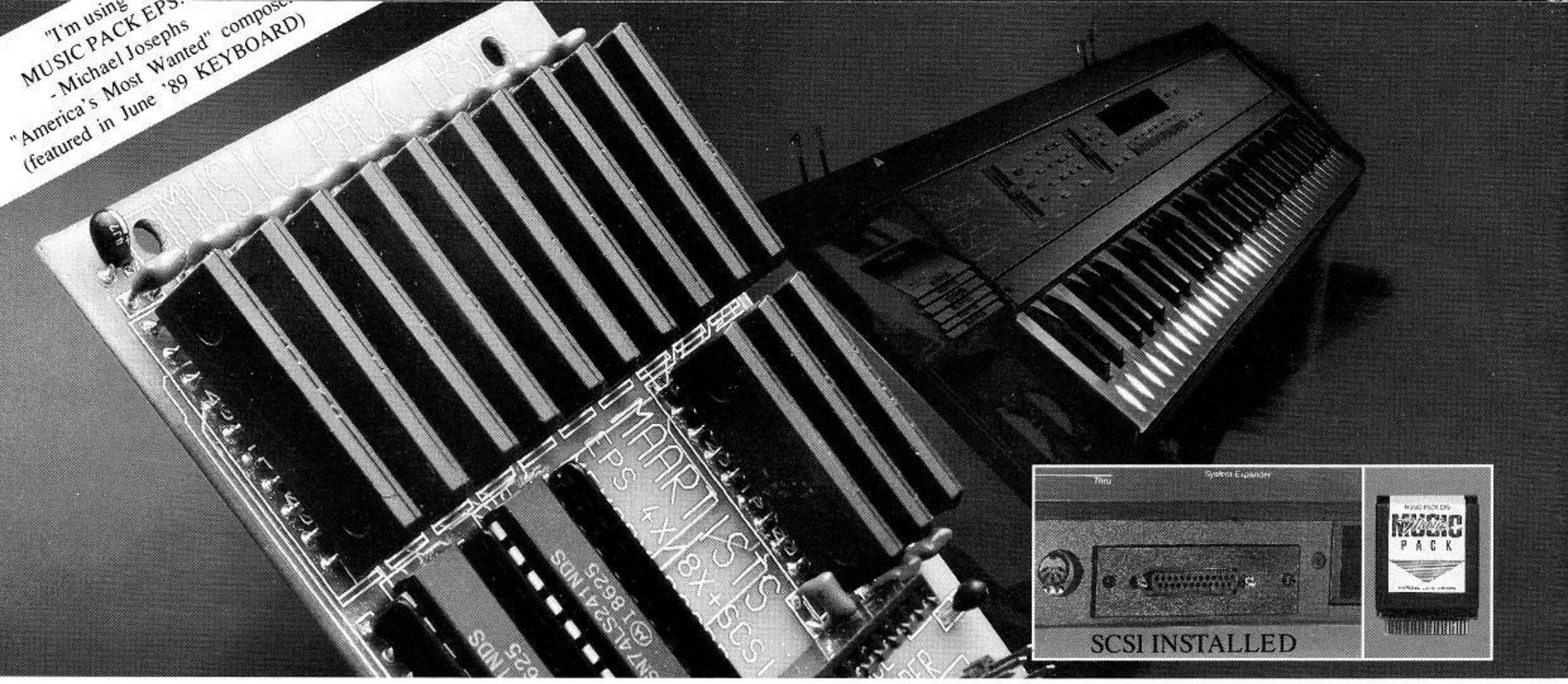

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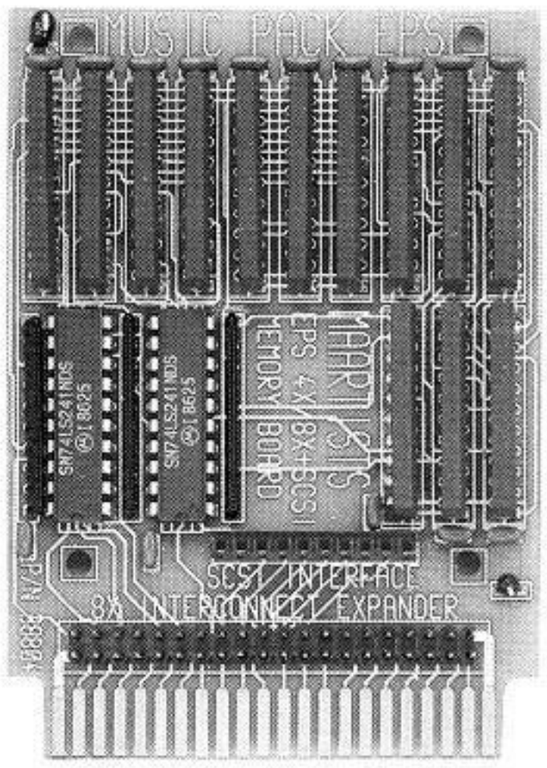

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Hard Disk Storage *(continued from page 11)...*

in time for each bit that passes by, so its orientation is only changed once per disk rotation. In operation, the laser beam turns on and off as the disk rotates, heating only those areas that will be written or re-written. In contrast to CD where the difference in the beam's brightness is affected by etched pits and lands, the reflected laser beam rotates either clockwise or counterclockwise depending on a bit's magnetic direction.

What makes MO desirable are capacity and removability. Currently, a single MO disk can store 650 Mbytes. When you fill that up, just pop in a new disk and you're ready to write 650 more. On the down side, they're slow (access time of 90ms) and cost big bucks (in the neighborhood of $5000).

Another variation in CD technology are WORM drives (Write Once Read Many). These typically offer 650 to 800 megabytes of storage space. While you're able to write data to the disk, once it's there, it cannot be changed. There are also lots of read only optical systems around, you probably even own one or two: CD Players. When they have computer data on them instead of audio, they're called CD-ROM (Compact Disk - Read Only Memory).

The Importance of Interleave

Speed in any disk system is greatly affected by the "interleave" factor, which is expressed in a ratio i.e.: 1:1, 2:1, 3:1 etc. Imagine the disk spinning beneath a set of read/write heads that merely move in and out: no lateral movement. The CPU calls for a file and the drive goes off in search of the first data block, which we'll call block one. As it passes beneath the heads, it's read into the system. This requires a certain amount of processing time. Then the drive looks for the next block: block two. When the interleave factor is 1:1, block two immediately follows block one. If the electronics of the drive and the drive controller are not fast enough to absorb block one's data before block two passes beneath the heads, the disk has to complete another rotation before block two again becomes available. A file consisting of 24 blocks would take 24 rotations to read. Obviously the most desirable option is a computer/drive/controller combination that can handle a 1:1 interleave and read our hypothetical file of 24 blocks in a single rotation.

However, it's possible to speed up a system which cannot handle a 1:1 ratio by changing the interleave factor. With a 2:1 interleave, every other block is sequential. Therefore, block one would be followed by block *n* (where *n* is a number) which would then be followed by block two. The system reads and absorbs block one while block *n* passes beneath the heads and as block two appears, it's ready to read; a read one, skip one scheme. If each track were 24 blocks long, our 24 block file could now be read in two rather than 24 rotations.

Next month we'll cover additional issues, and backup and power-down considerations.■

(End of Part I.)

Current Ensoniq Operating Systems

INST	OS	DISK	EPROMS
EPS	2.4	X	
EPS-M	2.4	X	
MASOS	2.0	X	
MIRAGE	3.2	X	
ESQ	3.5		X
ESQ-M	1.2		X
SQ-80	1.8		X
VFX	1.72		X

Mirage Double-Sided Drive Conversion
Part II

by Arthur N. Entlich

This is the concluding part of an article, Part I of which appeared in last month's issue. Please refer to Part I for necessary instructions and diagrams. [TH - See also this month's Front Panel for comments from Ensoniq.]

Hopefully by now you have received your 3.5" double-sided one meg (720K formatted) disk drive and are ready to modify and install it into your Mirage.

Modifying your double-sided drive to work with the Mirage

Before you do anything to your newly acquired double-sided drive, measure it and make sure it will fit in the space from your old drive. Also, check those connections on the back of the drive once more to make sure you have a 34 pin and 4 pin plug, and not a PC board edge connector.

O.K. now that you are sure the drive will fit, you will need to make some minor modifications to it so it will work with the Mirage (this includes any double-sided drive you might have found in your Mirage). Normally, instruments that use a double-sided drive have a software operating system that acknowledges the drive can write on both sides of the disk, and the software keeps track of what is being written on each side. Unfortunately, to the author's knowledge, no one has ever rewritten the Mirage OS to acknowledge a double-sided disk drive, and this author doesn't know enough about programming the Mirage to make the change in the OS. Therefore, the Mirage must be prodded via hardware. What this modification does is install a switch which allows the you to switch between the two sides of the drive.

There are several different ways of installing the switch needed. The simplest method is to install just a switch, and instructions are provided for this approach for those who have no understanding of electronics. However, it should be noted that with this method the user will have no indicator (other than the switch position) as to which side is being read or stored to. Unless the user has a very good memory, or ALWAYS checks the position of the switch before storing new information on the disk, one might have the very unpleasant surprise of writing over previously stored sound banks or sequences.

A better modification involves one more wire, a resistor, and an LED (a little light). When wired as suggested in this article, the LED will go on whenever the switch is positioned for the second side of the disk.

Simple switch only modification

If the simpler modification is all you wish to do, you will only need two pieces of insulated stranded copper wire about 10" long, a single-pole single-throw switch (any standard toggle on-off switch) and a soldering iron. You should select a switch which you find will fit well with the location you plan to place it on the Mirage. If you use the Teac drive suggested you will have a 1/4" gap between the top of the drive and Mirage case, and you may wish to use this space to place the switch. To make this modification, locate the printed circuit board which has the 34 pin plug soldered to it. You may need to remove the metal housing covering the drive to locate this. Refer to Figure 4 to see what this part of the printed circuit board looks like. Pins 1, 2, 33, and 34 (and perhaps others) should be indicated on the printed circuit board. Locate pins 31 and 32, which are the ones next to the last pins in the group. Solder one wire to the PC board at pin 31, and the other wire to the PC board at pin 32. Be careful not to bridge the two pins with excess solder

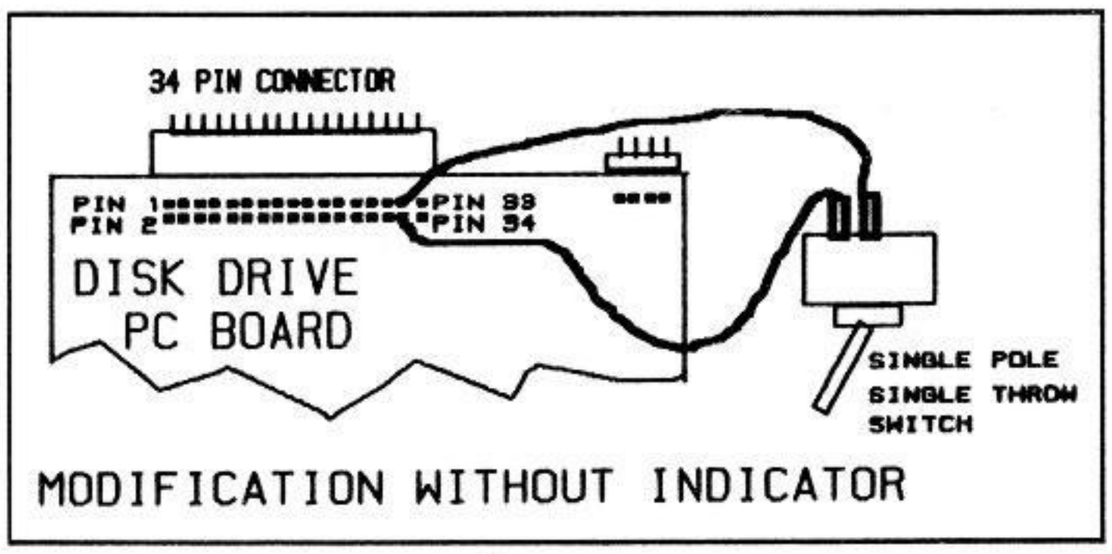

Figure 4.

as this will short them, and only allow the drive to access side two of the diskette. Solder the other end of each wire to one terminal of the switch. Refer to Figure 5 for the schematic for this modification. (You can now skip to the section on installing the drive.)

