

# Transoniq Hacker

The Independent News  
Magazine for Ensoniq Users

## From Cyberspace to Your Ear

Part II — Samples

Garth Hjelte



Computer communication has erupted into a way of life nowadays; it's certainly affected the music industry. And it's affecting the way we Ensoniq users approach our instruments. Perhaps while cruising the Net you've seen files that are described as "ESQ-1 patches in Galaxy format," or "ASR 3.53 OS in Giebler format," — things like that. So you download it, but then what? How do you get a file that's laying in your computer to your Ensoniq instrument?

Last month we covered various ways of moving files around Internet and getting them into your Ensoniq synth. Well, the moving-around part stays the same for samples (although they're often too big for practical e-mailing to many sites — such as aol); now for getting them into your sampler.

### Two If By Disk

If you have a Mirage, EPS, or ASR sampler or a VFX/ SD/TS, you have the

advantage of a floppy disk drive on your 'board. So you can bypass hooking up the MIDI cords, and place the file on disk and shift it over that way. And with samplers, the MIDI communication side is *slow*, if existent at all, at this point. But here're some more hoops...

It is important to note that the Ensoniq disk-format is different than the PC's or the Mac's. It more closely resembles the PC's, but the two formats are still different. This means you can't format a floppy on your PC, save the file onto it and stick it in your keyboard and expect it to read it. Neither can you format the disk in your keyboard and stick it in your computer and expect it to save it.

That's where some ingenious disk utilities come into the picture. For the PC, there is the Giebler Ensoniq Disk Manager 1.09 (hereafter called EDM), and EPSDisk 1.3, and shareware utility written by Michael Chen. Both use the BIOS (Basic In and Out System) functions to format, read, and write to Ensoniq formatted floppies. For the Mac, there exists the EPSm, written by the infamous Terje Finstad of tropical Norway. Terje should get lots of credit because it used to be that when you stuck a Ensoniq- formatted disk in a Mac, it would crash it. Terje came up with a format called a B10, which made the

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Mac compatible with disks that the Ensoniq instruments could read. It's also why you see the COMPUTER option on the ASR on the FORMAT FLOPPY function — they want you to be able to format floppy disks that the Mac can work with.

Some quick notes: the EDM now can split files onto several floppies, allowing files larger than 3167 blocks. The EPSm can do that as well. It can even extract a file image from a disk image, extract a file image from a disk, and grab file images off a CD-ROM. Great program.

Let me relate a personal experience. Ensoniq operates a forum on Compu\$pend — oops, I mean CompuServe — and has a library section for themselves. When their new OS for the ASR 3.53 came out, they simply put it in the library for us to download. Here's how they did it.

They took a disk with the new OS on it, and stuck it in their computer/network. They choose the Giebler utility to work with. The EDM read the disk, using its own proprietary system to intelligently read the disk. That's a big difference between the EDM and EPSDisk. The EDM knows where to look for the data on the disk "intelligently," so to speak, and then creates a file. EPSDisk reads all the data, sector by sector, creating a <disk image>. A disk image is like a byte-by-byte photograph of the contents of the disk. It's not "intelligent" — it's kind of like the "Copy Disk" function in your computer. So now Ensoniq had a PC file that they simply uploaded to CompuServe for public retrieval.

When you download the file, you simply do the same in reverse. Use the EDM to write the PC format file to blank floppy (the EDM formats the disk as it's writing the file), and then *voilà!* you can stick the disk in your ASR and you have the new operating system!

The EDM comes in a freeware version as well, the EDE (Ensoniq Disk Extractor). This can write to a floppy but not read, and doesn't have all the other cool functions of the EDM. The EDE is available on the Ensoniq CIS library, and other locations.

EPSDisk has as its appeal the fact that it's low cost. (It's actually shareware — if you are using it frequently, write a check out to Michael Chen. He'll be glad you did!) It can also special-format disks to 1625 blocks (DS/DD) or 3265 blocks (DS/HD) if you want it to. EPSDisk reads and writes files having the ".gkh" extension. You'll see most of the Internet sites having this as their format (like wozzeck and wmp), although some are using the EDM format now (Sound Management's MIDILINK, the Ensoniq forum, and the software libraries at America On-Line).

One note on EPSDisk files: most of the time they are zipped

with GZIP, a UNIX zipping program that is different than PKZIP and the rest. (Some quick info on this — PKZIP files often are not very good for machines other than IBM-PC. One of the reasons is that too many faulty versions of utilities and incompatibilities exist. These originated from the PC world. PKZIP files can be decompressed to yield different files without any error messages being thrown up!! GZIP is a new UNIX standard being distributed under the GNU concept. The bottom line may be that Gzip is safer and it's free.) You'll see an extension like this: .gkz, .gz, or .gkh.gz — these mean that the files have been compressed with GZIP. To decompress them, grab the GZIP program off of oak.oakland.edu (/pub/ eps/utills/msdos), and use the help function (gzip -h) to find out how to use it, then decompress the file before you use EPSDisk on it. (Trick: with the gkh.gz extension, when you download it, it will show on your PC as .gkh — but it's still zipped up! Rename the filename to .gkz. GZIP doesn't see anything that doesn't have the last digit as z. And then you can unzip it.)

Another weird caveat with EPSDisk is that at first glance you don't know what size disk image you have. Remember, a disk image is like a photograph of the binary information on the disk. But what kind of disk? Double-density? High density? If it's a high-density disk, then if it's a sample you can't use it on an EPS or a 16-Plus. When you try to write the HD disk image to a DS/DD, you'll get an error every time. So try to read the text files that hopefully accompany the file (they rarely do — a pet peeve of mine...).

For the Mac files are usually Stuffed (using Stuff-It), and then you use EPSm to extract the files onto disk.

## Many Ways to Slice Bread

There are other funny routes of getting sounds into your sampler. There are many samples in SampleVision format out there. SampleVision is a program for the PC that can communicate with many samplers. (Note: SampleVision for Windows just came out, providing SCSI support as well as MIDI support.) ".SMP" files usually hold just one wave-sample, so the format is not good for whole EPS/ ASR Instruments.

scEPSi is a freeware application to communicate with EPS-formatted hard drives, floppies, or CD-ROMs from the Macintosh. Most users like scEPSi's ability to move files around like the Macintosh Finder — when you move files with scEPSi, it checks for banks that point to the location of the original file, and updates the banks with the new filepath. Also in the "Finder"-like interface is the ability to double click on instruments and view a list of the layers of the instrument in a new window. When you double click on a layer you see all of the instruments listed in a new win-

Continued on page 4.

## Front Panel

### RND ( )

#### Ensoniq Announcements

##### The DP/2 Parallel Effects Processor

You've been asking for it. Most of our engineers have been asking for it. The DP/2. The power and flexibility of Ensoniq's DP Series effects in an affordable 2-processor unit.

The DP/2 offers the same stunning fidelity of the DP/4+, with 2 inputs and 2 outputs (balanced TRS). It offers 65 algorithms and a whopping 600 Presets. All of the DP/4+ algorithms are included, with new combination algorithms designed to get more sonic power out of a single DP Unit. This means you'll get better chains of effects with 2 Units, and get more power from the 2-Source mode when recording and mixing.

The 600 Presets include many of the classic DP/4+ settings, plus a lot of new, more "bread and butter" settings. This helps to make the DP/2 usable in a variety of situations right out of the box. And they're now organized by effect category, with all the reverbs together, the delays, then chorus etc. for easy locating.

The DP/2 is perfect for both the burgeoning home/project studio market, and guitar players. When you look at the competition, you'll see that no other device offers as many effects types, true stereo input to all algorithms, the flexibility of processing 1 or 2 sources, and the ease-of-use that the DP/2 offers. The DP/2 retails for \$995.00 and is now shipping.

##### Ensoniq On the Web

We're pleased to announce the opening of our Web site, avail-

able at <http://www.ensoniq.com>. We have plenty of information up there and are adding more every week. Come visit us to get product specs, hear product demos, get listings of sound libraries, even download a beautiful image of our beloved MIDI Bug!

#### Hacker News

We've got a couple of changes to the Transoniq-Net. First, a new listing — MIDI users and ASR-10 Questions — Ariel & Meiri Dvorjetski, Internet: [s3761921@techst02.technion.ac.il](mailto:s3761921@techst02.technion.ac.il), or [dvorjet@techunix.technion.ac.il](mailto:dvorjet@techunix.technion.ac.il). You can also call Sin-copated BBS at (Israel country code: 972) 4-776035, 24 hours, 28.8K Modem. Please Login as: ENSONIQ, Password: MIDI.

The Dvorjetskis would also like us to mention that the phone number for their BBS given at the end of their letter in last month's issue (page 25) has been changed. The new number is the one listed in their Transoniq-Net entry: 972-4-776035 (Israel).

And the Electric Factory has some new ways to get help. For the Australian Electric Factory you can use their new e-mail address: [elfa@ozemail.com.au](mailto:elfa@ozemail.com.au); their web site at <http://www.ozemail.com.au/~elfa>; or e-mail their resident clinician, Michael Allen, at [mallen@geko.com.au](mailto:mallen@geko.com.au). For the Electric Factory in New Zealand, phone (64) 9-443-5916, fax (64) 9-443-5893, or e-mail [geoffm@elfa.co.nz](mailto:geoffm@elfa.co.nz) (Geoff Mason).

And finally.... way, way back in Issue #109, Sam Mims announced a little "Peak Polyphony Contest" to try to shake loose some heavy-duty patches using a single voice of polyphony. Well, after various unavoidable delays, we can announce a winner — Garry Wasyliv (who has since gone on to appear in these pages as a writer). Sam will have more info — and the patch — in next month's issue.

## HYPERSOINQ

## New Product Announcements

3D Sounds has announced several new sample sets: The *ASR/TS/K-2000/EPS Sampler Bank* — over 550 megs of samples extractable to floppy with included utility. Sampler Bank will work on any PC computer with a CD-ROM drive. Contains many multisamples and about 75% in High Density format (only 25% for EPS). Every musical style — drums, basses, synths, pianos, organs, loops, orchestral, etc. The *Sampler Bank* is available for \$49. And, the new *Guitar/Orchestral/Acoustic audio sampling CD*. "The title says it all!" \$35. Also, a new *MIDI file CD-ROM* collection: 7000 public domain files for PC only \$49. For further information, contact: 3D Sounds, Box 22065, 50 Westmount Rd. N, Waterloo, Ontario, Canada N2L-6J7. Phone: 519-747-0282.

Jeffrey Fisher (Fisher Creative Group) has a new "Money-making Music" web site: <http://www.mcs.net/~fishercg/> on the Worldwide Web. Jeffrey describes the site as providing "specific information about getting your share of the music business profits." Included free at the site are regularly updated business tips; career tips from Fisher's books, *Cash Tracks* and the *Musician's Survival Manual*; a report on eight steps to improving your composing and songwriting skills; and information on getting a free subscription to Fisher's *Musician's Business Building Bookshelf*. For further information, send e-mail to [fishercg@mcs.com](mailto:fishercg@mcs.com) or phone 708-971-1641.

dow. Each individual wavesample can be saved to the Macintosh as an AIFF file. Macintosh users typically use both EPSm and scEPSi, because they do different things. EPSm is mostly a file format converter (for instance, loading .GKH files onto your drive), while scEPSi is more concerned with allowing you to backup your drive, archive folders of instruments and files, diagnose errors, and reorganize your EPS formatted drive. Other features of scEPSi include allowing you to print out a listing of all the files on your disk, print out a listing of an instrument's layers and wavesamples, and even bringing your Audio Tracks over from the drive for editing with a tool like Sound Designer! scEPSi can also save an Ensoniq OS and update it on your disk.

Convert 1.4 is another file format converter. Using Convert, you can grab a .KRZ file off the NET (from a Kurzweil 2000), and change it to a .EFE file (EDM file image) or .INS (EPDisk file image). You can convert .WAV files with it too.

SoundVert 1.03 converts .WAV files or SampleVision files to EDM format. GET/SEND EPS, written by a Arno Von Goch, even takes a WAV file, converts it internally, and transmits it through MIDI to the EPS/ASR (there's no disk file transfer though).