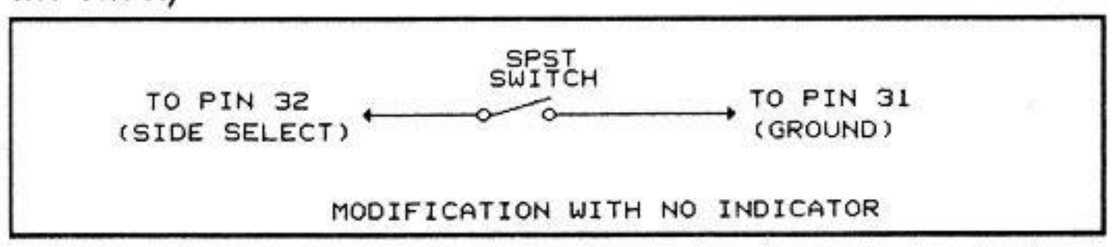

Figure 5.

Modification with LED indicator

If you wish to have an LED light up each time you select side 2, you will need a few extra parts. Acquire one round two lead LED with full length leads. You will also need a 220 ohm 10% 1/4th watt resistor, and a small (1"-2") piece of plastic tubing to cover the resistor to prevent shorting. All these items can be acquired at a electronics supply or Radio Shack store for under $2. Figure 7 shows the schematic for this modification. To implement this, first follow the instructions above for the simple modification. Next, cut both leads on the resistor to about 1/2". Solder a wire about 8" long to one side of the resistor. Slip the small piece of plastic tubing over the resistor, leaving the unsoldered lead exposed. Locate pin 1 of the four pin power plug on the printed circuit board (see Figure 6), and solder the resistor to the PC board at pin 1. Now look at the LED from the top. You will notice there is a small flat area on the base of the LED. The lead on the side with the flat spot is the cathode of the LED. Solder the OTHER lead of the LED to the wire coming from the resistor. Now take the cathode lead of the LED and solder it to the terminal of the switch which is wired to pin 32 of the 34 pin connector. You may wish to cover the LED leads with tape to prevent shorting.

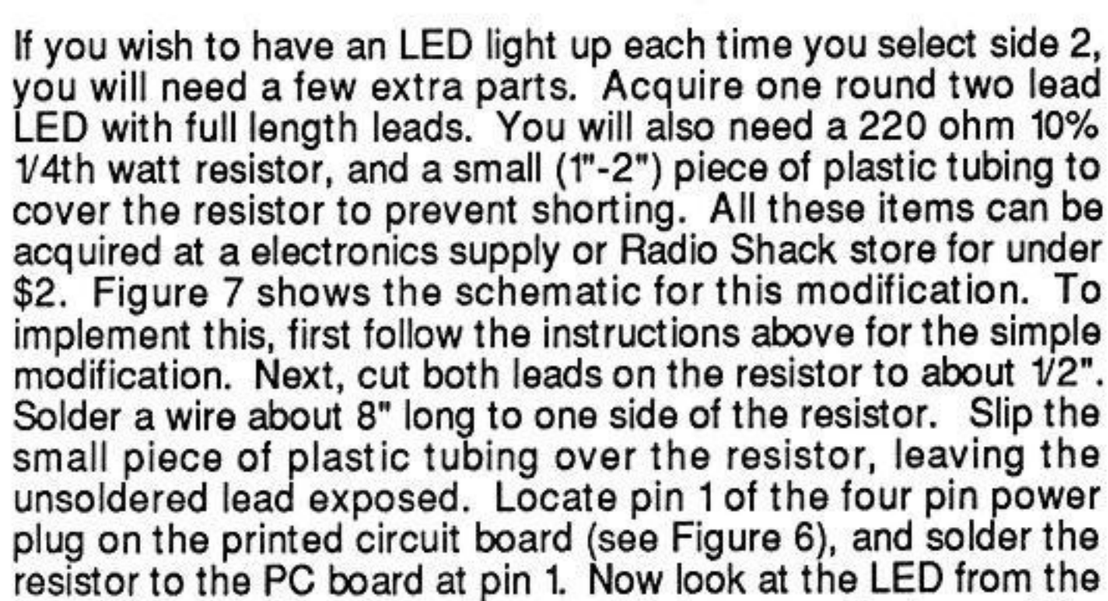

Figure 6.

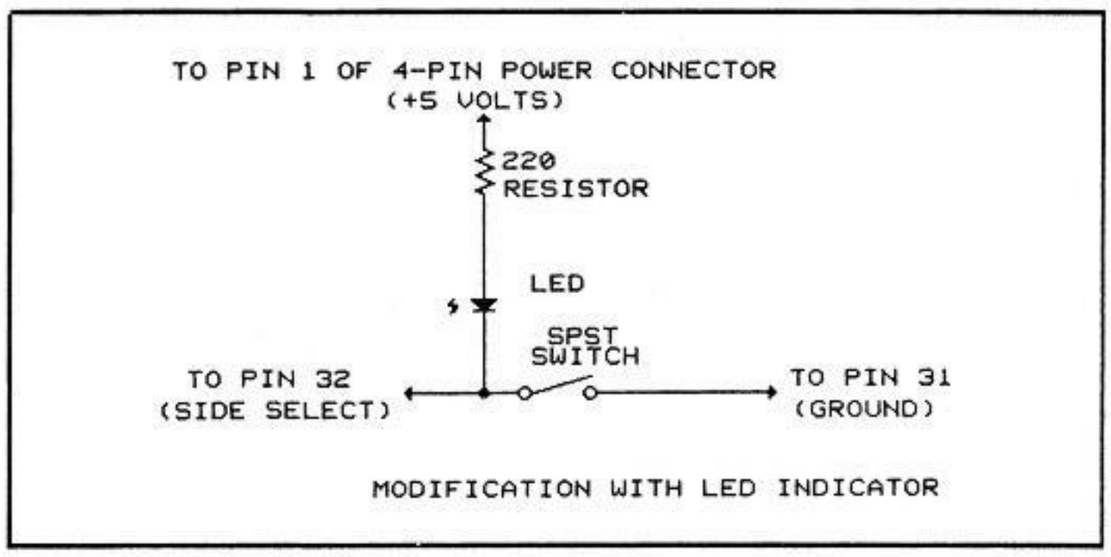

Figure 7.

Installing the Double-Sided Drive

Look over your new drive for a set of jumpers or bridges which connect pairs of pins. Look specifically for ones labeled "DS0," "DS1," etc. or "D0," "D1" etc. These are the drive addresses. Make sure the little jumper bridges the pair of pins for "DS0" or "D0", which will make the drive address drive 0 (zero).

If you put your Mirage back together while waiting for your double-sided drive, you will need to take it apart again, and remove the single-sided disk drive. When you have the disk drive removed from the mod/pitch lever panel, it will still be connected with the ribbon cable and four wire power cable. Since the ribbon cable can be connected in two ways, mark it and the power cable plug to indicate the top side (a piece of masking tape will do). Turning the disk drive back upside down, carefully remove the four wire power cable plug. You may find it necessary to use a small screwdriver or your fingernail between the plug mount on the disk drive and the plug to prod it off. The ribbon cable plug might be a bit trickier to remove. The plug that connects the ribbon cable to the disk drive will probably be quite snug since it is a 34 pin plug. Also, it is often difficult to see the separation point between the disk drive plug and the ribbon cable plug. With good lighting look closely at the connection. You should see a small line running the length of the connection. With a small thin screwdriver try to create a gap between the two plugs at one end. If you still cannot see the break, try grasping the plug (NOT the ribbon cable itself, as it is rather fragile) on each side and gently wiggle it from side to side while pulling away from the back of the disk drive to try to loosen it a bit. The plug you are removing is female (the pins will stay with the drive). Once the drive is separated from the Mirage, remove the four screws holding the mount plate to the disk drive, and put your single-sided drive somewhere safe. Transfer the plate over to the double-sided drive. If the drive you purchased is missing the mounting brackets to allow you to attach the metal plate, you will also need to transfer them from the single-sided drive you removed.

Before attaching the ribbon cable to the new drive, take note that one edge of the cable has a colored stripe going down it. This is the side that needs to connect to pin 1 side of the 34 pin plug on the disk drive. Usually this will leave the ribbon cable the same way as it came off the single-sided drive, however some drives flip the plugs upside down, in which case the ribbon cable will need to be flipped over. The four wire power cable plug should only go on one way comfortably.

Once you believe the cables are correctly connected, you may wish to test your Mirage before putting it completely back together. Mount the disk drive onto the pitch/mod wheel panel. Plug in your Mirage, and turn it on. Keep your fingers out of the innards of the Mirage once it is plugged in; some points are at 110 volts A.C. Take a Mirage boot disk (one with the OS on it) making sure it is write protected, and put the disk in the drive. If the Mirage acknowledge an unformatted disk in the drive (indicates "ud" flashing on the readout) try flicking the installed switch to the other side. This should allow the Mirage to boot. If your Mirage doesn't even acknowledge the drive (the readout shows two lines) or doesn't acknowledge the disk (flashes "nd" even when a diskette is installed in the drive, you will need to move some jumpers (more about this later).

Once your Mirage has booted, if you have installed the modification with the LED, flick the switch to the other side, and the LED should go on, indicating the second side. If the LED stays on no matter which way the switch is placed, you have likely reversed pin 31 and 32 on the 34 pin connector; reversing the wires going to these two pins should correct the problem. Keep in mind that even if the LED stays on, the switch IS working and you should be cautious about saving anything to the diskette until you are sure which side is which.