Sample files are huge; that's the main reason you may not see many on the NET. Think of it — a DS/HD disk full of ASR-10 sounds comes in at 1,638,913 bytes, about 1,238,321 zipped. That takes about 15 minutes to download using a 14.4 modem. But the interest is growing; as soon as a permanent site gets established, you will see lots of samples.

## Okay, We're Done

Hopefully these articles will prove an encouragement to you to get some files from cyberspace and put 'em into your computer. Below are some sites where you might find some files. Things change every day, so keep looking!

<a href="http://oak.oakland.edu">oak.oakland.edu</a>	/pub/eps	Samples, Utilities
<a href="http://wozbeck.tfo.arizona.edu">wozbeck.tfo.arizona.edu</a>	/pub/	Samples, Utilities
<a href="http://ftp.transoniq.com">ftp.transoniq.com</a>		Patches/Samples
Ensoniq, CompuServe	go miensoniq, lib	Patches/Samples/Utils
MIDI/MUSIC, CompuServe	go midiforum, lib	Patches/Samples/Utils
America On-Line	Keywords	Patches/Samples/Utils
<a href="http://ftp.uwp.edu">ftp.uwp.edu</a>	pub/music	Kurzweil Samples
<a href="http://ftp.crl.com">ftp.crl.com</a>	<a href="http://ftp/users/ro/sberkley/utilities">/ftp/users/ro/sberkley/utilities</a>	scEPSi, Flypaper
<a href="http://www.ensoniq.com/">http://www.ensoniq.com/</a>		Patches, samples
<a href="http://ftp.ensoniq.com/pub/">http://ftp.ensoniq.com/pub/</a>		Patches, samples
<a href="http://www.clark.net/pub/teallen/eps/epssampl.html">http://www.clark.net/pub/teallen/eps/epssampl.html</a>		Patches, samples
<a href="http://www.midilink.com/users/midilink/">http://www.midilink.com/users/midilink/</a>		Patches, Samples

Lots of the information in this article was gladly provided by the faithful users and readers of the oak mailing list ([oak.oakland.edu](mailto:oak.oakland.edu)). Special thanks to Terje Finstad, Steve Vincent (who wrote most of the Mac info), Steve Berkely, and Todd Aikin. ■

Bio: Garth Hjelte owns Rubber Chicken Software Company, a sound and who-knows-what-else company that devotes itself to Ensoniq products. He'd like to thank you for reading this article, and hopes that he can read one of yours as well.

## Transoniq-Net HELP WITH QUESTIONS

All of the individuals listed below are *volunteers!* Please take that into consideration when calling. If you get a recording and leave a message, let 'em know if it's okay to call back collect (this will greatly increase your chances of getting a return call).

**All Ensoniq Gear** – Ensoniq Customer Service. 9:30 am to noon, 1:15 pm to 6:30 pm EST Monday to Friday. 610-647-3930. Ensoniq's Fax On Demand line, (1-800-257-1439) can also be used to retrieve specs, OS info, hard-drive info, and the like.

**All Ensoniq Gear** – Electric Factory (Ensoniq's Australia distributor). E-mail address: [elfa@ozemail.com.au](mailto:elfa@ozemail.com.au); their web site at <http://www.ozemail.com.au/~elfa/>; or e-mail their resident clinician, Michael Allen, at [mallen@geko.com.au](mailto:mallen@geko.com.au). Phone calls, Business hours – Victoria. (03) 480-5988.

**All Ensoniq Gear** – The Electric Factory in New Zealand, phone (64) 9-443-5916, fax (64) 9-443-5893, or e-mail [geoffm@elfa.co.nz](mailto:geoffm@elfa.co.nz) (Geoff Mason).

**TS Questions** – Pat Esslinger, Internet: [pate@execpc.com](mailto:pate@execpc.com), CompuServe: 74240,1562, or AOL: ESSLIP.

**TS, VFX, and SD-1 Questions** – Stuart Hosking, [stuh@ozemail.com.au](mailto:stuh@ozemail.com.au).

**MIDI users and ASR-10 Questions** – Ariel and Meiri Dvorjetski, Internet: [s3761921@techst02.technion.ac.il](mailto:s3761921@techst02.technion.ac.il), or [dvorjet@technix.technion.ac.il](mailto:dvorjet@technix.technion.ac.il). You can also call Sincopated BBS at (Israel country code: 972) 4-776035, 24 hours, 28.8K Modem. Please Login as: ENSONIQ, Password: MIDI.

**SD-1 Questions** – Philip Magnotta, 401-467-4357, 4 pm – 12:30 EST.

**VFX Sound Programming Questions** – Dara Jones, CompuServe: 71055,1113 or Internet: [ddjones@netcom.com](mailto:ddjones@netcom.com) or call 214-361-0829.

**SD-1, DP/4, ASR-10 Questions** – John Cox, 609-888-5519, (NJ) 5pm – 8 pm EST weekdays. Any time weekends.

**SQ-80, VFX Questions** – Robert Romano, 607-898-4868. Any ol' time (within reason) EST.

**Hard Drives & Drive Systems, Studios, & Computers** – Rob Feiner, Cinetuncs. 914-963-5818. 11am–3pm EST. CompuServe: 71024,1255.

**EPS, EPS-16 PLUS, & ASR-10 Questions** – Garth Hjelte, Rubber Chicken Software. Call anytime. If message, 24-hour callback. (305) 792-9231. CompuServe: 72203,2303.

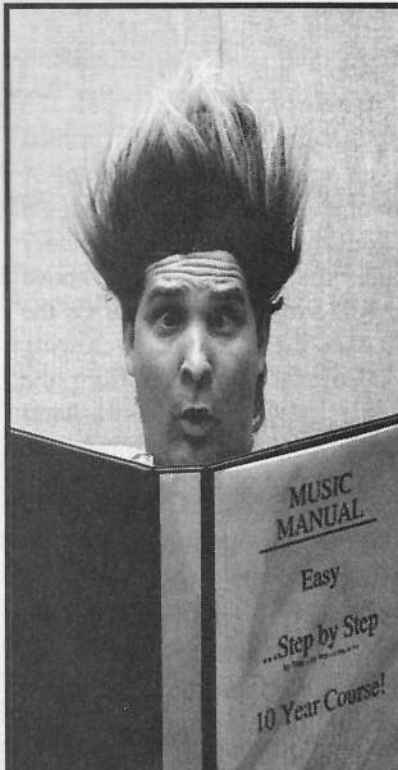
**ESQ-1 AND SQ-80 Questions** – Tom McCaffrey. ESQUPA. 215-830-0241, before 11 pm Eastern Time.

**EPS/MIRAGE/ESQ/SQ-80 M.U.G. 24-Hour Hotline** – 212-465-3430. Leave name, number, address. 24-hr Callback.

**MIDI Users** – Eric Baragar, Canadian MIDI Users Group, (613) 392-6296 during business hours, Eastern Time (Toronto, ONT) or call MIDILINK BBS at (613) 966-6823 24 hours.

**SQ-1, KS-32, SD-1, SCSI & hard drive Questions** – Pat Finnigan, 317-462-8446. 8:00 am to 10:00 pm EST.

**ESQ-1, MIDI & Computers** – Joe Slater, (404) 925-8881. EST.



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# A Stitch in Time: The SD-1 Power Supply Mod

Hardware Tales XVI: How to save your SD-1

Pat Finnigan

Yeah, it never fails; when you really need something the most, it'll be impossible to find. Or you'll find it only to discover it's broken. Or you need it yesterday. Or all of the above. Murphy's Law comes to land on your doorstep. And yes, it's all happened to us in one form or another, and there's that terrible feeling of helplessness when Mr. Murphy comes for a surprise visit and you can only watch it happen. In this particular case he landed on my SD-1 (well, okay, it's a VFX-sd w/a logic board swap) and stole its breath away...

Don't get me wrong here, I'm not saying that Ensoniq makes defective power supplies. They wouldn't get UL certification if they did, and they're even certified to the CSA (Canadian) spec, which is a lot more rigid than the

US equivalent. But ever since I burned myself on the heat sink of my trusty old EPS Classic (w/ SCSI, OEX-8: all the possible options to load the power supply down even further), I've had a great deal of respect for the Ensoniq power supply (something about once burned). But here I sat, project due Tuesday morning, and my SD-1 just blinked out Monday evening. No time for an exchange \$58 supply, no way to extend the deadline: I'm out of options. So in I go, and presto: an open 2-amp GMA fuse. Replace it, power up, and blooey; another open 2-amp GMA fuse. Okay, so it wasn't just a surge or something convenient: something has literally shorted.

Now I'm really under the gun, 'cause it's 7:30 and Radio Shack closes at 9:00 (like they might just accidentally

have the component I need, right?). I'm starting to get animated now. So I look at the power supply for another 3 minutes and realize that hey, this is just another +/-5V, +/-12V DC power supply! Yeah, of all places, Radio Shack might just have the parts I need. And they did! With an old Fluke DVM I picked up years ago at a hamfest, I discovered CR1 (the main +12V rectifier) had shorted. I replaced it, replaced a second 2-amp GMA fuse and up she came in blueface Tron font wonder. And that's when I realized it was time to upgrade the old Malvern boy before it bit me again. Finished my project, shut it down, and thought I'd share this experience with you...

## Background

The SD-1 is a hungry beast. Besides not only supporting a 68000-based computer, the SD-1 also required care and feeding of its waveROM and DSP chipset, not to mention a plethora of 74LS-types and opamps, all required a highly regulated (re., dead-rock solid) +/-5V and +/-12V supply. And I don't mean 12.08 or 4.97 volts: this is digital, and any surge or brownout in power to key components usually manifests itself in an "Error 128-Reboot?" or a hung machine. *That's* why that heat sink gets so hot. Better to regulate voltage down than current up, even if they are on opposite sides of the equal sign. And don't let the 1-amp main fuse fool you: that's only on the primary of the power transformer should it go short. The SD-1 wants good, clean, well regulated juice, and if you shift its gears anything like I do, it not only wants a bunch of it; it *demand*s it. I'd rather see the extra juice go up in heat rather than my work go up in an error message...

## Parts

- 6 1N1004 10A 50V rectifier diodes (Ensoniq reference CR1 thru CR6)
- 1 7912 voltage regulator (Ensoniq reference Q1)
- 1 7812 voltage regulator (Ensoniq reference Q2)
- 1 7805 voltage regulator (Ensoniq reference Q4)
- 1 box (typically 4) GMA 2.0 amp fast-blow fuses.

And be sure to either have a good supply of solderwick or a good vacuum desolderer or dedicated vacuum desoldering tool. My power supply was soldered with the infamous Ensoniq high-tin-content water-based flux removal that killed numerous keyboard assemblies a few years ago. And it's a real @\$%^ to get off without lifting foils of the PCB unless you do it right. So be warned and be patient. Take your time in desoldering the above components — it'll save you a lotta headache later in this procedure.

## Operation

Ensure that you desolder *both* sides of the PCB (printed circuit board) before you go removing components! A good way to tell the components are free is to wiggle them. If they don't wiggle loosely, you've still got solder holding them in. Do it right the first time (see above paragraph). Enough of the soldering lesson. Remove the power supply by unplugging J1 thru J4 and unscrewing the two recessed phillips-head machine bolts from the back of the SD-1. And don't loose those lockwashers! Remove the machine screw that connects the ground wire to the heat sink. Lifting up on the end of the power supply nearest the keyboard assembly, lift and remove the power supply. Unsolder and remove CR1 thru CR6 first. They're big and pretty easy to remove since they have big leads and attach to big foils. Next carefully remove the screws and insulators and unsolder Q1, Q2, and Q4, taking extreme care not to lift the foils. These are the tough ones, so spend time and care removing these components. Once completed, use TFE- or EPA-approved flux remover to clean the solder pads and component area we were just desoldering in.

Now install CR1-CR6 with the banded end (anode) toward the cluster of capacitors. It's silkscreened on the PCB, so just ensure all the bands face east. Solder both sides of the PCB where the diode leads join the foils; then trim the excess leads off. Install the 5V 7805 regulator. It's alone at the east end of the PCB, so it's a snap. Mount with the same insulator and machine screw you took off in the previous step. Then install Q1 (7912) and Q2 (7812) the same way, and make *very* sure that Q1 is the 7912 and Q2 gets the 7812. Mount w/insulators, then solder both sides of the PCB where the leads join the foils. Trim the excess leads off and clean with flux remover. Check for solder bridges around the regulators. If your work is good, it should look

### Current Ensoniq O.S. (Disk/EPROM)

EPS	2.49/2.40	SQ-R PLUS	1.15
EPS-M	2.49/2.41	SQ-2	1.2
EPS-16 PLUS	1.3/1.00F	SQ-2 32	2.03
MASOS	2.0	SD-1/SD-1 32	4.10/4.10
MIRAGE	3.2	DP/4	1.15
ESQ	3.5	DP/4+	2.02
ESQ-M	1.2	KS-32	3.10
SQ-80	1.8	ASR-10	3.53/1.5
VFX	2.30	ASR-88	3.53/3.50
VFX-SD	2.1/2.00	KMX-8	2.00
SQ-1	1.11	KMX-16	1.50
SQ-1 32	2.03	TS-10/12	3.05
SQ-1 PLUS	1.15	KT-76/88	1.62
SQ-R	1.20	Soundscape	1.3.03
SQ-R 32	2.03		

indistinguishable from the Ensoniq wave solder connections, except it will be brighter since it has the correct ration of tin/lead/flux. And stop there. No need to play wave soldering machine on all the other connections. Just reinstall the power supply, reconnect the ground wire and J1-J4, power up and ensure proper operation of your SD-1.

## Summary

CR1 is the real load-bearing diode here: it's the +12V rectifier that really gets sucked up by all the analog components. That was the only diode that failed in my application, but where trouble brews, bad things follow. So rather than replace the single defective component with a similar 3-4 amp rectifier, I built in a safety margin installing 10-amp equivalents. This allows a broader tolerance/ safety margin and allows cooler operation. The rectifiers were probably fine, but if I'm shotgunning diodes, I might as well replace the regulators: after all, they're the components that generate the heat and get *really* stressed during their lifetime. I would've replaced Q5 (LM2925) as it barely gets warm during operation, so I left it alone. I suppose you could go all the way and double the 25V voltage ratings on the filter caps and swap them out, but they aren't as stressed as the rectifiers. This isn't an analog board Macintosh repair...

The main impetus for this mod was out of necessity: I couldn't get a supply swap in time. And Ensoniq doesn't authorize or recommend component-level repair. If you're in the warranty period, don't even think about this. Consider this as a Tim Allen "rewired it" article and ignore. If you don't have soldering experience, have a tech perform

this mod.

But for the majority of us diehards, I'll sooner give up my new Power Mac than give up my SD-1. This mod cost me about \$11, about 20% of the cost of an exchange supply. Factor in labor from your Authorized Ensoniq Service Center (not included) and you can get away for 10% of an exchange. And have a more robust, longer-living, cooler running, stressless Malvern marvel...

And isn't that what hardware hacking is all about? ■

*Bio: When not answering broadcast NTSC/PAL video-capture questions for TrueVision, Pat Finnigan is a tech support person for RasterOps, a company that makes video boards and monitors for Mac and IBM platforms. He still uses a B-3 for a keyboard stand and watches the alpha channel.*

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# The EPS-16 PLUS and Background Vocals

## Part 3 — Sample Manipulation and Sequencing

Robby Berman

In the last two articles in this series, we discussed how the EPS-16 PLUS can be your ticket to big-time background (BG) vocals. Now that we've got them all on board, let's talk about some of the things we can do with them.

### How to Cut Your Weary Finger Bones Some Slack

Wouldn't it be nice to be able to just touch a key on the keyboard and have your BG samples play to the end without your having to hold your finger down the whole time? Perhaps you'd like to hold that finger to your chin, or scratch your head, while you listen. Or perhaps you need your hands free to tweak some of the edit parameters we're about to discuss. If you'd like to set up all your BGs to carry on without you, press Edit and underline the instrument name field. Press Envelope 3 and, quickly, 8 on the numeric key pad. Set the envelope mode to CYCLE and get ready for a lazier existence. This one-touch playing of your samples will also make things easier when you're sequencing your BGs.

### Pitch Fixing with Envelope 1

A few months back I was sequencing some BGs with which I had been really pleased: nice arrangement, submix and, I thought, nice performance. However, to my chagrin, I noticed that one syllable in the middle of one of my favorite sections was slightly flat in pitch. Grrrr. Then, in a flash of techno-inspiration, I realized that I could use Envelope 1 on the '16-PLUS to gently sharpen just that syllable. Hahahaha, it worked! (It was at this moment that I first conceived a real love for my sampler.)

A full-blown discussion of envelopes is clearly beyond the scope of this article, but I can offer a little help. The tricky part of this procedure is getting the envelope to push your sample up or down at just the right moment so that only the offending syllable (or segment) is sharpened or flattened in pitch, and the well-intoned parts are left alone. Press Edit, and make sure you've got the proper instrument, or layer and sample, selected. Then press Pitch and 3. Set the ENV 1 AMT to its highest value to sharpen a pitch; set it to its lowest to flatten one. This will cause the envelope to have an exaggerated effect on your sample,

but, for setup purposes, it will help you adjust the envelope time values successfully.

Now press Envelope 1 and 1. At this point, we want to set one of the envelope values above the others. Again, we'll use an extreme value so that the effect will be clearly heard. If the note(s) you want to fix is at the beginning of your sample, try setting the second level to 99 and all the others to 0. If you play your sample from the keyboard, it will now go careening wildly upward (or downward) in pitch somewhere in the sample.

Scroll two screens rightward. Play with the first time value until the pitch goes nuts at the beginning of the spot that you want to fix. Play with the next time value to get the insanity to last exactly the duration of the area you're attempting to doctor. Regardless of where the pitch correction is needed, Envelope 1's levels 2 and 3 will give you the most time values to play with when zeroing in on the troubled area.

That was the hard part. Now press Pitch and lower the ENV 1 AMT to +0.2 (or -0.2, if you're flattening). Press Envelope 1 and 1 and lower the level you'd set at 99 to 0 (or vice versa if you're sharpening a pitch). While playing your sample on the keyboard, raise (or lower) this value little by little until your errant BG is back in tune. If you're adept with envelopes, you can be fancy and get the pitch alteration to subtly slope up and down, but with your ENV 1 AMT set this low (you can even try +/-1) such finesse isn't necessary.

### Fake Stereo, and How to Make Your Samples Swirl

Did you have to submix all your samples down to mono to fit them simultaneously into the '16-PLUS? Well, let's blow them back up to, okay, pseudo-stereo.

Using the COPY LAYER function found on page 7-32 in the EPS-16 PLUS *Musician's Manual*, create a second copy of your harmonies. Make sure to copy PARAMS ONLY. With that done, press Edit, and underlining the LYR field, set it to 1. Then press Amp and 2. Set the PAN to a value of -99 (hard left). Perform the same procedure



for layer 2, with the exception of panning it hard right (+99). Press Layer and 6, and set the DELAY to 2. Instant duophonic stereo!

Would you like your fake stereo to swirl around in the left/right field? First, press Edit and underline the leftmost field (instrument name). Then press Pitch, 2 and set the LFO AMT to 0 so that the LFO you'll be employing doesn't modulate your BGs' pitch. Press LFO and 1. Set the wave to POS/TRI and the speed to 20 for a start. Scroll one screen to the right and set the LFO's DEPTH to 99 and DELAY to 0. Now press Amp and 8. Select LFO as PAN MOD and set the MOD AMT to +50. The last thing you need to do is press Edit, set LYR to 2, and press Amp, in order to change its MOD AMT to -50. At this point, the layer panned left will be swirling rightward and back, and the one panned right, the opposite. You can now adjust the LFO speed and delay to taste.

### Weight Reduction for Tubby BGs

You may find, when listening to your BGs along with your sequenced tracks, that they sound a little bass-y, which is a common occurrence when you sample vocals using a mic plugged directly into the '16-PLUS.

To remedy this, press Edit and underline the instrument name. Now press Filter and 0. Press the down arrow button until the display reads "MODE F1=3/LP F2=1/HP." Scroll rightward one screen and set the F2 CUTOFF FREQ to 40. Slowly increase this value until your BGs sound less tubby. For a more radical rolloff, scroll back to the first screen and press the down arrow one more time so that it reads "MODE F1=2/LP F2=2/HP." You may want to go back now and adjust the F2 CUTOFF FREQ until you've rolled off all the bottom you want without thinning out your samples too much.

### Sequencing Your Background Vocals

Perhaps you'd like to be adventurous and play your background vocals freehand when you commit them to tape. When your other tape tracks have been recorded live without a sequencer, click track or sync tone, you'll have no choice. But if you can sequence them, do. I'll explain.

## 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!)

Once you've set your Envelope 3 to CYCLE, sequencing your background vocals is a lot like sequencing drum parts. The only thing you've got to do is play 'em at the right time. Unfortunately, this isn't always as easy as it seems, due to the nature of sung sound. Y'see, the first consonants or vowels you sang will often have taken a while to build up a full head of rhythmic steam.

Let's say you sang the word "slow" at the beginning of your BG phrase, intending to place the word on beat 1. Sing it to yourself now (quietly if you're reading this on a bus) while keeping time with your foot. Notice that the "s" sound actually precedes the beat; it's really the "l" that hits right on the 1. The ramification of this is that since the "s" begins the phrase, you'd have to play a "slow" sample *before* the beat, otherwise the "l" (and the rest of what you sang) would land late. Most vocal samples will exhibit this phenomenon to some degree; sections starting with an "s" are the worst.

I suggest you sequence your BGs in real time the best you can, and don't bother quantizing. Sometimes all your phrases will be about the same degree late, and you can use your sequencer's track shifting capabilities. For most situations, I recommend getting familiar with your sequencer's event editor. This will allow you to move each sample back and forth in time by small increments until it sounds right. This can be a tad laborious, but worth the effort.

Whether you plan to print your background vocals to tape mixed in with your sequenced tracks or not, the above dilemma and solution constitute a good argument for sequencing them in any event. You may have a hard time getting them consistently in the pocket otherwise.

Well, that's it. It's taken three articles, but you'll find that it's been worth it. Your background vocals may be about to start sounding shockingly professional, your home recordings more fully realized than you ever thought they'd be. Now don't just sit there, keep singing! ■



*Bio: Call it fate. Call it luck. Robby Berman is a musician living (and eeking out same) just outside of Woodstock, NY. His latest album is "Rings and Rings."*

# Listening in on Customer Service

Ensoniq's DP/4+

*Dennie Edwards*

With the introduction of any new product comes the onslaught of calls to Customer Service about all the new features. Ensoniq's latest product, the DP/4+, is no exception.

The following is a brief summary of the differences between the DP/4+ and the original DP/4. Since there are some real physical differences between them, upgrade is impossible. For the sake of this article, the differences will be divided into the following: Hardware, System Software, Seamless Effects Switching, and Effects Algorithms.

## Hardware

### Balanced TRS Connectors

The DP/4+ has balanced inputs and outputs. A 1/4-inch jack utilizing TRS (Tip/Ring/Sleeve) connectors carries the balanced signal. Balanced signals allow for better signal to noise characteristics. A balanced signal is carried over three wires. One wire is the ground. The other two wires carry the audio signal 180 degrees out of phase with each other. These signals have the same potential voltages in relation to ground. The signals are balanced with each other. The input device re-aligns the phase of the two signal wires and allows the signal to flow with very low noise. When noise cuts across the cable, it will appear equally with the same phase on both audio signal wires. Remember that these are out of phase with each other. The input device re-aligns the signal phase, thus putting the noise 180 degrees out of phase on the two lines. When the signals are combined, the noise cancels itself out.

### Ground Compensated Outputs

The outputs of the DP/4+ are ground compensated which improves the signal as well. This electrical ground and the audio ground are isolated. There is also a +4/-10 output level switch. The +4 should be used when using balanced gear and the -10 should be used when using regular line level equipment.

### Headphone Out Jack

There is now a Headphone preamp on the front panel. This is great for editing, using as a practice amp, or live sound effect auditioning. The output level knobs will adjust the mix in the headphones. There is also an Output Mute button on the front panel. This allows the headphone signal to be "soloed" so it will be easier to edit processed the sounds or for practicing.