Jumping to a Conclusion

If your Mirage doesn't acknowledge the disk drive, or the diskette, turn it off and take a good look to make sure your drive has the jumpers set up for drive 0. If this isn't the problem, try moving or removing other jumpers one at a time, and then see if the Mirage acknowledges the drive or diskette. Put the jumper back if it makes no difference. On the Teac drive the jumpers should be placed vertically to bridge the D0, RY and FG pin pairs found on the side of the drive.

Once the drive and diskette are being acknowledge properly, boot up the Mirage with a formatting diskette, and format both sides of a blank diskette. You accomplish this by first formatting side one, then flicking the switch and formatting the second side. For this test I suggest using a brand name official double-sided diskette, just to make sure any problems that shows up aren't due to bad diskette medium. Try storing sound banks and sequences in each space of each side, and then retrieve them. Also try loading sound banks and sequences from older disks, (obviously only side one will have things on it). Lastly, try to format the second side of a disk you already have information on the first side. Once you have checked everything, you can put your Mirage back together, and figure out exactly how you wish to mount the switch and or LED.

You can now format the second side of all your disks, giving you double the space for sound banks and sequences. Just remember to watch that LED light or switch position before you save. Of the over 200 Sony single-sided diskettes in the authors collection, only two did not format properly on side two. This represents a pretty impressive saving of space and money, and leaves space for samples and sequences for the next year or two!!

Bio: Arthur Entlich resides in Canada, where electronic keyboards cost twice as much, and is still trying to make his Mirage into a cheap EPS. He is a photo-video-grapher and painter who composes soundtrack material for "in-house" (literally) video productions. He has recently begun Artistic Communications, a desktop computer graphics company using the Amiga computer system.

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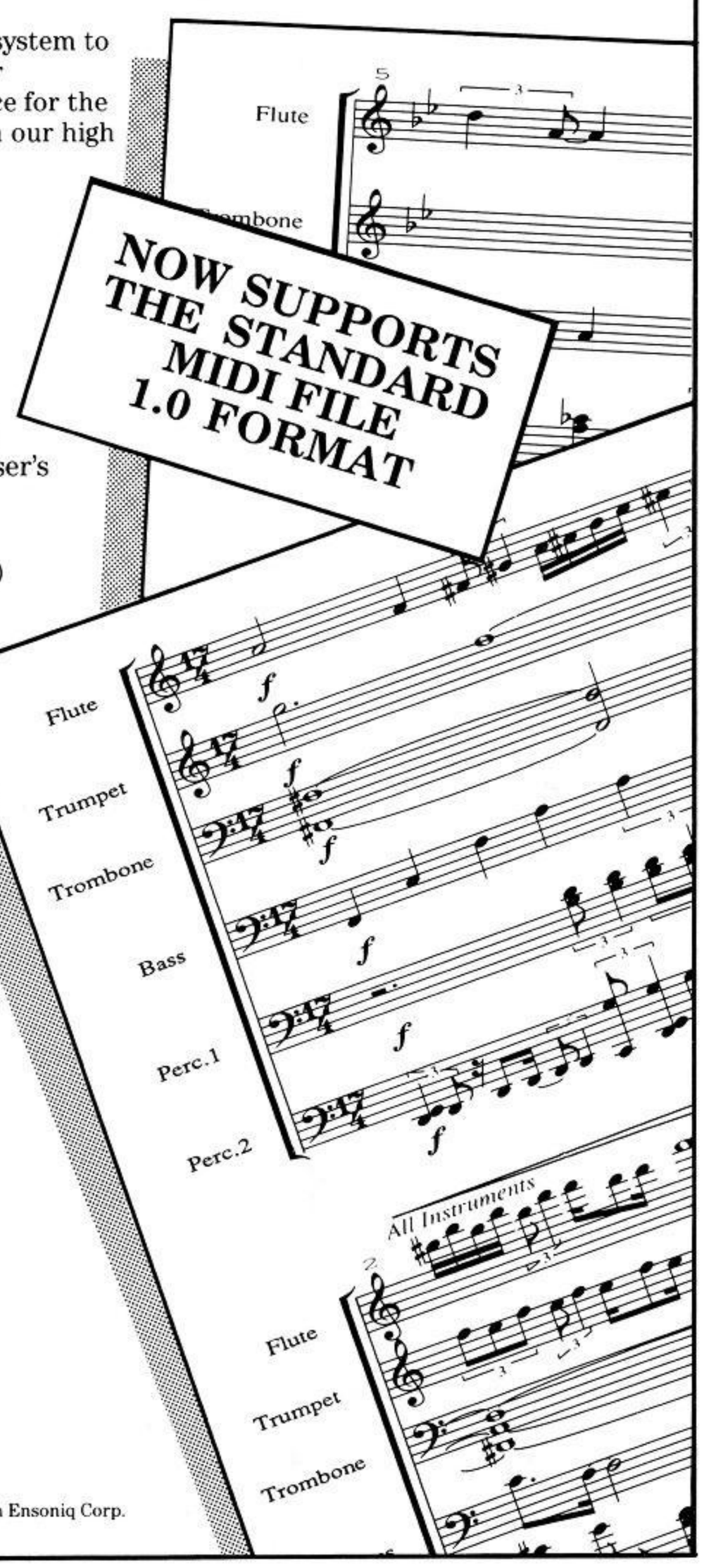

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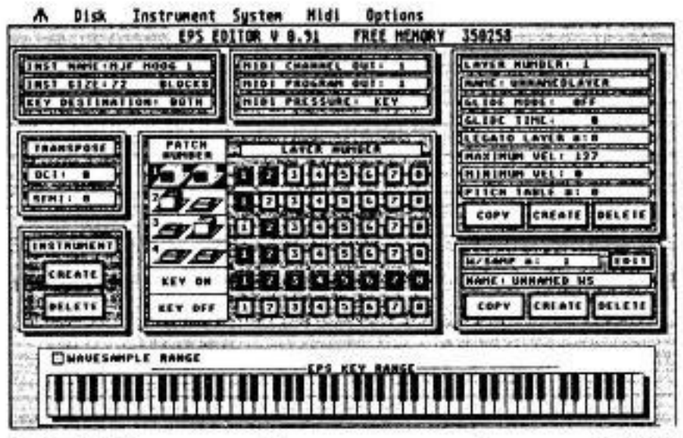

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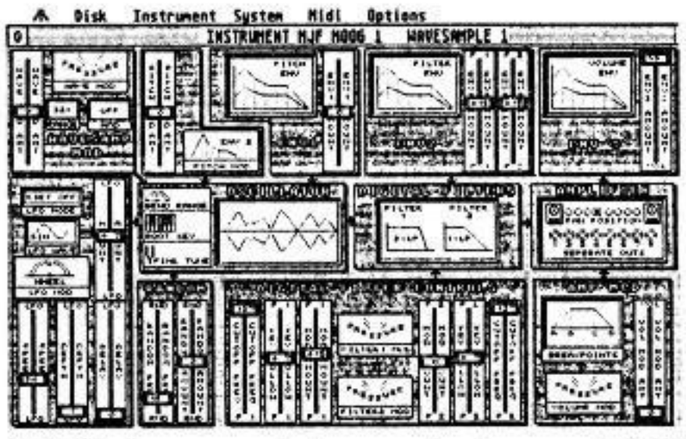

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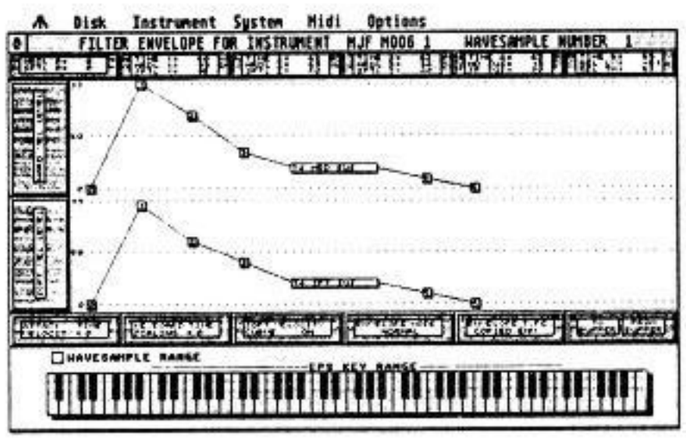

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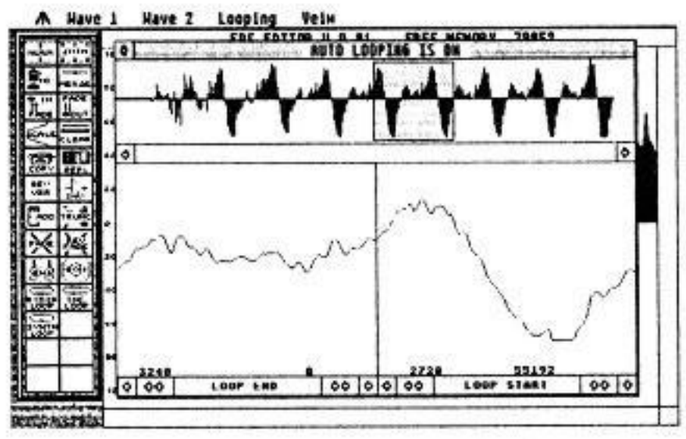

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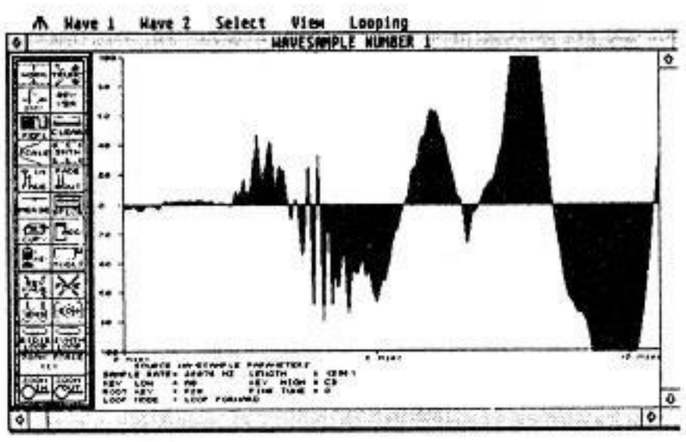

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Arranging String Parts On The ESQ-1/SQ-80

By Charles R. Fischer

The synthesizer. Perhaps no other instrument in the entire history of music has garnered such an undeserved fame. It has been credited with the ability to duplicate any sound in existence, with making the solo keyboardist the equivalent of a symphony orchestra, and has been blamed for causing untold numbers of "real" (read "acoustic") musicians to lose their livelihoods. That's one hell of a reputation... and it's pretty much untrue!

Neither the synthesizer nor the sampler are capable of much more than a simplistic simulation of the sound of a group of decent musicians in real time. Look through the patches available for your favorite synths; you'll find that most are dedicated to reproducing the sounds of existing instruments, both acoustic and electric, old and new.

One of the most imitated instrument families is the strings. We're talking about orchestral instruments like the violin, viola, cello, and double bass. These axes have been around for centuries, and have been pretty much replaced by synths and samplers for a very good reason - economics. It was common to use at least 8 to 16 instruments on pop records, (and even more if budgets allowed), to give the string parts more texture. Unfortunately, good musicians tend to be expensive; this really added to the cost of recording songs, as well as adding more problems down the road. That tender love ballad off your album hits the charts with a bullet, and it's time to take the band on tour. Just before your opening show, your manager tells you how much it will cost to bring along an 8-piece string section...

This hard fact explained why most pop musicians switched to string machines en masse during the mid-70s, even though the fidelity of these critters was far from ideal. Now as we enter the 90's, the task of creating and performing string parts seems to fall squarely on the keyboardist's shoulders. Unfortunately, I've found that the average keyboardist is often ignorant of traditional arranging skills, and often settles for closed chord voicings that are more suited for the piano or organ. It's too bad, as the results usually sound more like a pipe organist on quaaludes than a string section.

With a little knowledge and practice, you can apply these arranging tricks whenever a string part is called for; not only will your parts sound more realistic, but the same ideas will usually enhance the sound of your mix by making things a lot less cluttered! So come along, synth people; sampler maniacs are invited as well (although the techniques described here were worked out on the ESQ-1/SQ-80 sequencer).

Why does it sound so bad?

While the average working keyboardist is often well versed when it comes to technical knowledge on subjects like MIDI, most are not quite as knowledgeable when it comes to traditional orchestration techniques. This ignorance usually results in less-than-satisfactory imitations. Of course, the keyboardist can always blame the instrument or the programmer; strings oughta sound like strings, right? Even worse, playing a dense chord on a rich texture (like a string patch) often muddies up an otherwise good arrangement.

Let's try it ourselves. Turn on your axe and call up a favorite string program. Now play a C major chord (C-E-G) starting on C2. While this sounds rich and full, it's a chord voicing for keyboardists, not strings. Strings usually employ 'open' voicings (i.e., instead of playing C,E,G, the notes are distributed over several octaves, with a minimum of duplication). An example of this type of voicing is in Figure 1. Hold down the sustain pedal, and play C2 (one octave above the lowest note), E3 (a tenth above C2), C5, and G5 (C6 is the highest note on our keyboard). Hear the difference? This voicing should sound much more orchestral and airy than the first example. Notice that we only used 4 notes here; modern pop string lines typically use 4 to 5 notes, max. But by distributing these over a few octaves, you add texture instead of the clutter produced by the usual closed voicings.

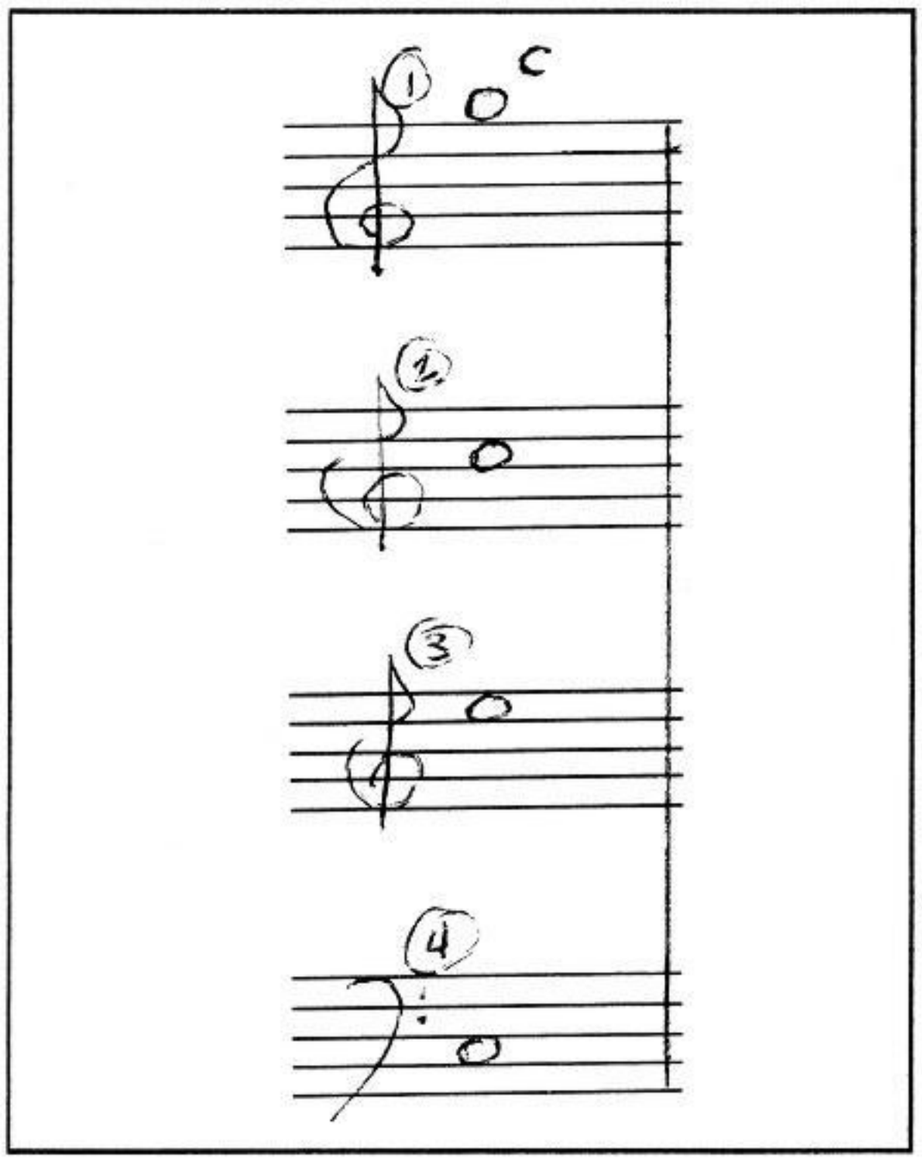
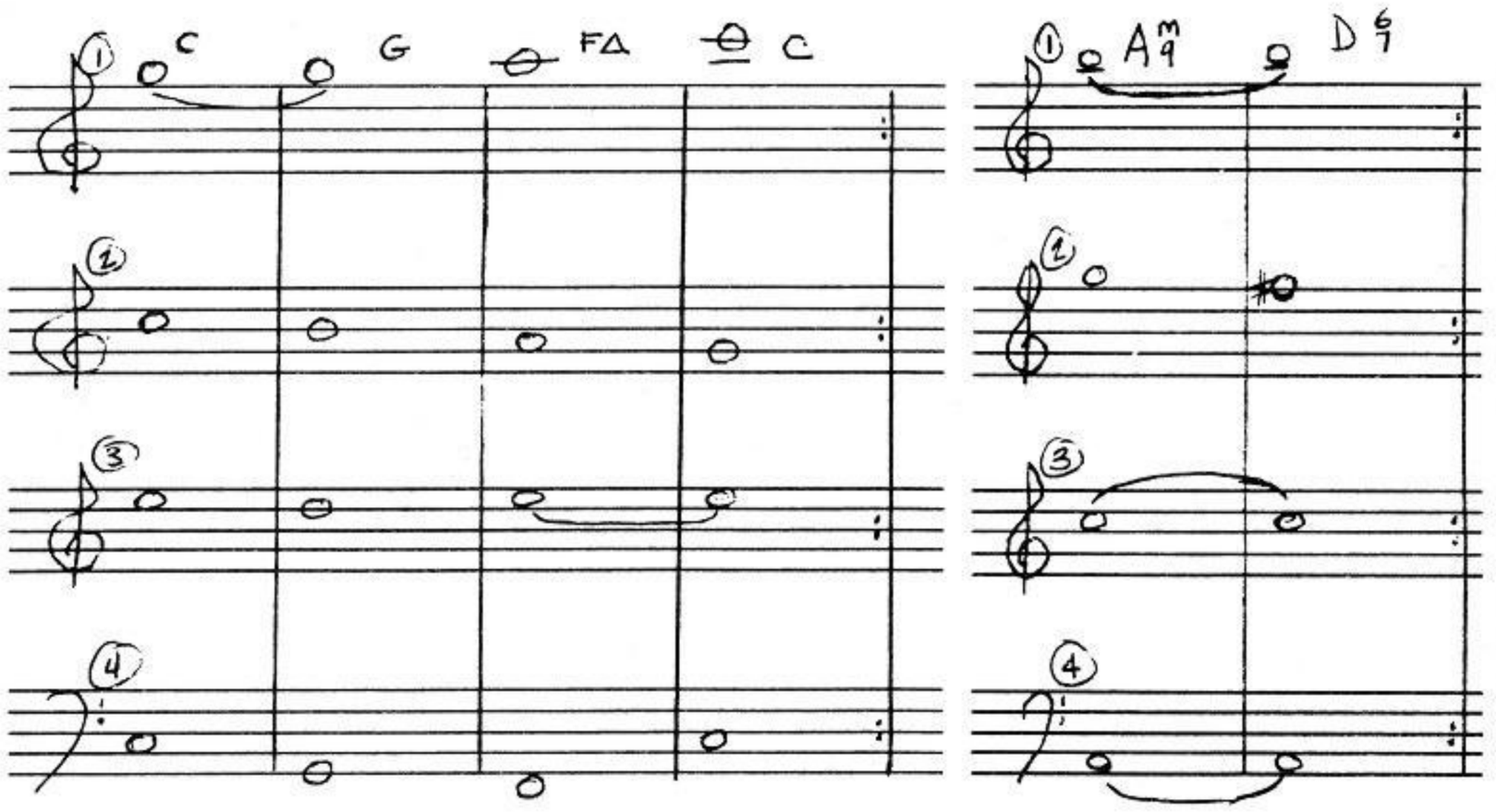


Figure 1.

Of course, a drawback to these voicings is that many keyboardists will have a difficult time reaching intervals like tenths or twelfths with any accuracy. Since I'm not Oscar Peterson, I use the sequencer in my SQ-80 to build up chords that are unplayable otherwise. Instead of using your nose to play the inner voices, your trusty sequencer will let you put together string parts on the basis of realism (and not settling for what your hands can reach).

Putting together a 4-part sequence is a relatively straightforward task. Rather than recording several notes on a track, I've come to prefer to record each line on a separate track and merging the various tracks into 1 or 2 final tracks when the parts are finished. By doing the parts this way, each line will end up with a few differences in timing, which helps add to the illusion of several musicians. As long as your timing isn't obnoxious, you should avoid the temptation to quantize your parts. The relatively slow attack and release times of strings will tend to cover up any rhythmic lapses anyway.

I wrote out a simple 4-line string part in Figure 2; you might want to put it into your sequencer for practice. Try playing each line as I've mentioned, and avoid using the mod wheel or channel aftertouch to add vibrato; when the parts are merged into a single track, all of the parts will have identical vibrato depth. This sounds phony to my ears, especially on the lower parts. SQ-80 and EPS users will find that polyphonic aftertouch adds a more realistic effect.



Play Parts 1 & 2 two octaves higher than written. Play Part 4 one octave lower than written.

These voicings are killer with II/V vamps (for example, any song by Santana).