### Neutrik XLR/ 1/4" Connector

Also on the front panel is a special Neutrik XLR/ 1/4" combination connector. This connector duplicates input 1 which is located on the rear panel. When it is used it disables input 1 in the rear of the unit. When the Mic Gain switch is enabled (LED On) both the XLR and the 1/4" connectors are enabled. If the Mic Gain switch is disabled, the 1/4" jack still is enabled but the XLR is now disabled.

### Three Segment Input Signal / Peak LEDs.

The DP/4+ has three Signal/Peak LEDs. The DP/4 only has two. The first green light activates when the signal is at least -30dB. The second yellow LED will light when the signal is -12dB. The last red will light when the signal is -6dB below the Analog to Digital Converter clipping level. It is best to have the signal barely light this LED during the peak of the signal level.

### Input Configuration LEDs

Above the input configurations diagram on the right side of the front panel are four LEDs. These light to show what input configuration the DP/4+ is currently in. This can be really useful when editing and selecting presets, knowing what input configuration the DP/4+ is in.

### Additional Foot Switch Jack

On the back panel is an additional foot switch jack, labeled Foot Switch 2. This will allow the use of up to 2 SW-10s. These foot switches can be used as either mom-

entary or toggle foot switches allowing you to have up to 4 foot switch controllers for effect parameters. Do not use single pedal foot switches that have a mono tip/sleeve 1/4" jack with any DP/4 or DP/4+.

### **Intelligent Jack Switching (System Parameter 60)**

There are 2 new features in regard to input/output jacks and intelligent switching. Outputs 3 and 4 can be routed to 1 and 2 with the change of System Parameter 60. Change this parameter to YES. This is useful when the DP/4+ is in a rack with a patch bay and all outputs are plugged into the patch bay and the output of 3 and 4 need to be mixed into outputs 1 and 2. Previously, you had to unplug the DP/4 output jacks 3 and 4 — which could have been inconvenient.

The next feature deals with the inputs. When there are cables plugged into inputs 1 and 3, and the input configuration is 4 Source, then the signal of input 1 is split in parallel and will be directed to both unit A and B. The signal present on input 3 will be split parallel and sent to both units C and D. When in a 3 source mode, input 3 will not do this. The input will be routed as usual. This is useful when there are only 2 sends from the mixer or other inputting device. This can be used to create a 2 source input config with units A and B and C and D in parallel with Dual Mono Outputs.

## **System Software**

### **System Parameter 58 and 59 (Auto-Load Preset and Remain in Select Config Mode)**

Following is an explanation of the new System/MIDI parameters that have been added to the DP/4+. Parameter 59 has been replaced with a similar feature.

When the DP/4+ system parameter 59 is set to NO, the DP/4+ will behave as if unit A is pressed after a config preset is selected. This is overridden if System parameter 58 = YES. This is an auto load preset feature. It would be very confusing if after every config preset loaded, the unit would enter select unit mode with A active.

### **System Parameters 45-48 (Footswitch 1-L, 1-R, 2-L, and 2-R)**

The DP/4+ now has four possible foot switch controllers. They can be defined as controllers on System Parameters 45-48. The ranges vary between controllers and other functions. This is where their functions are determined.

### **System Parameter 56 (Unit Chan PrChgs Get 1U Psets)**

Now with the use of System Parameter 56, the DP/4+ can receive program changes differently than the DP/4. This parameter allows you to select 1 unit preset independent of which input configuration the DP/4+ is in. When set to NO, it behaves exactly like the original DP/4, and program changes select presets according to the input configuration. For more information about Active MIDI Channels, see the System MIDI section in the manual. This is great for using a MIDI foot controller to select individual 1 unit presets one at a time.

### **System Parameter 60 (Mix Outputs 3/4 into Out 1/2)**

System Parameter 60 was discussed in the above section under hardware. This parameter helps those who have the DP/4+ in a patch bay. When using a patch bay, all outputs usually have jacks inserted into them. If there is no jack into output 3, then outs 3 and 4 bounce down to 1 and 2. If there are jacks in 3, setting this parameter to YES allows the signal to be routed to 1 and 2 without having to physically unplug outputs 3 and 4.

## **Seamless Effects Switching**

Hold on to your digital signal processor chips, because this part of the DP/4+ is really cool. When selecting different algorithms, there is no longer an interruption in the signal. There is a digital dry path around the processors that is controlled by software. As you select a new preset there is a crossfade to the dry signal (around the currently selected preset). When the effect download is complete, there is a crossfade back to the newly selected preset. The result is that there is no signal loss or muting. As you select 4 unit presets, you will hear the signal crossfade to dry and then back again. This is okay for vocals and drums, but what about guitar? Well, grab a guitar and let's see how the unit can seamlessly switch between two effects. After you have a guitar, do the following;

- Plug the audio of the guitar into the front panel jack on the DP/4+
- Next, press the config button.
- Then, using the data entry knob, select the config press 53 1 SRC: Mono In
- Press Unit A, and using the data entry knob select 4 Unit Preset Monster Lead (69).

- While playing a signal note lead, press Edit, Unit C, and using the data entry knob select 1 unit preset 85.

This will demonstrate how effective the crossfade can be. Remember, you can now select 1 unit presets over MIDI no matter what configuration you are in with System Parameter 56 set to yes.

## New Effects Algorithms

### 2U Guitar Tuner

Yes, there is now no excuse to be out of tune. When selecting this preset it automatically put you into edit mode on parameter 03 which allows you to see the tuning deviation of the input. Parameter 04 has the ranges of Guitar and Bass. Anyone who has tried to tune a bass with most guitar tuners can testify to the need of the two ranges. The mix and volume can be set to allow no signal to pass through the tuner or for it to pass through to two other units.

### Guitar Amp 4

This is a new guitar algorithm. It is designed to better emulate a Class "A" tube amp. This is the purest form of a classic tube amp. It is very efficient and will not produce too much amp distortion unless the tube bias is turned high (then it sounds like tubes are going bad). Tube bias should be set from 10-25 for an "EC" sound, 20-45 for an "EJ" sound and settings of 45-60 for a "SRV" sound. New parameters include Amp level Detect Attack and Release. This determines how fast the "bite of the amp" tracks. Experiment with the parameters at the extremes and the differences will be more obvious.

### Digital Tube Amp and Dynamic Tube Amp

Guitar Amps 1-4 have 1 Waveshaping Table. Both Digital Tube Amp and Dynamic Tube Amp not only have different parameters but also have 8 different waveshaping tables available. A waveshaping table determines how the even-order distortion harmonics are produced. These are harmonics that are not produced by hard clipping.

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They are the natural harmonics created by a real tube. The most important part is that you can dynamically change which wavetable is being used by how hard or soft the guitar is played.

### VCF-Distort 2

This algorithm is the same as VCF-Distort 1 with the addition of an additional feedback after the Post-Distortion Envelope follower. This feedback loop also passes through a damping filter that is used to control the amount of high end frequencies in the feedback signal.

### Tunable Spkr 2

This algorithm is intended to have a warmer sound than the original Tunable Speaker algorithm. The parameters are similar with the addition of a Noise Gate. It is recommended to be used with the new guitar algorithms in the DP/4+.

### Vocal Remover

This algorithm will remove any signal that is both present in the left and right audio channels. It is important that they are equally in both channels. There is a parameter (03, Vocal pos) which will aid in the amplitude adjustment of the channels, in the left to right balance. There is also a parameter (04, L/R Delay) to adjust time phasing differences between the left and right channels, which should correct any timing or phasing alignment problems. By the way, this algorithm can be adjusted and may be used for other frequency ranges other than vocals. Try this new algorithm on "Back in the U.S.S.R." on the Beatles' *White* album.

## Summary

Ensoniq has taken a hard look at suggestions from their customers and has improved the already powerful DP/4. The best way to measure the DP/4+ is to hear one at your local dealer. It is a true audio Swiss Army Knife. There are new algorithms, new and improved features such as Seamless Effects Switching, and it sure is a lot lighter than a Marshall. ■

*Bio: Dennie Edwards is an Ensoniq Product soldier who is currently working on a new project for his band, Dream Research. He is attempting to record an album entitled, "The Major League of Kraftless Guitarists: 16 Singles." It promises to be balanced in all food groups and each track will consist of over four ounces of milk...*

# VFX-sd + ASR-10 > TS?

*James Samp*

Most of us have been smitten by the all-too-familiar music industry plague at one time or another (if not most of the time). You know what I am talking about: that's right — Current Model-itus. Most musicians would drop dead before admitting they contracted Hoof and Mouth disease, or that they are suffering from the gout. But you can be sure they would never be ashamed to relate how they pawned off a precious family heirloom to upgrade their axe, or sold their Ferrari in order to buy the newest synth on the market, which often enough is not too different from the model it replaced.

I bought my very first synth back in July of 1990. I had been a drummer for 20 years, but I could not tell a G chord from a patch cord. I did not know where "C" was on a keyboard. What I did have was a talent for writing lyrics and music in my head. This is where the features of the VFX-sd enabled me to progress from brain waves to ROM waves. When I found out what a sequencer was, I was astonished. But even that would be worthless to me since I could not play keyboards. What gave me the incentive to forge on was a feature only Ensoniq integrated into their keyboards: the priceless "Play/Keep" page. It was common for me to make dozens of attempts to record the simplest of riffs. I know for a fact that if it were not for the Audition Page I would never have learned how to play keys.

Everything was going fine until Ensoniq threw down another gauntlet months later: the SD-1/32 voice. A 50% increase in polyphony! I started experiencing the typical blurring vision and nervous disorders all too familiar to those of us afflicted with the hassle of losing voices. Tripling the sequencer memory was another bonus. After two weeks of suffering I knew what I had to do: Appeal to my wife for the financial approval to purchase the upgrade. It would be tough, but I had to do something.

A funny thing happened on the way to the negotiations. Another Ensoniq user I know informed me he had some used equipment to sell: a Fostex 4-track cassette recorder and an Alesis Multiverb effects unit. (It had been my secret desire to record my own backup vocals; something the VFX-sd could never do.) Of course, the FX unit was essential for adding reverb to the vocal trax. He would sell me both for \$500 (remember this was in 1992). Hmmm... \$700 for the upgrade plus \$500 for the other toys....

I had my work cut out for me. The next Saturday found me gazing into my wife's eyes in a booth at Windy City Hot-dogs. Using words like "Mutron Biphaser" and "Increased Polyphony" always confused her into seeing things my way. It seemed like the hotdog I had that day was the best one I ever tasted ...

I called Ensoniq for instructions on how to ship my board to the factory. I followed their directions explicitly. I packed it with tender loving care and with mixed emotions prepared it for the journey. Kinda like sending your oldest daughter off to college. You know you'll miss her, but she'll return smarter than ever.

A funny thing happened on the way to the shipping dock. I was browsing at my favorite music store when the salesman mentioned he was overstocked with ASR-10s. He had to sell some fast and he was letting them go at two grand. My gears started turning very slowly. I had considered getting an EPS-16 Plus to record background vocals, but as we all know, it had limited sample memory — a definite scourge for non-loopable vocals. But the ASR-10 is capable of loading up to 16 Meg of memory. My gears were picking up speed. Should I? Would I? COULD I???

As you might guess, I did. And am I glad. Which brings me to the main point of this article: Instead of upgrading or replacing your older synth, consider adding a sampler. I was going to spend \$1,200 for the capabilities I wanted but chose to spend another \$800 for an unbelievable amount of powerful features. Stick with me as I explain the advantages.

1) Polyphony. This is what really meant a lot to me. The ASR-10 adds 23 voices at the highest fidelity rate, 31 at the "average" rate. At worst my polyphony was more than doubled! As if that's not enough, you can sample a whole stack of voice-eating sounds from your synth — which will only cost you 1 voice per key on your sampler. I realize I am over-simplifying this, but one way or another, your problems with losing voices should be over.

2) Effects. The ASR-10 contains a state-of-the-art FX unit. Sometimes called a "DP-1," it has excellent fidelity and all the algorithms you could ask for. Far better than the FX unit in the VSX-SD1, it need not replace your synth's FX

unit, but is added to it. You now have two effects units, which allows you many more options in routing effects, or you can chain the two together by sending your synth through the Audio-ins of the ASR-10...