The dissonance between Parts 1 and 3 adds tension; try leaving out Part 1 until the climax of a solo or song.

Play Parts 1, 2, and 3 two octaves higher than written, and Part 4 one octave lower.

Figure 2.

After the parts have been recorded, play back the sequence and listen to the difference that open voicings make. Not only does it sound more realistic, but by distributing the various parts over several octaves, we manage to avoid stepping on other instruments. Best of all, it only uses 4 of your synths 8 voices!

Now try a little experimenting for yourself. Substitute other string patches on each sequencer track, and take notes on any winning combinations (cellos on the lowest notes, violas for the next track, and violins on top). Then try transposing each track to different octaves and see what happens. After playing around for a while, you can always merge tracks to make room for other stuff just along as both tracks use the same program.

To make your string parts sound fatter, try layering a second string sound, either using another program or a second axe via MIDI. I've been using a Roland MKS-50 sound module for this purpose; the combination of the SQ-80 and the MKS is very rich and warm. One thing to avoid is using two string sounds set in different octaves. This usually results in your string parts sounding like a lame pipe organ.

There's a lot more to string arranging than what I've described here; you might try looking for a book on orchestration or arranging next time you're at a local library. For now, the ideas that I've talked about should be sufficient to get things started. I'll leave you with the following hints:

* Remember, no more two-fisted chords! Use no more than 4 notes in your parts, and be sure to spread them out over several octaves for the best results.

* Avoid the bad habit of writing parts simply because you can play them. Your sequencer is here to save you from the tyranny of human limitations (like finger span). Use it to put together your arrangements one note at a time. Experiment, and concentrate on writing an arrangement that sounds good, not because it will fit under your hands.

* Keep your parts simple. Unless you're trying to recreate "*Eleanor Rigby*" or classical works, limit your parts to sustained chords, or a simple melodic figure on one part. With strings, less is definitely more.

* Finally, listen to the attack and release times on your string patches, and see how each works with the tempo of the music. Using slow attacks and release times in a fast tune usually results in the string lines sustaining over chord changes, which can muddy things up real fast. Save the real slow envelopes for the ballads, and change the attack and release times if you need to. It might even be a good idea to have 3 or 4 versions of an otherwise identical string patch, each with envelope times that have been tweaked for different tempos. ■

BIO: Charles Fischer runs Mescal Music, a San Francisco Bay Area electronic music consulting firm. Once content with designing audio electronics projects for magazines, he has been rumored to be returning to working as a studio musician and sound developer (citizens have been asked to remain indoors).

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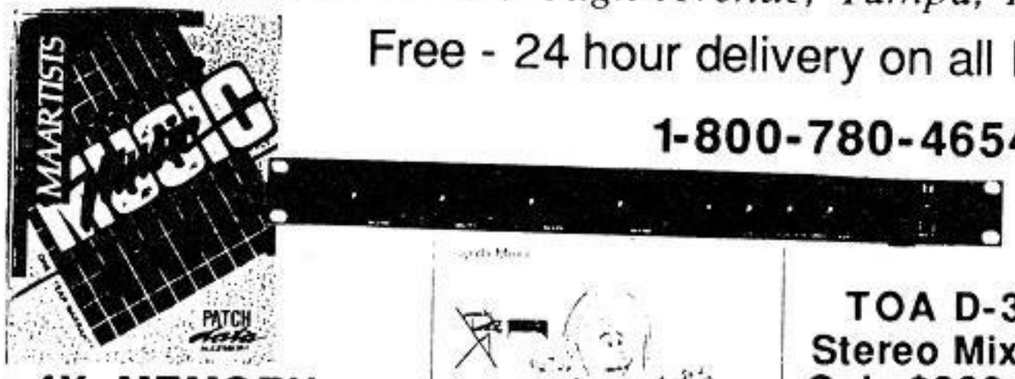

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Hackerpatch

By Sam Mims

HACKERPATCH is intended to be a place where patch vendors can show their wares and musicians can share their goodies and impress their friends. Patches designated "ESQ-1" will also work on the SQ-80. The reverse is not always true. Once something's published here, it's free for all. Please don't submit patches that you know to be minor tweaks on copyrighted commercial patches unless you have permission from the copyright owner. All submitted patches are subject to consideration for mutilation and comments by Sam Mims - our resident patch analyst. If you send in a patch, *PLEASE* include your phone number.

With all the recent fuss about Heaven's ESQ-1 patches, and the inability of customers to get hold of them, I thought it would be a good idea to devote this month's Hackerpatch to four of the most useful sounds from Glenn Javaheri. Since he has placed these patches in the public domain, I may run others in Hackerpatch in the coming months as well.

But before we get started, I'd like to clarify a practice that some readers have found confusing. In the patch charts, if a parameter is not listed (only a "-" is shown), then that parameter is not being used by the patch, and the sound will be the same regardless of whatever number is showing on the keyboard itself. There's no need to set that parameter to 00, or to any other value. All of the values that are listed - including OFFs and zeros - need to be entered as shown.

THE PATCH: L.FAST

Obviously named after synthesist Larry Fast (of Synergy fame), this patch is a big, fat, juicy synth string sound. It's among the biggest, the fattest, and the juiciest I've heard, even though it's a standard sawtooth patch like hundreds of others. So what makes it better?

A sense of motion is what makes such a sound really come alive - not motion strictly in the sense of stereo panning, but just the sound itself always changing subtly instead of becoming static (and stagnant). The starting point for this is to introduce detuning in the oscillators to simulate a chorus effect; Glenn did this by tuning OSC 2 sharp, and OSC 1 and 3 flat (maintaining an in-tune pitch center). Next, motion to the oscillator pitches is introduced by ENV 2 and the LFOs modulating each of them. This makes the sound mighty fat, but when a single pitch is sustained, the sound is a little "jumpy." I toned this down a bit by using the oscillator modulators in opposing directions. For instance, change the depth of LFO 1 on OSC 3 to -04 instead of +04, so that when OSC 1 goes slightly sharp, OSC 3 goes slightly flat to counter it. Similarly, change the depth of ENV 2 on OSC 1 to -04. This leaves the motion in the sound, yet it smooths it out subtly.

I didn't see much use in the mod wheel vibrato for this patch, so I used the mod wheel to close down the filter for a darker sound. To do this, first change the MOD of LFO 1 to OFF. On the filter page, both MODs are devoted to ENV 3, but by setting the FREQ to 027, the second ENV 3 modulator can be taken out with only minimal change to the sound. So, set this second modulator to WHEEL, with a depth of -40.

Finally, if you're using an SQ-80, set T4 of ENV 4 to 40R. This adds a reverb effect to the sound, but it's not really noticeable as a distinct reverb among the sound's long release. It does, however, add even more of a smoothing effect to the sound.

THE PATCH: BASS 3

Like the above patch, here's one that has been done a million times. Only this is one of the better results. Again, I felt that some adjustments needed to be made on the mod wheel - it adds a vibrato that is too fast and too weird. Instead, a smooth natural-sounding vibrato is more useful. The "weirdness" results from the fact that two oscillators are modulated while the third isn't. For a smooth vibrato, all should get the exact same treatment. So, use LFO 1 as the second modulator of OSC 3, and set its depth to -10 on all three oscillators. Then go to the LFO 1 page and turn the FREQ down to 24.

If you're using an SQ-80, you can get a more percussive sounding bass by trying some different waveforms for OSC 3; SLAP and DIGIT1 work very nicely for this. Some other waveforms will give you more of a slap effect as well; turn OSC 3's OCT to +0, and try out CLICK, PLUNK, PLUCK, and PICK 1. And whether you're playing on an ESQ or an SQ-80, try turning the SYNC mode ON (MODES page) for a bit of extra punch.

THE PATCH: STELY2

Sort of steel-drummish, STELY2. is a very nice sound all across the keyboard. It's composed exclusively of sine waves. There's some heavy detuning going on, but all in the "sharp" direction. I subtracted 4 from all three FINE settings of the oscillators to center the pitch a little better without altering the relative detuning. ENV 3 and LFO 1 add some subtle detuning also, while LFO 2 adds a fast (and not very useful) vibrato via the mod wheel.

I threw in a bit of stereo widening by using KBD2 as the PAN modulator (DCA 4 page) with a depth of +30. You can get a more un-tuned and slightly mellower sound by turning the AM mode on (MODES page); this is a nice effect that you may want to save as a separate patch. SQ-80 users have a few other options as well. First, change T4 of ENV 4 to 26R for a bit of reverb. Then play around with substituting waveforms for OSC 1; my favorites were PLINK and GLINT2 for percussive effects, and MALLET for a softer attack.

THE PATCH: GTRLIK

Here's a nice attempt at an electric guitar lead sound. I was quite hopeful that this one would really be realistic on the SQ-80, but I couldn't quite coax it out. Oh, well....

The use of ENV 1 as a pitch modulator, creating a harsh attack transient, is what gives this patch the guitar feel; the sustain sound is good as well, and the mod wheel vibrato, controlling oscillators 1 and 2 in different amounts and OSC 3 not at all, works very well. The whole patch is tuned sharp again, though, so subtract 5 from all the oscillator FINE settings to get things back in shape.

The patch can be improved on the SQ-80 by substituting other waveforms for OSC 3. STRING and REED 2 are both good choices, and GLINT 1 adds an interesting attack to the sound. But the best sounds come from the three GRIT waveforms; pick the one you like best. All told, however, the best way to get closest to a screaming guitar sound is to crank up the keyboard full blast (I changed the FINAL VOLume of DCA 4 to 63) and overdrive your amp or mixer. Run the signal through a stomp box or two, and you're ready to wail!