3) Audio-inputs. Here is a value packed feature for people like me. There are two 1/4" jacks into which you can plug mics, guitars, keyboards, tape decks, CD players... and run them dry or through effects. Imagine flanging your parents' "Best of the Big Band Era" LP! Live performers can sing and play their keyboards, live guitarists can play and sing while the sequencer plays. You can adjust volume, pan and FX routing independently for each input, so you basically have a primitive mixer built right into the sampler. For people like me who have no mixer, it is a great asset.

4) Sampling. Here is a minor detail I thought I would mention. If you have never used a sampler, you are not missing much. Same with running water, electricity and meaningful relationships. I can assure you that this aspect of making music, and making the sounds used in making the music, will open avenues you have never imagined. All the *Hacker's* sampling articles combined cannot exhaust the projects and possibilities open to you.

5) Background vocals are truly a pleasure. Sample yourself singing the chorus of your next hit. Assign it to C4. Sample yourself singing harmony and assign this to D4. Keep doing this until you run out of sample memory, keys, or you lose your voice. Be ready for a great sensation when you press all the keys at once! After the necessary editing, adjust the volumes to a nice blend and resample all the voices onto one key to save memory (dry or with effects — as always, the choice is yours). Unlike analog tape, there is no hiss or noise if you work carefully. You can ping-pong to Hong Kong and end up with crystal clear digital tracks, easily triggered by the sequencer.

Speaking of vocals, I am working on sampling my church choir doing the traditional "oohs and ahs," but not in the traditional way. I sample each person one at a time. This way I get perfect microphone placement. I can fine tune the pitch, volume and filters on each person. (Note: even the worst singers can be edited into acceptability.) Next, I layer all the "instruments" and — you guessed it — I resample 'em! You can pan, detune, transpose, do key-zones and fades and about 100 other things before you do the final resampling. I am not bragging, but I've never heard a choir, factory or third party, come out of my ASR-10 sounding like this. It's taking me months but it will be well worth it. Besides, it really amazes and honors the choir members when I sample them.

6) Another valuable feature: Sample a light-speed guitar or keyboard riff off a commercial tape or CD. Play it back on your ASR-10 one octave lower and the speed will be cut in half. Now you can hear it well enough to learn it!

7) The Waveboy disks can push your sampler to even greater heights of versatility.

8) We won't even go into reading and writing and recording to hard disk.

Have I persuaded you yet? No? You have got to have those Hyperwaves on the TS-10? You can attain some great wave sequencing on the VFX/SD-1 by applying LFOs, wave delays, and creative envelope shaping. Each sound can contain 6 voices — stacking three sounds yields 18. Besides, your sampler excels at playing loops and gruv.

But the TS-10 uses high-density disks, you say. Great. So does the ASR-10, and you don't really need them for the VFX/SD-1. I have got a double-density disk with 1,380 sounds on it (x4 counting patch selects)!

You gotta have the Minimode trigger function? The ASR-10 has it.

Replace your VFX/SD-1 with the TS-10 and you can kiss your old sounds and sequences good bye, unless you want to convert them manually. Gary Giebler... do you have a program that does this?

Perhaps you're skeptical because too many *Hacker* readers complain that Ensoniq never incorporated the "Load while sequencer plays" feature. No problem. You will use the synth's sequencer and load while it plays the sampler's sounds anyway.

"But the ASR-10 does not have step-entry." Same thing. The VFX/SD-1 does, and it plays your samplers sounds.

I know not everyone will agree with me, but what I did worked out best for me. Each keyboard more than makes up for the other's weaknesses. You have to make your own decision: I hope this article helps you make the right choice. By all means, obtain and read a copy of "The Musical Perspective: The Sampler/Synthesizer Comparison." Your Ensoniq dealer should be able to supply you with one. In the meantime, does anyone have a TS-10 I could borrow... just for a couple of hours? ■

*Bio: After a long day in the studio, Jim Samp likes to unwind by reading Transoniq Hacker.*

# How Sounds Work

## Part XIV: (Insert Own Dirty Sax Joke Here)

Mark Clifton

It's an issue I've been avoiding for a while now, this messy question of the synthesized saxophone. Every month the same timeless lament can be read in Daniel Mandel's *Basement Tapes* column: "Great tape, except for that !@#% synthesized sax!" Similar shouts of woe can be heard from across the land, in reviews of soundcards and keyboard albums. People have had a problem with the synthesized sax for quite a while; its reputation hasn't changed much or lessened in intensity since the days of brappy, honky analog imitations, which while cool sounds in themselves, are better honed for the prog rock or techno arenas than jazz or even traditional rock soloing. Analog is undeniably a bad tool for modeling any sort of acoustic instrument imitations, but saxophones seem especially cold when released from the realm of the breath and the kiss.

Sample playback didn't help much. It merely froze in time like icecubes the fluid, aqueous tonal evolutions that characterized the saxophone's sound. Be it from additive or subtractive or FM or any other magical synthesis chip it was anything but convincing. Physical Modeling promises to "put a real sax under your fingertips" (the same basic claim made by all new forms of synthesis), but it's still too early to make the definitive call. Right now most of us are restricted by our funds, for at least the next couple of years, to the good old samples. So we live with bad saxophones, even welcome them into our music. There's got to be a reason why players and programmers continue to use them and why Daniel Mandel still has to print those same old complaints. It's a simple one, really: we need saxophones and are required by the majority of western music styles to have them on call, even if we don't exactly have a real player handy. That's the rub, one that all synthesists have to face, and one which will make us all on occasion willfully sacrifice our dignity in the name of utilitarianism. This month I'll try to make the rub less painful.

The SQ's SAXOPHONE wave, the one best suited to tenor, bari and alto emulations, always seemed to me to lend itself best toward more brash, trebly tones, the kind best suited to heavy rock soloing. All of the mellow sax sounds I've seen for the SQ are massively over-processed with chorus or reverb, creating a sort of Kenny G vibe (the one saving grace for imitative synthesis may be that,

with the increased popularity of heavy studio processing, saxes are starting to sound more and more like synthesizers). Both types of timbres work for some occasions, but I found that, especially for concert or big band tracks, I was in need of something a little more immediate and raw, yet at the same time very smooth sounding. My original attempts to create an all-purpose alto sax with all timbres available through velocity failed, as that kind of delicate control made smooth playing a bit unwieldy on a normal keyboard. So what you have here with this month's patch, "Alto Sax 2," is a sound that covers the pianissimo- to-forte range. In other words, at higher velocities it can cut just fine, but a few stops were left in for the sake of playability. If you want to pull those remaining stops out and go crazy, just raise the filter cutoff to taste.

In the Pitch section of Oscillator 1, which is responsible for generating the body of the sound, all is typical as relates to a wind instrument patch. Glide mode is set to RETRIGGER, for slurry monophonic operation. If you want to do more polyphonic ensemble stuff, just turn this parameter to OFF. The Voice Restrike Delay Time is set to a moderate value so that successive notes won't be unnaturally choked sounding or ring with repetitive keystrokes (this is a very touchy parameter that is often overlooked by programmers). Envelope 1 is set to a short blip and routed to pitch with a subtle value of +1 to simulate the slight bending of pitch that occurs when the tongue strikes the reed and the embouchure adjusts to shape the sound. LFO is routed very sparingly to pitch as well as the filters for the obligatory vibrato, a bit slow in this case, but as always adjustable to taste.

One of the biggest contributing factors to the blatant faleness of many synth saxophones is their overuse of pitch instead of filter vibrato. Straight pitch vibrato should only be applied to string instruments, as the staggered airflow that supplies woodwind and brass vibrato creates more of a "wha-wha-wha" effect that is better handled by the filters. The small amount of pitch changing that does take place, by the way, is caused by slight movements in the jaw and lips, as well as the changing velocity of the airflow. Restart is set to ON so that the LFO resets itself with every new attack, and the overall deal, as usual, is controlled by the modwheel.

A 3Lo- 1Lopass filter is used for a full, gutsy sound. A buzzy or nasal quality is a common vice in many fake sax sounds, so watch out. Your patches should be bright and full at the same time (yeah, I know it's hard, but keep tweaking). Envelope 2 is routed to the filter to provide a softened, tongued attack and release as well as add velocity sensitivity. Notice, though, that the envelope doesn't open the filters so slowly as to produce a pronounced and obviously synthy "whaaaa" attack, even at very soft velocities. A tongued instrument, as long as it's not slurred, will always go "tah" at the beginning of a note, a crisper action. Try to articulate with your own mouth what you program. This should give you a better feel for the way an acoustic sound should enunciate itself instead of how a synthesized one would. A good maxim to keep in mind is that a wind instrument will speak its notes, while a synth merely triggers them.

The AMP envelope doesn't look all that different from the filter one except that it's been set to a hard attack. I've found it more realistic on double reed instruments, which always have somewhat soft attacks, to let the filters do all the timbral shaping and leave the AMP envelope to mere-

ly control the sustain. It is the combination of two envelopes both set to slow attacks that often contributes to that undesirable "whaaa..." attack. Both envelopes are set to decay slightly with time as the player runs out of breath (circular breathing is possible on the saxophone, allowing virtually unlimited sustain, but I won't get into that now).

Oscillator 2 adds a little barely audible tonguing sound, provided by a softly filtered upward-pitched ROOM KICK wave. This component does add realism to the sound, but it is not essential, so its Voice Priority is set to LOW. If you find the harder attack undesirable you can just remove Oscillator 2 altogether. I experimented a bit at creating a "breath" component with Oscillator 3 using the NOISE LOOP wave that would be more prominent at lower velocities, but abandoned it when I couldn't get satisfactory results. Good luck, though, if you can do something with the idea.

This patch is not sent through my patented concert hall reverb effect. In the interest of change I am instead using a more subtle reverb supplied by the CONCERT RE-

## Prog: ALATO SAX 2

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	On	
Wave Class	Brass	Drum	
Wave	Sax	RmKick	
Delay Time	000	000	
Wave Direction	Fwd	Fwd	
Start Index	00	00	
MODSCR	Off	Off	
MODAMT	-	-	
Restrk Decay	23	23	

LFO	1	2	3
LFO Speed	32		
Noise Rate	00		
Level	00		
Delay	00		
MODSRC	Wheel		
Wave	Sine		
Restart	On		

FILTER	1	2	3
Filter 1	3Lo	3Lo	
Filter 2	1Lo	1Lo	
FC1 Cutoff	045	127	
ENV 2	+38	+00	
FC1 KBD	+00	+00	
MODSCR	LFO	Veloc	
MODAMT	+21	+18	
FC2 Cutoff	048	035	
ENV2	+34	+00	
FC2 KBD	+00	+00	
FC1MOD-FC2	Off	On	

PITCH	1	2	3
Octave	+0	+3	
Semitone	+00	+00	
Fine	+00	+00	
ENV1	+01	+00	
LFO	+01	+00	
MODSCR	Off	Off	
MODAMT	-	-	
KBD Ptch Track	On	Off	
Glide	Retrigger	Off	
Glide Time	00	00	

ENV1	1	2	3
Initial	99		
Peak	79		
Break	00		
Sustain	00		
Attack	00		
Decay 1	11		
Decay 2	00		
Release	00		
Vel-Level	00		
Vel-Attack	00		
Vel Curve	Linear		
Mode	Normal		
KBD Track	+00		

ENV2	1	2	3
Initial	79		
Peak	99		
Break	97		
Sustain	95		
Attack	23		
Decay 1	58		
Decay 2	62		
Release	15		
Vel-Level	46		
Vel-Attack	19		
Vel Curve	Convex		
Mode	Normal		
KBD Track	+00		

AMP	1	2	3
Initial	99	83	
Peak	99	99	
Break	97	00	
Sustain	94	00	
Attack	00	02	
Decay 1	54	12	
Decay 2	61	00	
Release	24	00	
Vel-Level	40	26	
Vel-Attack	06	00	
Vel Curve	Convex	Linear	
Mode	Normal	Normal	
KBD Track	+00	+00	

OUTPUT	1	2	3
VOL	90	67	
Boost	On	Off	
MODSRC	Off	Off	
MODAMT	-	-	
KBD Scale	+00	+00	
Key Range	A0-C8	A0-C8	
Output Bus	FX1	FX1	
Priority	Med	Low	
Pan	+00	+00	
Vel window	>000	>000	

### EFFECTS — CONCERT REVERB

FX-1	48
FX-2	25
Decay Time	25
Diffusion	65
Detune Rate	32
Detune Depth	12
HF Damping	79
HF Bandwidth	99
LF Decay	+03
MOD (Dest)	Decay
BY (MODSRC)	Modped
MODAMT	+20



VERB algorithm that better compliments the intimate mood of the sound and is more conducive to live performance. Too often big reverb becomes a hindrance when you want to use sounds live, so I've made it a resolution to cut down on its use a bit.

Enjoy your new patch and remember that with sounds like this technique is everything. Spend some time listening to recordings of sax music and try to figure out what goes into its playing that makes it "sax-like." Do some tweaking with your live technique and in your sequencer before you try to release your imitations into the world. As one friend said when they heard this month's patch being played for the first time, "sounds realistic, just a little 'keyboardy,'" referring to my unrefined technique. Oh well, practice, practice, practice, you never can have too much sax.

Next time — an even harder sound to synthesize, though one that doesn't nearly have the outcast reputation of its double-reeded brothers: the solo trumpet. ■

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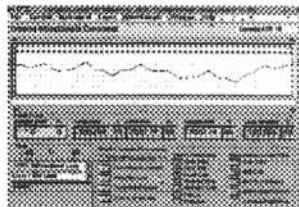
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# Rap Sample CD Review

Tom Shear

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Product: *New York Stylin'* Sampling CD.

Contact: On Point Productions, 61 Superior St., Port Jefferson Station, NY 11776. Phone: 1-516-331-8804.

Price: \$69.95 + \$5.05 s/h.

For: EPSs, ASRs, TSs.

---

Back in the old days, rap DJs in the know got a good supply of beats for their sets from obscure and probably illegal tapes and records that compiled beats to spin, sample, and rap over. From these humble beginnings came the current explosion of sampling CDs. There are now literally kajillions of CDs out there for every style of music imaginable. If you can use a sampler to make it, there's a sampling CD for it. It's rather surprising then, that it has only been in the past few years that a really large number of CDs aimed at the rap market have appeared on the scene. Regardless, they're here now, and for those of you seeking to produce your own professional sounding rap tracks, they can be a Godsend.

The *New York Stylin'* CD is one of the better choices for those looking for an up to the minute contemporary sound. On Point Productions hasn't simply settled for reproducing James Brown beats, but has embellished the beats with bits of music here, an eerie sound effect there, a vocal grunt there. The beats are highly professional and convincing and could undoubtedly go a long way toward giving you instant street cred. The styles represented here range from dark, slow gangsta-style grooves (boy, I hope Bob Dole isn't reading this...) to peppy, electronic old school beats to the jazzy walking-bass-and-drums sound utilized to great success by bands like A Tribe Called Quest and Guru. Among these are a smaller number of entries suitable for funk, dancehall, and R & B.

First and foremost though, this is a rap CD.

One word of caution: The license agreement on the back says the samples are license-free. However, I seriously doubt all of the samples were produced originally for the CD. So although you might have On-Point's permission to use them, that doesn't mean you are in the free and clear. On the other hand, thousands of artists have been using unauthorized samples without repercussions for some time now... A word to the wise though... if you're going to do

the crime, be prepared to do the time.

If you have any qualms about copyright infringement, you're still in luck, as this disc also contains 120 live drum loops especially recorded for it with a great sounding drum kit, complete with authentic, panga, metallic snare. Again, a wide number of styles is covered and the drumming is tight as a duck's behind.

After the substantial collection of drum loops, we are graced with 100 "freaky bits & odd loops." I think I speak for every man, woman, and child in America when I say we could all use some more freaky bits. Basically, these are gritty, lo-fi snippets of riffs, odd sound effects, and other musical weirdness to layer over the beats in the beginning of the disc.

Finally, there is a selection of 350 individual drum sounds that you can build into your own kits to layer over the loops in the beginning, or to carry the songs on their own. A lot of these are drums sounds anyone with a decent collection of sampling CDs would probably already have... TR-909, TR-808, R-8, and others. But there are some others I hadn't come across, all of which were quite good... solid and punchy, just like they should be.

Overall, this is really one of the best rap-oriented sampling CDs I've heard to date. I own a lot of sampling CDs and have done plenty of my own drum loop sampling, and yet almost all of these were still new to my ears (and they are all helpfully indexed with BPM numbers like any decent sampling collection is...). The copyright issue may present some problems and the fact that the sound is so contemporary means it could eventually sound dated (remember the Phil Collins gated drum sound?), but overall if rap is what you're after, rap is what you get. So, if your sampler is begging you for some new beats, and you just can't muster the authenticity yourself, your ship has come in. ■



Bio: Tom Shear is the mack daddy.

One of our most common requests from new subscribers (new owners) is for more basic tutorial information. We've all been there. Unfortunately, the *Hacker* is usually "there" when a new instrument first makes its appearance — and then we move on. While back issues can answer many questions, not all are still available and they do represent an additional expense for the new reader. Hence, "*Hacker Reinitialization*" — yup, old goods in a new wrapper. We feel a little funny about the whole reprint thing — so we're going to keep it small. Clark's series on the SQs is the most requested and the most generally applicable (and he's checking 'em for freshness), so here we go...

## Programming (Mainly) the SQ Series of Synthesizers

Clark Salisbury

*[This month we begin re-printing a series of articles specifically meant to teach the novice how to program the SQ Series of synthesizers. While the information contained herein makes specific reference to the SQ series of instruments, most of it applies quite easily to the KS and KT series as well (since these instruments are architecturally nearly identical to the SQ series), and is also broadly applicable to any Ensoniq instrument. This is because the underlying concepts upon which Ensoniq instruments are modeled have remained pretty much the same throughout most of Ensoniq's history. So, if the specific examples given here don't match up with your specific instrument, at least the conceptual foundation upon which they are based will.]*

We'll be starting right at the ground level, so if you already have some programming chops, you may want to just skim this column. But if you're a new SQ/KT/KS-Series owner, and you've been wondering how all those neat sounds are created, this column is meant for you. We're going to start out pretty basic here, but by the time we're done you'll be a po-grammin' foo.

Some of this material is covered in the SQ Series manuals already, but our approach will be a bit different. It'll be much a much more hands-on, applications-oriented approach meant to take you step by step through all the programming functions of the SQ Series, including voice, sound, and sequencing programming, as well as effects programming and MIDI applications.

So let's get busy.

### Voices, Sounds And Parametric Editing

The basic building block of sound in the SQ Series is called a voice. A voice is a collection of parameters that go together to make up part or all of a sound — the basic wave used, its filtering and envelope settings, its output routing, and its keyboard range. Up to three voices (along with a digital effect program) can be combined to make what's called a "Sound" — the one exception to this is drum sounds, which we will deal with separately.

The three voices that make up a standard sound can be used in a number of different ways — they can be layered or split on the keyboard, or modulators or program parameters can be used to control them in a number of ways. Up to eight of these sounds can then be layered and/or split on the keyboard to create a "Preset," of which there are up to 80 available in internal memory at any one time.

So there's a lot going on in there, and we'll be taming it all. But first, we need to establish a basic comfort level with regard to page driven parametric editing — the user interface that drives all SQ Series functions.

The basic idea behind parametric editing is quite simple, really. When you want to make changes to a sound, you must first decide which part of the sound it is you are going to change, select the parameter dealing with that specific part of the sound, and make the change. If, for example, you want to make a sound higher in pitch, you might decide to make a change to the octave of one or more of the voices. The octave control is one of the parameters available for making changes to a sound in the SQ Series.

One thing is important to note, however. If you are playing a note while editing some parameter or other, in many cases you will not hear the changes that you make while you're holding the note. In other words, holding a key down on the keyboard while changing the octave of a sound may lead you to believe that the octave control has no effect — nothing seems to be happening! However, you will hear any changes you have made once you play a new note. So it's a good idea to get into the habit of playing and releasing notes on the keyboard in a repetitive fashion when making parameter changes that you want to hear.

Let's try getting a feel for parametric editing by trying out an example. Select the SQ Series ROM sound #03, "Bassoon" (if you don't have this sound in your synth, select a similar sound from any of the sounds you do have). Play a few notes to get an idea of what the sound is like.

The first thing let's do is brighten it up a bit. We'll be using a synthesizer component called a filter, which we'll cover in depth later. For now, we're just concerned with getting an understanding of how to make changes to a sound using the parametric editing facilities of the SQ Series.

The first thing we'll need to do is determine which of the three synth voices are being used, and select one for editing. This is accomplished by pressing the "Edit Sounds" button (labelled simply "Edit") located directly to the right of the display window. Pressing this button should take you to the first page of the "Edit Voice" menu (each of the programming buttons in the SQ Series takes you to a "menu" of choices, and each of these menus has a number of separate "pages," each of which normally present a couple of selection options). Anyway, you should be seeing the following in the display window:

```
EditVoice=ONE
ON OFF OFF.
```

If you see something other than this in the display, press the

“Wave” button again (to scroll through the menu’s pages). You may need to press it a few times, but eventually you will arrive at this display. This is the first page of the “Edit Voice” menu, and it is here that you select a voice for editing. The upper line of the display is showing that one voice is currently selected for editing (as opposed to “ALL” voices — the other possible setting). The lower line is showing that the current sound uses only voice 1 — voices 2 and 3 are turned off. Let’s try making a couple of changes.

First we must make sure that voice 1 is selected for editing (if you select a voice that is muted and attempt to edit it, the SQ Series will tell you “SORRY! Current voice is muted.” and return you to the Edit Voice page). Select voice 1 by using the left/right arrow buttons to scroll until the word “ON” in the display begins flashing. If you scroll too far, or in the wrong direction, don’t worry — simply scroll the other direction (still using the left/right arrow buttons) until the word “ON” starts flashing. At this point, voice 1 is selected for editing. Note that this method of scrolling to get to the parameter that you want is used consistently throughout the SQ Series — whenever you want to select a parameter for editing, you will use this method (with a couple of minor variations which we’ll get into later). So now we’re ready to go to work on the filter.

To select the filter parameter, we’ll use the same method we used for selecting voice 1 as the current edit voice. To do this, press the button labeled “FILTER” (this button also doubles as the Bank 4 select button). If the display of the SQ Series is now showing “FC1 Cutoff=064, Envelope2= +23,” you’re home free. If not, you can scroll to this page of the filter section using the left/right arrow buttons, or simply by repeatedly hitting the “Filter” (bank 4) button to scroll to this page.

Make sure that the “FC1 Cutoff=” parameter is selected. This is indicated by the number “064” flashing in the display — note that “FC1 Cutoff” is the parameter we’ve selected, and the value for this parameter is 064. Since the value is what we can change (not the parameter itself) we can tell that this (or any) particular parameter is selected for editing when its corresponding value is flashing.

You can now make changes to the sound’s overall brightness by adjusting the data slider and/or Yes/No buttons; move the data slider — you should see the number next to “FC1 Cutoff=” changing, getting larger as you move the slider up, and smaller as you move the slider down. Set the slider so the number reads “40.” A little difficult, isn’t it? It’s a bit easy to overshoot or undershoot the number you’re trying to hit. But that’s what the up/down arrow buttons are for. Press the “Yes(up)” arrow button once. Your number should now be “41.” Press the “No(down)” arrow button twice. The number should now be “39.” So you see, the “Yes/No” arrow buttons are best used for fine tuning, where the data slider is more useful for making larger changes. Listen to the sound as you make changes (you will hear changes to the filter setting in real time as you hold a note, which isn’t the case with all parameters). Notice that higher settings for FC1 Cutoff make the sound brighter, while lower settings make the sound darker. For now, set the value for “FC1 Cutoff=” to “127.”

The method used here, namely that of selecting a voice for editing, then selecting a parameter, and making changes to that parameter’s current value, is the method used whenever you wish to make changes to a voice (or to any editable parameter in the SQ Series, for

that matter). Let’s try making a couple of other changes, first, to the octave of the “Bassoon” sound.

Select the “Pitch” menu by pressing the button labeled (logically enough) “Pitch” (this button also doubles as the Bank 1 select button). Note that voice 1 remains selected as long as another voice hasn’t been selected, so we needn’t return to the “Edit Voice” menu to re-select voice 1.