Bio: Sam Mims is a studio session player in Los Angeles, and a member of the band THE NEWKS. *He is a Contributing Editor for* GIG *magazine, and owns Syntaur Productions - a company that produces music for television, radio, and film. In addition, Syntaur markets synth patches for the ESQ-1 and SQ-80.*

ESQ-1 PROG: L. FAST

BY: GLENN JAVAHERI

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-2	11	29	SAW	ENV2	4	LFO1	2
OSC 2	-1	0	4	SAW	ENV2	1	LFO3	1
OSC 3	-2	11	31	SAW	LFO1	4	ENV2	2

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV1	55	LFO2	-3
DCA 2	63	ON	ENV1	1	LFO2	5
DCA 3	63	ON	ENV1	-5	LFO2	5

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	0	2	13	ENV3	63	ENV3	27

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	49	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	21	OFF	ON	TRI	0	2	17	WHEEL
LFO 2	63	OFF	ON	NOI	0	21	29	VEL
LFO 3	23	OFF	ON	TRI	0	7	22	VEL

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	-41	17	19	22	15	8	11	39	27	0
ENV 2	63	63	0	0	12	5	4	0	0	0
ENV 3	63	63	52	0	11	11	52	41	49	3
ENV 4	63	54	58	0	41	37	57	26	40	16

	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: BASS 3

BY: GLENN JAVAHERI

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	-1	0	0	BASS	ENV2	9	LFO1	-15
OSC 2	-1	0	2	BASS	ENV2	-53	LFO1	-15
OSC 3	-1	0	3	BASS	ENV2	43	OFF	-

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	OFF	-	OFF	-
DCA 2	63	ON	ENV1	1	OFF	-
DCA 3	63	ON	ENV1	4	KBD2	20

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	13	0	12	ENV3	63	KBD2	-7

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	63	5	KBD	63

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	29	OFF	ON	TRI	0	32	0	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	59	37	22	0	8	39	36	43	1
ENV 2	-38	0	0	0	9	0	3	0	0	9
ENV 3	63	51	9	0	0	0	9	20	8	0
ENV 4	63	63	52	0	0	0	20	16	4	2

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

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

ESQ-1 PROG: STELY2

BY: GLENN JAVAHERI

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	2	5	4	SINE	LFO2	4	ENV3	10
OSC 2	1	0	5	SINE	LFO1	8	ENV3	-9
OSC 3	1	0	8	SINE	LFO2	-4	ENV3	13

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV2	63	LFO2	4
DCA 2	63	ON	ENV1	-9	OFF	-
DCA 3	63	ON	ENV2	41	LFO2	-1

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	45	3	42	ENV2	-63	VEL	1

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

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	17	OFF	OFF	TRI	0	1	10	OFF
LFO 2	30	OFF	OFF	TRI	0	1	1	WHEEL
LFO 3	-	-	-	-	-	-	-	-

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	25	23	20	0	6	14	50	63	22	9
ENV 2	-13	-63	45	0	22	22	38	18	63	9
ENV 3	-5	-4	0	0	13	7	1	14	9	0
ENV 4	63	63	29	0	34	0	13	31	26	63

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

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

ESQ-1 PROG: GTRLIK

BY: GLENN JAVAHERI

	OCT	SEMI	FINE	WAVE	MOD#1	DEPTH	MOD#2	DEPTH
OSC 1	0	0	5	PIANO	ENV1	63	LFO1	5
OSC 2	0	0	7	SQR	ENV1	63	LFO1	3
OSC 3	0	0	8	VOICE1	ENV1	63	ENV1	63

	LEVEL	OUTPUT	MOD#1	DEPTH	MOD#2	DEPTH
DCA 1	63	ON	ENV3	63	LFO3	39
DCA 2	48	ON	ENV3	63	LFO3	-5
DCA 3	25	ON	ENV3	2	KBD	63

	FREQ	Q	KEYBD	MOD#1	DEPTH	MOD#2	DEPTH
FILTER	50	8	13	ENV3	63	ENV3	46

	FINAL VOL	PAN	PAN MOD	DEPTH
DCA 4	50	8	OFF	-

	FREQ	RESET	HUMAN	WAV	L1	DELAY	L2	MOD
LFO 1	25	OFF	ON	TRI	10	32	1	WHEEL
LFO 2	-	-	-	-	-	-	-	-
LFO 3	9	OFF	ON	TRI	44	4	63	OFF

	L1	L2	L3	LV	T1V	T1	T2	T3	T4	TK
ENV 1	63	0	0	0	0	2	6	48	27	1
ENV 2	-	-	-	-	-	-	-	-	-	-
ENV 3	63	35	28	0	9	7	16	37	0	0
ENV 4	63	63	34	0	6	1	26	42	32	2

	SYNC	AM	MONO	GLIDE	VC	ENV	OSC	CYC
MODES	OFF	ON	OFF	7	OFF	ON	OFF	OFF

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

The Interface

Letters for The Interface may be sent to any of the following addresses:
U.S. Mail - The Interface, Transoniq Hacker, 1402 SW Upland Dr., Portland, OR 97221
Electronic mail - GEnie Network: TRANSONIQ, CompuServe: 73260,3353, or PAN: TRANSONIQ.
This is probably one of the most open forums in the music industry. Letter writers are asked to please keep the vitriol to a minimum. Readers are reminded to take everything with a grain of salt.

Dear Hacker,

I really look forward to each and every issue. I have had my **EPS** for almost a year now and have barely scratched the surface of this electronic marvel.

I have a question for anyone who might like to address it. I usually use my EPS as a driver for other keyboards and sound modules. Is there any way to set the OS up so that the MIDI TRANSMIT ON = INST CHAN is the default. I tried to alter the default setting and then save the global parameters to my OS disk, but that doesn't seem to do it. Any suggestions would be greatly appreciated.

Sincerely,
Don Gibelyou
Kirkland, Wa.

[Ensoniq's response - What you are trying to do should work, and we can't imagine why you are having any problems. Make sure that the O.S. disk isn't write-protected when you try to save global parameters and you boot from the same disk you saved the global parameters to. If you still can't get it to function, call Ensoniq Customer Service at (215) 647-3930.]

Dear TH:

Hi! Haven't written for a while and thought I'd just drop a quick note to say that I'm still alive.

I'm still alive. (There, I feel much better now.)

And as long as I'm here... I have been hacking about on the **EPS** disk (naughty boy) for some time now, and there's something that has been puzzlin' the heck out of me.

On a freshly formatted EPS disk with the Operating System copied to it there are 1418 sectors available for user subdirectories and files. Sector 000$ seems to be unused, though formatted. Sector 001$ appears to contain some sort of disk ID or drive synch code (or perhaps something similar in intent to back-masking on Heavy Metal records). The Root Directory and FAT occupy 13 sectors from 002$- 00E$, and the OS occupies 167 sectors from 00F$-OB5$. 0B6$-63F$, then, is what's left for user space.

My question is, is there anybody out there who can tell me what the EMPTY SECTORS from 09F$-0AE$ are for? They're striped with the EPS- disk formatting code, but there's nothing there as far as data. And get this, they're stuck right smack dab in the middle of the OS space. Talk about sloppy disk management, guys, here's Sixteen Sectors of prime disk real estate just sitting around, doing Absolutely Nothing. And RIGHT IN THE MIDDLE OF THE OS. I just can't figure it out. CAN YOU???

Sorry to be a pain,
Gregg Lentz
Litchfield, MN

[Ensoniq's response - The area of the disk you describe is a special part of the operating system reserved for overlay functions. These functions are the type that do not load in when you first boot up the EPS, but are loaded when the function is executed (ie. the EPS asks you to insert the O.S. disk to continue). We will always build in this type of overlay function in any product to allow room for future growth. While there is this room on the EPS disks, as we have said before, the operating system code of the EPS has been virtually "maxed" out and would not be able to control any more overlay function support.

By the way, after we received Gregg's letter, Ensoniq's own disk guru Alan K. Smith spoke to him and explained this situation.]

Dear Hacker,

I've had my **ESQ-1** for three years and have enjoyed every minute of it. The newsletter has been terrific but there was so much about the Mirage back then that I couldn't resist getting one. Now the newsletter is full of SQ-80, EPS and VFX. I attended a workshop on the EPS and VFX and, needless to say, I liked them both. I was, however, disappointed in the action of the keyboard which, in my opinion, has an inferior feel to the ESQ-1 and a click that would take me some getting used to.

The purpose of my letter is to tell all the ESQ-1 owners out there that this is our newsletter, too, and we shouldn't let this newsletter be void of ESQ-1 information. One of my friends was about to cancel his subscription because of the backseat the ESQ-1 was taking. I encouraged him to use the Hacker to answer his questions. We can't expect time to stand still and, as we've seen, Ensoniq continues to develop quality products.

I would like to purchase the rotary capability for my ESQ-1 that the VFX has. I've been surprised that it has taken so long to mimic the famed "Leslie" B3 Hammond sound that is now finally available in the VFX. Can a gadget be available as an "add on" for the rest of us? I don't think I'm alone in this request.

Has anyone tried the Leslie apparatus suggested in the Hacker? - I don't know the issue because I lent it to a friend to build it for me. Unfortunately, it's not on his priority list... I may own a VFX before he gets around to it.

Has anyone produced the ultimate B-3 sound? Anyone interested in a users group in the Syracuse Area?

Lets keep the ESQ-1 in the ball game!

Will there be another O.S. beyond 3.5?

Respectfully submitted,
Larry Brennan
Syracuse, NY

[TH - That's what you get for lending out Hackers. (It was in Issue #41.)]

[Ensoniq's response - We stopped production of the ESQ-1 in 1988 and at this point there are no plans to update the operating system. If a major problem were to be discovered of course we would go back and re-examine that operating system.

There is no way to add the rotary speaker effect of the VFX and VFX-SD to the ESQ-1, as this effect is created by the ESP chip which cannot directly interface with the DOC I chip used in the ESQ-1. There are numerous external signal processors which do rotary speaker simulation (Dynacord CLS-222 and Alesis Quadra-Verb to name a few) and we suggest you check these units out.]

Dear Transoniq Hacker,

I have two questions for you:

1) I was attempting to slightly increase the bend range of the pitch wheel on my **ESQ-1** (an old one, OS 2.0). Suddenly the range jumped to 48-60, and I can't get it back to normal (0-12). This is obviously a bit much. What can I do, if anything?

2) What are the benefits and improvements I can expect if I get my OS upgraded to specs?

Thanks for your magazine!

Best,
J. Steinlauf
Woodstock, NY

[Ensoniq's response - We suggest you re-initialize your ESQ-1. This is a known bug in O.S. 2.0 and you should upgrade to O.S. 3.5. It will add many functions such as the use of a CVP-1 pedal as a modulator or volume control, advanced MIDI output status for local on/off functions and many new sequencer features. Contact your local service center to get the upgrade or call Ensoniq Customer Service at (215) 647-3930.]

Dear Interface:

I have been a sometimes proud owner of an **SQ-80** for a little over a year now. I just started subscribing to Transoniq Hacker in time for my second issue (#51, September, 1989) to bring me the interesting, but, unfortunately, not unfamiliar sounding, letter of Toon Smith. I decided that I should write to let Ensoniq owners, as well as Ensoniq, know that I have encountered similar service policy problems with Ensoniq. None of them, as yet have been addressed to my satisfaction.

To give a bit of background, I am an electronics engineer with over 12 years experience in various areas including audio switching and computers. I also am a musician who was overjoyed (this is a great understatement) to bring home his new SQ-80. My first SQ-80 (foreshadows of things to come) had a problem with the battery. I got the message that the battery was low and that I should contact my Service Center. I took it back to the store where I bought it, and sent it to their Service Center (in another state) for repair. Meanwhile, the store lent me their demo unit. After

roughly six weeks, the store had heard nothing. They gave me a new SQ-80 (Number 2). I used this one with no problems for approximately three to four months before I seriously used the MIX function in the Sequencer. After I had recorded a track, I could not change the MIX for that track. To change the MIX, I had to re-record the track. Frustrating to say the least.

Not wanting to spend my life doing this, since the manual said it was supposed to work, I contacted the Service Department at Ensoniq to see if they could help. I talked with various Techs there who were quite courteous and helpful, except that now I had to return this SECOND SQ-80 to repair (thank goodness for the warranty). In January, I took the SQ-80 back to the store and it was sent off to the Black Hole of SQ-80s. I was warned that the store's repair department (in the other State) was understaffed since they had just lost a tech. So I was prepared for a wait. Meanwhile, the store, again, lent me their demo unit (which worked, by the way). I called at the end of February. Not back yet. I called again a couple of times in March. Not yet, but sometime in my calling I was told that, because of the backup at the store's repair department, they had sent my SQ-80 back to Ensoniq and were expecting a reasonably quick turn-around. In May, after a number of more calls to the store, the store said we'll just give you a new SQ-80 (NUMBER THREE!!!). Clearly, Ensoniq is not all to blame for the whole delay, but after all they promise a two-week turnaround.

During all this, in February, I believe, I called the Service Department at Ensoniq because no one in my immediate area was doing Ensoniq repair. I asked for information on becoming an Authorized Repair Center. (Surely with my experience I can change a board out without damaging the equipment. After all I've been doing that very thing with $17,000 computers for six years.) Anyway, I was sent their application, but as I pressed them for information concerning what equipment they required (I am not currently servicing synths), I found from the Service Manager that I may as well not send in the application, because I do not already do work for other manufacturers. He would not discuss the matter further, other than to say he consulted the other manufacturers you did work for as references, so to speak.

More recently this year, I began calling manufacturers to obtain Service Manuals for all the equipment I now have in my home studio. Fostex complied, Roland complied (so will Yamaha, by the way). Onkyo complied. But Alesis and Ensoniq would not. So, although Ensoniq was not alone in their refusal to sell me a Service Manual, they are most certainly in the minority (maybe I should have been a guitar player). Now I find that, not only can't I become an Authorized Ensoniq Service Center, but now they won't even send me a Service Manual to work on my own SQ-80 after the warranty runs out! Neat, huh! It's interesting that, in their clinics at music stores they don't tell you that stuff (about not being able to get a service manual) along with their modular change-out philosophy. As far as I can see, their philosophy, even that which makes sense, has no relationship to the reality I have experienced with them.

I was told when I called Ensoniq the last time that the Service Department reported to Dan Garrett, Vice President of Sales. I have written him a letter telling him that I am VERY DISAPPOINTED in their service policies, and that, in future shopping for gear, Ensoniq WILL NOT be a consideration AT ALL, unless they change their policies.

So, you all can say what you wish, and Ensoniq representatives can make all the explanations and excuses they want, but, until things change in the service policy area, I will not buy or recommend that others buy anything Ensoniq. In fact, I will warn them about Ensoniq's service policies, and the impact it will have on them if they buy Ensoniq equipment.

This is a sad state of affairs, because, were it not for these problems, I would be a staunch supporter of Ensoniq. I still love the SQ-80. I think it's the best featured machine of its type and price range on the market. Ensoniq, if you get things straight, let us know. We would love to hear it.

Sincerely,
Rick Davis
Raleigh, North Carolina

[TH - While we wholeheartedly agree on the desirability of customers being able to obtain service manuals, we're also glad to hear that Ensoniq carefully screens applications for service centers!]

[Ensoniq's response - Response from Steve Coscia, head of Ensoniq Customer Service Department: I spoke with Mr. Davis on October 5, 1989 to discuss his letter. (Whenever possible, I try to make personal contact - even when I'm not able to tell a customer what they want to hear.)

Servicing today's sophisticated microprocessor-based systems, especially those based on custom and semi-custom chips, requires test equipment not always available in the field. Repairing all modules at one facility ensures greater quality and consistency. Ensoniq has invested over a quarter-million dollars in test and analysis equipment, and although we don't have a monopoly on qualified repair technicians, there is no repair facility with our level of technical expertise for repairing our products.

Modular exchange is not unique to Ensoniq. Other keyboard manufacturers choose modular exchange over board-level trouble-shooting when a repair station has invested too much time in a board. Time is money in the service business and the longer the repair, the greater the labor cost. Module exchange reduces the amount of time involved in trouble-shooting and diagnosing problems for all our customers.

Ensoniq service manuals do not contain schematics or board-level diagnostics. Ensoniq repair stations use our service manuals to trouble-shoot to the module level, not the component level. Therefore, our service manuals are only useful to those authorized to exchange modules.

No service program will satisfy everyone. As with any business decision, choices must be made as to methods and procedure. For the vast majority of service requirements the decision to use modular exchange is successful. From time to time there may be unique events which require unique solutions. We have tried to organize our service effort to handle unique events in a personal manner,

similar to my response here and in my phone call.

I know Ensoniq will never be able to give everyone what they want, but we are very interested in whatever customers have to say. As I mentioned in my phone call, you can always count on me if you ever need help with your SQ-80; I hope having an ally is more important than having service manuals.]

Fellow Hackers,

How about an in-depth article on tweaking the voice architecture of an **ESQ/SQ-80** for use with wind driver units such as the IVC Pitchrider systems? I've found that in order to get an acceptable performance out of the keyboard I've had to alternate between breath controller and aftertouch control to track volume changes on my sax, depending on the characteristics of the particular patch I'm using. Also, for what it's worth, to any wind players who're interested in generating MIDI horn sections I definitely recommend the Pitchrider system over most dedicated MIDI wind controllers. You don't have to give up your horn to play an "instrument" that offers all the satisfaction and expressiveness of a pipe wrench. (That's obviously my own bias, as the dedicated controllers work for some people - including some world class players.)

Thanks for providing this conduit for exchange of information. I've picked up lots of valuable information in your Interface section.

Thanks again,
Charles Horn
Eureka, Ca.

[TH - While it doesn't really help a whole lot with this particular request, Mirage owners can find an article on using a wind controller in Issue #40. If there's a reader out there that's gone through this, we'd be very interested in seeing an article.]

Howdy Hackers!

After my January 1989 article, Making **EPS** Pitch Table Libraries, I got quite a few request for the EPS pitch tables disk mentioned at the end of that article. In fact, I continue to receive orders for it, along with some pleasing comments on its comprehensiveness. I am, of course, grateful for these comments, and hope that more people take my invitation to taste new frontiers in music.

There is a complication however: I have moved. Anybody who is interested in the disk, which contains many new tuning systems - everything from 5-limit just intonation to non-octave-based scales - please send $10 to my new address: 11511 Metric Blvd., #212, Austin, Texas 78758.

The package also includes 28 pages packed full of background on the theory and application of each scale and of new tunings in general. This information was compiled from years of correspondence with experts in the topic, from eclectic journals on the topic, as well as from personal experience. It's a challenging area of endeavor for innovative musicians everywhere, one that has kept me personally fascinated for about 12 years. Give it a try!

Gary Morrison
Austin, TX

Transoniq Hacker,

I would like to thank you for your informative magazine. It truly is the best users magazine I've seen. I have most of your issues, and your tips on the Mirage and ESQ-1 have been very helpful.

It has been months since I purchased an **EPS** and I must say it has been a disappointment. I'm sure some may agree with me others may not, but tell me why is it called a performance sampler when the amount of memory will allow only a couple of good samples or one excellent, necessary instrument such as piano. I had more performance capabilities, instrument selectionwise, with the Mirage, especially with the IVM expander. I'm aware of the cleaner samples the EPS can create but such a limitation of memory! A 4X expander really should have been standard equipment not an option, 8 or 9 months after the EPS introduction.

It seems like most of the planning was done after its introduction. I went through 4 or 5 versions of software and it still crashed or wouldn't complete its specified routine. The store where I bought it was unaware of its software problems until one of their experts crashed the system. Is that performance? That is when I traded it in. I don't want my time spent pointing out the errors of a machine to a company when I've spent very good money buying a state of the art keyboard.

I want to say that Ensoniq representatives have always been courteous and helpful when I have presented them with these problems. I felt badly about giving up the EPS because I had reworked Mirage samples and knew it had some powerful capabilities but they just weren't getting it together with the that clicking.

I'm not here to badmouth Ensoniq. I haven't seen any comments about the EPS that sounded the way I felt, so I thought I'd say my two cents worth.

Keep up the good work. I look forward to your publication.

Sincerely,
Bruce Manning
Nashville, TN

[Ensoniq's response - As with any computer, memory expansion certainly increases the system's capabilities. Including a 4X expander with the EPS would have pushed the EPS out of the price range of the majority of users. The intent was to offer an expandable system which would be easily affordable, yet upgradeable over time as the user's needs and financial resources allowed. Unfortunately, a worldwide memory shortage occurred soon after the EPS introduction, causing the 4X expander to be delayed and more expensive than we originally had hoped.

As with any computer software program, it is not uncommon for bugs to be discovered after the software is released, no matter how extensive the beta-testing. That is why we have always made it a policy to easily and inexpensively upgrade our operating system software. In addition, our upgrades normally add enhancements to the system as a bonus. We apologize for any inconvenience you may have suffered and hope you will look to Ensoniq again for any future purchases.]

Dear T.H.

Are there any issues explaining how to create an instrument using wave samples from various other instruments?

I have over a dozen drum kits on file but I only use a couple of sounds from each. Can I combine these to make my own kit and save it?

Sincerely,
Neophyte "Rube"
Montebello, Ca.

[Ensoniq's response - Yes, you can do this a couple of different ways. The easiest is to load up a few different instruments and then save them as a bank (see pg. 47 of the Musician's Manual for more information). To turn samples from many different instruments into a single instrument requires editing on the layer and wavesample level. Basically, you must copy the desired wavesample(s) from an existing instrument into a new custom instrument, assigning them to different layers if you desire. You will repeat this procedure until you have moved the desired wavesamples and/or layers from your various instruments/disks into this new custom instrument and then save it to a new disk. The Advanced Application Guide goes into these functions in much greater detail.]

Dear Hacker,

You asked for readers to write in and express their views on Ensoniq's product planning, particularly keyboards vs. rack units, so here are my opinions for what they're worth to T.H and Ensoniq.

I own an **SQ-80**, a truly marvelous machine! I am in no way dissatisfied with this unit but am disappointed in a few areas of product follow-up.

First of all, I understand that the EPS is probably a better seller by far than the SQ-80 ever was. I'm sure that Ensoniq has ways of researching their product sales and owner satisfaction but I think they are missing the boat on marketing strategies somehow. For almost a year after my purchase I read how Ensoniq had no plans to produce an EPS-M. Needless to say, with a tremendous MIDI controller like an SQ-80 I read how Ensoniq had plans to produce an SQ-80 and having attended an Ensoniq clinic that showed me what an EPS could do, I was very disheartened to learn I could not drive an EPS with my SQ-80 unless I chose to purchase another set of keys. (boo- hiss) Then suddenly out of nowhere,... SURPRISE!- Ensoniq announces the EPS-M with one more megaword memory and SCSI interface!

Now come on guys - where is your credibility? You must have been planning it for quite sometime and denying any such plans. Now I like surprises as much as anyone, but... my point is this: Buyers and users make plans too!!! If I had known an EPS-M was in the works I would have planned, saved, and waited!