We’re now looking for the page that shows “Oct=0, Semi=0, Fine=0” — if you’re not already there, you can get there by repeatedly pressing the “Pitch” button, or by scrolling using the left/right arrow buttons. Since we’re out to change the octave of the sound, we need to make sure that “Oct=0” is selected — indicated by the “0” following “Oct=” flashing. You can now use the data slider and/or the Yes/No arrow buttons to edit the Oct= parameter; for now, set the octave to “Oct=2.” Notice that the sound is now two octaves higher in pitch than it was before we started. The range for the octave control is four octaves in either direction — a total of nine octaves available for any given key on the keyboard. For now, set it back to “Oct=+0,” and let’s make another change.

Notice the fairly subtle vibrato that creeps into the sound as you hold a key down? Vibrato is the domain of LFO’s, and that’s what we’re going to change next. So select the LFO menu by pressing the button labeled (you guessed it!) LFO. The first thing we’ll play with is the LFO level control. Scroll to the page showing “Level=28, Dlay=53, Mod=WHEEL,” and make sure that the level parameter is selected (the number “28” should be flashing). Using the data slider and Yes/No buttons to raise this value will increase the level (depth) of the LFO effect, while lowering this value will decrease the LFO’s effect. For now, set this value to “00.” Now select the “Mod=” parameter — you’ll notice that this is set to “WHEEL.” This means that the level of the LFO can be MODulated (changed) by the wheel. Indeed, if you move the modwheel forward while playing a note, you’ll find that the LFO level (vibrato) increases, even though LFO level is set to “00.” Just for fun, try setting the “Mod=” parameter to “VELOC” (velocity). You’ll now find that the amount of vibrato depends on how hard you play the keys of the keyboard. Playing softly yields little or no vibrato, while playing hard gives you a great deal. Set this parameter back to “Wheel” for now, and let’s move on. We’re going to play with the waves a bit — and we don’t even have to go to the beach!.

Hit the button labeled “Wave” to select the wave menu. You should now find yourself at a familiar display — it’s the same one that we started with when we first selected voice 1 for editing. Now press the “Wave” button again — you should see a display showing “Wave=WAVEFORM WOODWIND” (if you’re not seeing this display, scroll to it using the left/right arrow buttons, or by repeatedly hitting the “Wave” button). The upper line of the display is indicating the category of the wave that we’re working on (the SQ Series has 11 categories, or “Wave Classes” to choose from) and the bottom line is showing the individual wave selected. In this case it’s a “Woodwind” wave from the “Waveform” wave class. If it isn’t already selected, use the arrow buttons to select “Wave=WAVEFORM” (as usual, it should start flashing once selected), then scroll down through the list until you arrive at the first wave class, “STRING WAVE.” The display should now be showing “Wave=STRING WAVE STRING ENSEMBLE,” indicating that the first wave in the first wave class has been selected. Now scroll once to

select the wave — the words “STRING WAVE” should begin flashing. Each time you press the up arrow button, you’ll move to the next wave in the SQ Series. The program that we’ve developed is a fairly good one for auditioning most waves, although some may sound a bit strange using these settings — primarily the percussive instruments like pianos and guitars. But don’t worry — we’ll soon see how they can be programmed to sound the way they should. For now, just check out the waves, and make a note of any you particularly like.

Once you’re through listening to waves, select one to keep in this new program. I’m going to suggest using the first wave, “STRING ENSEMBLE,” simply because it’s at the beginning of the wave list, and we’re going to be using this program as a starting point for other sounds later on. So scroll back to the beginning of the list so that the display is showing “Wave= STRING WAVE STRING ENSEMBLE” again.

At this point, you may wish to compare the new, edited sound with the sound we originally started with. Press the “Compare” button now, and play the keyboard. Notice that the original sound is back. Now press the “Compare” button again, and the new, edited version of the sound is back. If you get confused as to which one you are listening to, note that the Edit Sound LED will be flashing whenever an edited sound is the current sound, and will remain steadily lit when you are listening to the unedited original.

Finally, let’s write this sound to memory somewhere so that we can come back and use it again later. Press the “Enter/Save” button. The

display should be showing “Save SOUND Bassoon.” Now let’s name this sound “My Strings.” Press the right arrow button three times to place the underline cursor into the fourth space in the display. Use the data slider and Yes/No buttons to select the letter “M” (both capitals and lower case letters are available). Press the right arrow button once, and use the data slider and Yes/No buttons to select the letter “y.” Continue with this procedure until the sound is named. Once the sound is satisfactorily named, press the “Enter/Save” button once. The display will show “Save to INT 03 My Strings.” At this point, pressing the ENTER/SAVE button again will save the sound to internal memory, location 03. Since the new sound will replace whatever sound is currently residing in internal location 03, you may decide you don’t wish to save the new sound to this location — that is, if you want to keep the sound that’s currently in location 03. You may now use the bank and screen buttons (the 10 buttons located directly beneath the bank buttons) to select a different location to store the new sound. If you’re not sure about whether or not to overwrite a particular sound, you may play it to see if you like it enough to keep it. Once you’ve located a spot for the new sound, simply press the Enter/Save button again, the display will momentarily show “Saved.” — and your program will be immortalized within the memory of the SQ Series, safe and sound. At least until our next installment. ■

*Bio: In addition to composing, technical writing and owning/operating Virtual Music (a project studio), Clark Salisbury works with Music & Sound Associates, a company that specializes in sound design, sequencing, and consultation. But what he really wants to do is play guitar, loudly, in a blues band.*



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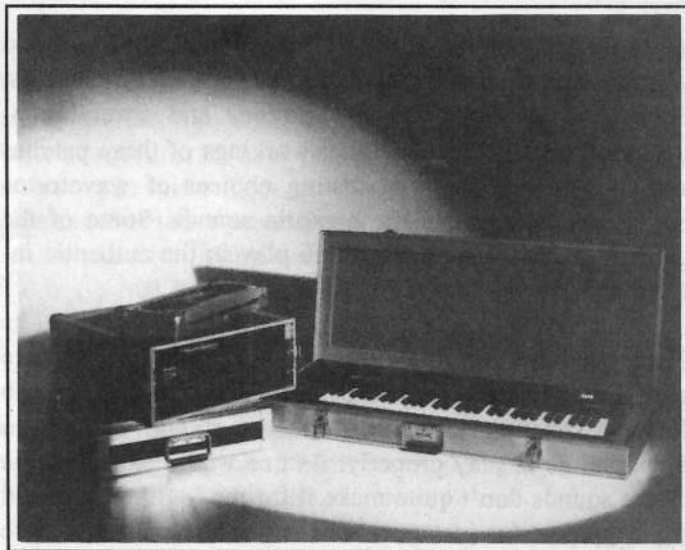
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# TS Conquers the World

Garry Wasyliv

---

Product: Sound Disk TSD-1005, *World Piece*.

For: TS-10/12.

Price: \$19.95 (US).

From: Ensoniq, 155 Great Valley Parkway, Malvern, PA 19355. Phone: (610) 647-3930 or contact your local Ensoniq dealer.

---

If you own a TS series synth and are looking for some different instrument sounds, then you want to hear what's on this disk. I've never found the factory ROM ethnic patches all that exciting but this set really shows off what the TS is capable of. What you're getting here are 120 unique sounds at a price so low that it seems like an error.

The first thing that impressed me was the enclosed booklet of documentation. Each page covers one bank which is devoted to a specific country or category. The controller variations are listed along with a brief description of the subject instrument. This is interesting reading in itself.

The sounds themselves are expressive with a delicacy and warmth where appropriate to these types of instruments. Each uses all patch select variations and several controllers. I peeked into the inner workings of these patches and found some very interesting choices of waveforms being used to emulate these exotic sounds. Some of the patches employ a tuning table to play in the authentic intonation.

There are however, a few things that I would like to have seen done differently. Most patches have too much reverb for my taste and some instruments should have been monophonic to play properly. As one would expect, some of the sounds don't quite make it for me — the drum and the bagpipes, for instance. And it would have been more appropriate to have put the wave sequence of the Atlanta Braves crowd chant in the novelty bank rather than in the Native American section. Many of these things can be fixed with a little patch editing.

Aside from the above, there are a lot of excellent sounds here. The following are a few that I particularly liked:

**SANTOOR** is an Indian hammered dulcimer that has a very clear and sweet sound. One of the patch selects has a

pluck on key up which can be played to duplicate the rapid hammering technique as I have heard it on recordings.

**DIDJERIDU**, the strange sounding Australian Aborigine instrument is created with layers of transwaves. There is a lot of expressiveness through velocity, pressure and the patch selects. True to the original however, there is only one note sounded across the keyboard.

**BAGLAMA & DIVAN SAZ** are two different versions of a type of Turkish lute. The larger is very full and produces a great bass.

**OCARINA** is a very realistic version of this mellow instrument. This is one of the patches that is polyphonic but is probably better suited to be played monophonically.

**THE FALCON** is a crisp and clear Cajun accordion that has the sound of the smaller body.

**GOSPEL PNO** may not be for all tastes but I enjoyed it. It uses a pitch table to create the type of untuned piano (occasionally painted blue) that is typically found in the back rooms of churches and community centers. This would be great for sound tracks or your next Tom Waits gig.

**DOUMBEEK** is a mid-eastern drum that is very expressive. Different slap and thud effects come in with varying velocities and patch selects. This sound is mapped to one pitch across the keyboard which allows the player to create the fast fills characteristic of doumbek playing by trilling on adjacent keys.

With this many sounds in a package we've obviously only touched on a few. The bottom line, however, is that this disk is great value if you're interested in getting some good ethnic sounds for your TS synth. ■

*Bio: Garry Wasyliv works as a structural engineer who spends his spare time pushing the buttons on his Ensoniq synth in search of the lost chord. He found it once but the sequencer was not in record mode — so it's lost again.*

## Invasion From Mars

Tape: *Native Cravings*.

Artist: Eric Mars.

Contact: PO Box 170451, San Francisco, CA 94117.

Equipment: EPS, Alesis D4, PAIA Vocoder, TX 802, Proteus 1, IBM w/Cakewalk.

This tape falls squarely into the pigeonhole of Zappaesque, *Mystery Science Theater 3000*, comedy, science fiction, jazz, dance and progressive rock. If all this weren't enough, Eric apparently orbits somewhere in the same city that I inhabit. Now that we've got our definitions out of the way — Eric's liner notes read as follows: "*Born and raised in Space City, USA, Eric Mars, Electrohomo, converts it all into sound waves, throbbing but gentle. Millions of satisfied customers. Recorded totally nude.*"

Just take a gander at the names chosen for these songs before we jump into our normal in-depth and searing analysis — *Angst*, *Maid Stealer!*, *Customer Service*, *Hogwoman*, *HotNaked Bodies*, *Wild Pigs of Marin*, *She-Males in Action*, *Boneheads*, and *Iguana*.

I could swear that Gypsy from *Mystery Science Theater* appeared in the vocals of several songs, but regardless, here is a breakdown of the songs, if I can stay on my computer keyboard without falling off in spasms of mirth.

*Angst*. This song contains the title *Native Cravings*. The hard part is deciding what native really means to an electrohomo from Space City!

*Maid Stealer!* Okay, I have to say it steals the show, and should by all rights be made into a full length motion picture.

*Customer Service* really drives the point home with wild manipulations of Eric's (or someone's) vocals. This cut contains mucho keyboard percussion.

*Hogwoman* goes hog wild over finding a scapegoat in her company. She was Hawaiian royalty in a former life. She's your boss and she's 300 times larger than life. If you can't see where this is heading, send away for this tape or your job may be on the line!

*HotNaked Bodies* sounds like a chase scene in a 1960's bad Chinese version of the *Dirty Dozen*. Keep channel surfing.

*Wild Pigs of Marin*, complete with narration, mocks the whole New Aging movement, and just how old it all is! "They don't respect your parking rights!" "Something's got to be done about those pigs!" This is sort of like a '90s twisted version of *A Teddy Bear's Picnic*.

*She-Males In Action* takes a poke at drag queens with high expectations. This snappy chorus is interlaced with funky funny dialogue. This song begins like a commercial and ends like an anthem.