Instead, having nothing for my SQ-80 to control, I purchased a Roland D-550 and a Roland MT-32! While I fully realize that neither of these rack units are samplers, I honestly would have waited for the EPS-M but have since spent my allotted money! End Result.....Ensoniq has lost a sale of an EPS-M. Look Guys, I say if you have any future product plans, especially when you know

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Photo by Jeff Pearl

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Sincerely,
Jack Rillings
Browns Mills, NJ.

[Ensoniq's response - We think you are making us out to be cold and calculating at your expense and that simply isn't true. There were no plans to produce a rack-mount EPS until the demand grew so strong we couldn't ignore it. At that point, it was a fairly quick job to modify the EPS for rack packaging (actually a few months). Obviously, when this decision was made, we did not announce that we were going to work on the EPS-M. We don't announce products until production is imminent, as there is no way of guaranteeing if and when a product is actually going to be available.

We appreciate your point, but in a competitive market it simply is not possible to offer you that type of pre-announcement. We believe that companies that announce products which do not ship for six months to a year (or never) are not doing you much of a service, and can seriously hurt their current sales, which jeopardizes the development of future products.

But, thanks for your comments.]

Greetings Fellow Hacks,

First off, (just like every other "Interface" letter) I have to compliment the Hacker as being the best magazine in the world. My limited "college-student" budget keeps me from buying lots o+ musical goodies but the Hacker is worth every penny.

To Ensoniq I express the following: I have a brand new **SQ-80** (recently upgraded from an ESQ-1) with version 1.5 operating system. I just found a little glitch. After adding a sequence to a song, then pressing the soft button above the song name, (ie: to change the name) the SQ-80 starts flashing the "editing song data" message, then keeps it up while the song name is displayed. Was this bug fixed in OS 1.8? What else am I missing out on? (Hacker: how about a SQ-80 OS comparison article like the one you did for the ESQ-1 in December of '88?)

Also to Ensoniq (almighty synth god) I present a "wish list": 1. A rack mount VFX. 2. An Ensoniq drum machine. 3. Make both affordable (just like every other Ensoniq product). How about it?

To the Hacker: I LOVE HACKERPATCH. I have over two banks of sounds just from your magazine. Keep it up. (And I second the vote in increasing Sam Mim's salary.)

In response to Chris Barth's comments about famous Ensoniq users: (June 1989) I recently took my little sister to see Debbie Gibson. Along with a ton of other neat (and expensive) gear sat an Ensoniq keyboard. I couldn't tell which one, but I'll bet it was an EPS. And if Debbie is reading this, GREAT SHOW.

Oh yeah, instead of this 4 week/4 week/5 week crap, I have a better idea: 1 week/1 week/1 week...

Thank you.
Edgar C. Lecuyer
Wrentham, Ma.

[Ensoniq's response - In general we always recommend the use of the latest operating system. Each upgrade fixes some known bug(s) and usually adds new functions as well.

As for your "wish list," we'll do our best to make you affordable products and we thank you for your comments.]

Dear TH,

I was recently told by a customer that a major equipment dealer in your area was loading my **ESQ-1** patches onto RAM cartridges and selling them to his customers with the assertion, "It's alright with Nick." Although the issue of piracy has been rehashed quite a bit in the trade press, I'd like TH readers to know that no equipment dealer anywhere is authorized to distribute Cesium Sound ESQ-1 or SQ-80 programs, and that such piracy is the reason. Synthesizer programs are a recognized form of intellectual property, both by the Library of Congress, and the legal community, and so unauthorized distribution is, in fact, illegal. This is so even if you don't know where they came from, or if you didn't know they were copyrighted.

The fact that this type of program is easily transferred from internal memory to disk or cartridge is what makes such piracy easy and tempting. However, this ease of use is why these machines make the music production process so wonderfully accessible. The same debate occurred when some form of protection from cassette duplication was considered. This, of course, would also hinder the production and promotion process vital to the struggling artists who really keep the music industry from stagnating. Even so, and given the widespread occurrence of consumers taping their friends' records or taping songs off the radio, if a stereo dealer set up a duplication service in his store, and made a record collection available for duplication to anyone who bought a stereo system, I'm sure they would receive a number of calls from record company attorneys, if not a visit from the FBI. This kind of activity not only damages established artists, but stifles the developing ones by pinching off both established and alternative record outlets.

Ensoniq admits they owe a large part of their success to strong third party support. This support exists because they provide developers with every possible assistance. If they did not, I myself would not be in this business. They have now produced the most advanced synthesizer ever built, the VFX, while every other manufacturer is simply repackaging old technology, or folding up altogether. There is currently a slump in new keyboard sales, and much discussion in the retail trade press that lack of new technology is the reason for it. I would say that lack of new technology can be traced directly to the lack of development of existing technology with vast untapped capabilities. The result of this lack of support has been the disappearance of several lines of the most advanced (complex) equipment and the disappearance of several manufacturers. These are largely American manufacturers without the foresight to spend the money for in-house development for their products and/or support third party developers. Instead of policing their dealerships to prevent piracy they bow to pressure from them in the name of short term profits. The retail trade press does not publish letters to the editor.

Sincerely,

Nick Longo
Cesium Sound
Berkeley, CA

[TH - This is probably also as good as time as any to mention that we still get a lot of calls and letters from people who have bought Ensoniq equipment and only just heard of us by accident. What's always particularly disturbing are the ones who say, "My dealer was kind enough or generous enough to pass along a copy of your magazine when I bought my synth." NOTE: a free issue of the Hacker is included with EVERY synth and sampler that Ensoniq ships. If you DON'T get a free issue with your gear or if the dealer makes out like it's some kind of personal gift, then a little healthy skepticism is advisable.]

[Ensoniq's response - We wholeheartedly agree with Nick. Third-party developers and organizations like the Hacker are a very important part of our continuing support of the products you buy, and they provide an invaluable service. They deserve the dollars that they earn and we all benefit from their presence in the marketplace.]

Dear TH,

I believe there is a very serious problem, mostly having to do with controller #70. I am not alone in suffering from this problem. When using the **EPS** with an external sequencer as many of us do, especially professionals, the EPS seems confused and indicates sometimes that one set of layers is active when in fact it is another. Using instruments in the MIDI only (Local off) configuration, it really gets bad. One can not depend on the right patch being there at the right time. I think the button issue is confused because there is no global LOCAL OFF. Also there is no way when using patch buttons with MIDI instruments only in Multi-mode (on instrument channels, NOT base channel) to indicate NO buttons once you have sent it a left, right, or both buttons change from the sequencer. You can get a button to add to the layers the sequencer has called but you can't get a NO button return. Maybe making it so that some other front panel button or combination would indicate this first patch would help. Again I am using 2.4 or sometimes 2.35.

Also, many times (again in MULTI, using Inst channels) a patch change from external sequencer changes more than just the instrument/channel it was sent on. Again, you get some pretty unpleasant surprises.

I think a global LOCAL OFF would solve the problems along with a front panel way of sending a no button patch change when instruments are MIDI only.

I also believe that Ensoniq needs to realize that much of their market have external sequencers running large systems and they are not wanting to use the local sequencers, but want to integrate it all with their computers. Many of these controller #70 flaws exist, I believe, because not enough attention has been put on this aspect.

Also, start releasing a rack with each keyboard, at the same time, with the same circuit boards and panel, and save money on redesign but still sell a bunch of racks. I want a VFX but won't buy another keyboard (unless it's a 6-octave controller). Your "Racks don't sell" philosophy is self-fulfilling because the racks don't come out when the instruments do, and many of us either been forced to buy

the keyboard or bought something else instead. I have owned several Ensoniq products but I am now looking elsewhere, because of this. It is maddening because you have so much on the ball otherwise.

On to lighter matters. How about reversed keyboard and velocity panning as well as random and keyboard panning? And how about 4 or 5 increments to adjust these with (like 20, 40, 60, 80, and 100%) as well as having the keyboard panning of any wavesample relate to either the entire keyboard or just the area it is mapped to? That way each wavesample in a keymap could be independent and/or reversed from the current keyboards panning scheme. With varying percentages, random panning and velocity panning could be a lot more fun and effective!

Other than my complaints on controller #70, and digital noise at the outputs, I love my ESP. (When is that output improvement going to be available anyway?) I hope you will offer support to 3rd party developers more, as I believe this instrument could have a real long life in the marketplace if stuff keeps happening for it.

Incidently, I was a beta-tester for Synthia Pro by The Other Guys, and they really LOOKED at the EPS when designing this sample creating/editing program. It blows the doors off the Alchemy/TurboSynth combo, and it's on the Amiga and the Mac! It has a real nice EPS interface and they plan on implementing SCSI dumps too. It does velocity-switching multi-layer dumps right now. Its effects and reverbs are world class. So, ok! The EPS is even on the otherwise-cheesy illustration on the box!

Enough enthusiasm. Back to the studio, doctoring demotapes for Jackson Clones and the other would-bes.

Sincerely,
Dave Greem
Greendream Music and Video
Seattle, WA.

[Ensoniq's response - We are aware of the problems with Patch Selects (Controller #70) when a MIDI loop is present. This is a top priority to be fixed in the next operating system update.

Regarding racks, we don't have the resources to develop a keyboard and rack version of a product at the same time. If you look at the history of our industry very few manufacturers have ever offered both versions at the same time so we don't believe that this is absolutely necessary to ensure that a rack will be successful. We do acknowledge your desire for this and if we can accommodate you in the future we will do so.

Your suggestions for velocity panning etc. are not possible with the existing EPS hardware, although they are possible with the VFX and VFX-SD.

The EPS output boost is already available. Contact your local service center or call Ensoniq Customer Service for more information.]

Dear TH,

Enclosed please find an ad for a new sampling book on the **EPS**. The ad appears on page 33 of Music Technology for October, 1989. Do you have any more information on it, or do you plan to review it?

Sincerely
Daniel Zimmerman
Bloomington, MN

[TH - This is the first we've heard of this book, "The EPS Sampling Book" by Bobby Maestas. We'll be contacting Alexander Publishing for a review copy.]

Dear Hacker,

Your publication is great. I have a 1986 model **Mirage DSK**. Last year I got Soundprocess and I am very pleased with it. I would like to also commend Bob Spencer on his efforts in regard to the Mirage and Soundprocess. Bob's Soundprocess hackerpatch is outstanding. Bob if your reading, "Hi, and thanks so much for help." Also I recommend all four of Bob's Soundprocess disks. The "Top Forty" bank on Lush (I think that's the disk) is great for a performance disk with an ESP-like piano, etc. I also like the Le Grand piano on Addy disk. It is a nice mellow Steinway sound. The sounds are very good and there are many of them. Soundprocess and Bob have saved me a lot of money in upgrading the Mirage into a fine keyboard instrument (or musical computer).

Bob, I will be writing to you soon on my adventures with your disk. I have questions on loading Mirage 3.2 samples into Soundprocess. In fact, maybe that could be a future Hackerpatch topic. Thanks for all your help.

Sincerely,
Alan Levin
Carson, Calif.

TRANSONIQ HACKER

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Kirk -

Thanks for the Pyge Organ article - Dec '89 -

More stuff coming?

Jane