*Boneheads* speaks for itself. "We don't need to think for ourselves."

*Iguana* walks all over the subject of homophobia.

Sounds and patches used here range from Anything Goes to Absolutely Everything, but with a definite emphasis on spacey and electric. There was not a lot of heavy. No solid bottom on drums or bass instruments. There was nothing anchoring in this collection. These songs pull you in two different directions between the abject hilarity of the subject and the fascinating and titillating nature of the music. Eric has a real handle on when to vamp, when to dive in and build up a motif and when to get crazy! ■

If you want your tape run through the ringer, err, Hacker, just mail it off to: Basement Tapes, *Transoniq Hacker*, 1402 SW Upland Dr., Portland OR 97221.



*Bio: Daniel Mandel is a songwriter, sound designer, and has sold pro audio and keyboard equipment and produced demo tapes for local bands.*

## Classifieds

### HARDWARE/SOFTWARE

**Studio ASR-10.** Fully loaded, 16 MB; SP/1 IO; SCSI; all books, tutorials, etc. Six months old, in box. Best offer. Steve at 516-667-3625.

ASR-10, 16 Meg, Hard case, keyboard stand & cover, pedals, disks, manuals, Rock Thru MIDI software, Music Time & Track software: \$2499. Home use only. (504) 649-6621. Visa/MC or COD.

**Ensoniq Model TS-10** never left home studio. All manuals included with original box. Never used on gig. Asking \$1750 or will consider swap for ASR-10 with full documentation. Call Bob: (617) 661-1008 or e-mail: camach@usa1.com.

For Sale: Sound Tools system. Includes Sound Accelerator, Dat I/O, current software, including Sound Designer 2.5. CD quality audio on any NuBus equipped Mac. \$700.00. 503-245-0461.

SQ-80, case, extras, \$585. ESQ-M, \$255. Peavey Midi-Streamer (like Alesis Datadisk), \$220. US two-tier keyboard stand with multiple attachments, \$45. Peavey Midi-thru box 2x8, \$50. Alesis MicroLimiter, \$30. Cakewalk 2.0, \$15. Music Quest computer midi board, \$10. 12V Power supply, \$15. (601) 547-6365.

TS-12, new in box, great condition. \$1799. Phone: 312-902-3557.

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VFX-sd2, \$850. Tons o' voices. Bob, 607-898-4868.

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Still available — Jim's Toybox: 60 original sounds for the VFX-sd. Unusual, avant-garde. (See review in June, '93 *Hacker*.) Trade for bank of original sounds or *uncopied* copyright sounds. Or send \$20 check. Send SASE for documentation. Jim Samp, 90 Bell St., Fond du Lac, WI 54935. Phone: 414-922-4337.

"Resonant Dwarf" forges original electro/ acoustic & electronic samples for EPS-16+. ARP, Korg, Moog, Hohner, Paiste, Roland, Sequential and assorted sonic surprises. Catalogue = \$1 or free with SASE. \$4 per disc. Andrew Faltonson, "Resonant Dwarf," 903 NE 50th St., Seattle, WA 98105.

**CUSTOM ASR-10 ROBOTIC VOICE SAMPLES!** Yes, indicate what phrase you need (up to 12 syllables) and I will create/sample the robotic voice. These aren't vocoder samples, rather Kraftwerk "music-nonstop" voices. \$10/phrase, 5 for 40 pp. Wayne Schroeder, 573 Scott St., Studio L, San Francisco, CA 94117.

**FINALLY!** A new set of 16-bit samples from Tom Shear. This time he tackles the Waldorf Microwave! For only \$15 + \$3 S/H, you can have 3 disks packed with the fattest digilog synth sounds you've ever heard! Send an SASE or e-mail (tomshear@AOL.com) for free catalog. Tom Shear, 805 5th Avenue, Williamsport, PA, 17701.

### MISC

Akai CD-ROMs: *Hyperspace*, *Hyperdance*, *CD-ROM Showcase* all for \$100. (2) 1 Meg Simms \$35. Syncman SMPTE to MIDI converter \$40. Call Brian 713-486-9427 after 1pm CST.

### OUT-OF-PRINT BACK ISSUES

M.U.G. will provide Out-of-Print issues for cost of materials and postage. M.U.G. Hotline: 212-465-3430 or write: G-4 Productions, PO Box 615TH, Yonkers, NY 10703. Attn: TH Back Issues. Phone: (212) 465-3430. \* \* \* Folks in the New York City area can get copies of unavailable back issues of the *Hacker* — call Jordan Scott, 718-983-2400.

### FREE CLASSIFIEDS!

Well — within limits. We're offering free classified advertising (up to 40 words) for your sampled sounds or patches. Additional words, or ads for other products or services, are \$0.25/ word per issue (BOLD type: \$0.45/word). Unless renewed, freebie ads are removed after 2 issues. While you're welcome to resell copyrighted sounds and programs that you no longer have any use for, ads for *copies* of copyrighted material will not be accepted. Sorry — we can't (we won't!) take ad dictation over the phone!



# 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, Internet: interface@transoniq.com.

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. Resident answer-man is Clark Salisbury (CS). Letter publication is subject to space considerations.

Hacker,

I bought a **KT-76** last October and love it! I've been noticing in your current OS section that you list version 1.60 for the **KT-76/88**. I went into the OS display mode of mine to verify that, and it came back with version 1.62. Just wondering if I got some top secret OS bargain. :)

Great magazine. Keep it up!

Dave Fournier  
Columbus, Ohio  
Via Internet

[CS - Dave, watch your step! Your **KT-76** apparently is in some sort of "time-rift," which has placed it in the future, but probably only about 10 minutes or so. You can get it back by reversing the earth's rotation for a short period of time, though, so not to worry.

Actually, mea culpa (or would that be "we-a" culpa?). The current version for the **KT** is 1.62, not 1.60. You may now allow the earth to resume normal rotation.]

G'day Hackers,

On the continuing subject of printing out the E-mail *Hacker*, I like printing some of the articles out. I use MS-Works V3, and minimize paper and printer usage as much as possible.

One of the problems with the E-mail *Hacker* is the short lines; so:

1. Load the *Hacker* text file.

2. In File>Page Setup, set Left-margin to 1 cm (0.39") and Right-margin to .75 cm (0.3").

3. In Format>Columns, set Number-of-columns = 1, Space-between = .3 cm

(0.12"), and Line-between = off.

4. Set Font to Arial Pt size 8.

5. Choose View>Layout - now the *Hacker* will display compactly in two column portrait (except for those nasty %%% lines). Issue 121 displays fully in 28 pages.

5. Switch back to View>Normal, delete all the gumph which you do not want to print.

6. Print!

John Allen  
Via Internet

[CS - A new feature! "Hacker Desktop Publishing Tips"! Cool!]

[TH - Gumph?! (We'll try putting some breaks in our divider lines.)]

Hi TH,

My first letter (E-type as it happens) to your good publication.

First, thanks for being there. These Ensoniq devices are a tad complicated, as well as amazing, and my feeble brain went into overload when I bought a **TS-12** and then a month or so later an **ASR-10**. It will take a while to figure them out to any great extent, but TH helps!

Second, (I did write to Malvern about this, but hath not heard anything as yet) on the **ASR-10**, when using the "Edit/wave/0 MODE" stuff, the loop forward, loop bidirection etc., sometimes really is confused (i.e., tones all stretched on the keyboard, as well as weird noises, too!). Doesn't always do this. Tried 3 OS versions, no difference. Any thoughts?

Thank you,

Jeff Porter  
Brodheads ville, Pa

[CS - I'm not sure I know precisely what you're experiencing, but I'll hazard a guess: You're trying to play a sound with too short a loop. If you try to play a sample with loop start and loop end times set to the same number, all sorts of weird things can happen, none of which will do any real harm, other than being just another source of humiliation. Reset the loop length a bit longer, and everything should be just hunky, Dory.]

[Ensoniq - Clark's response seems to be "on the money" - call Customer Service at 610-647-3930 if you still need more help. Looping is a skill, and it may take you some time to get the hang of it.]

Hacker:

I currently own an **ASR-10** with OS ver 2.0. When is Ensoniq going to allow us to get upgrades without having to pay a small fortune to CompuServe? The "7.5 billion dollar company" won't even subscribe to that service. I had a horrible experience with CompuServe when I did the 30 day trial, and then cancelled immediately. Problem was CompuServe continued to take \$10 out of my checking account for the next 14 months, until I called them on it.

Why don't they put the OS upgrades out on the ftp site, rather than just placing mostly SoundScape drivers out there? I own four pieces of Ensoniq gear, and have generally been very satisfied with them. I just wish that the company would jump a little faster into the computing reality of the Internet, and the general computer acceptance (MAC/PC). (Don't get me wrong, I also owned an Atari 800XL. Killer graphics machine, but I haven't had a reason to use it for years.)

Brian Poissant

Via Internet

[CS - Actually, you can get upgrades RIGHT NOW for free (some upgrades, anyway) simply by going to your local authorized Ensoniq dealer (preferred method), or by contacting Ensoniq Customer Service directly. I know it's not as whizzy as downloading stuff on the Net, but one really should get out once in a while anyway, don't you think?]

[Ensoniq - Clark is correct. We offer our ASR O.S. upgrades free for copying at all of our dealers, and free direct from us. We are getting online and have the current OS available for downloading from CompuServe (oops) and by the time you read this, from our new Web site. We have been supporting Soundscape more on these services because all of the owners have a PC and can get and use the file. For the ASR only PC users can even get and use a computer transmitted O.S. (thanks to Giebler Enterprises nifty tools). Mac owners

can't access it, and of course non-computer owners can't either, so we still offer disks from our dealers and direct from here.]

Dear Hacker;

I am looking for anyone who has knowledge of a person/business that would be able to modify the weighting in the FATAR action used in the Ensoniq KT-76. The action is too heavy for me. I have talked to a place in Denver that is supposed to be pretty good and they said that it is a major modification - if anyone will do it at all.

On the other hand, maybe someone knows of a keyboard that has weighted action, but lighter than the FATAR keyboard on the KT-76. (I have played a KS-32, which has lighter action than my KT-76, but I am assured that they are all the same - It sure doesn't feel like it to me).

I would like to know why someone can't design a keyboard with adjustable weighting - even if it has to be done by the factory!

On another topic; something I like about the KT-76 is its transpose feature. There is room for improvement however. Ensoniq, this is addressed to YOU. How about making the transpose function so that it is "octave sensitive." That is: currently, if I hold down the transpose key and press E4, it transposes up from middle C, four half-steps. How about making it so that if I press E3, it would transpose down? In other words, make the transpose function intelligent enough to know which octave (C2, C3, C4 etc.) it is transposing relative to. Right now, it is only relative to C4.

Thanks for listening!  
David Van Dyke  
Pueblo, Colorado

[CS - I don't recommend monkeying with your keyboard; there's way too much potential for damage. I think your time and money would probably be bet-

ter spent checking out the action of any number of keyboard controllers, available from such companies as Roland, Kurzweil, Yamaha, Peavey, and so on.]

[Ensoniq - Interesting idea, but it does present a possible problem. Transposing a sound as you suggest would create the likely scenario of sounds stretched too far at the extremes of the keyboard. Why do you need the octave-savvy-ness? Couldn't it be solved with a Performance Preset, where you put a sound onto a Track, and then have control over octave and semi-tone tuning? Most of our research had people favoring the universal nature of relative to C4 as being fast and fool-proof.]

Dear Hacker,

I have a few questions about the disk drive in the SD-1:

1. If it needs to be replaced does it have to be with one specifically designed for the SD-1? Or are all 3.5-inch drives pretty much interchangeable?

2. Can I replace it with a DS/HD drive? If so, will it be able to read my old DS/DD disks?

I recently went through some backup disks and found a couple of files that would not load. I have no idea whether corruption had taken place while the disks were stored or if it was due to something else. Because the disks were not exposed to magnetic filed, contaminants, etc., this has made me wonder if the errors could have occurred while making the copies. A friend told me that all disk drives employ something called "checksum" which will detect errors, but I'm not exactly sure how or under what conditions it might work. So:

3. Does my drive employ "checksum," and if so, how does it work?

4. Let's say I load an error-free file, maybe 60 sequences. If an error somehow occurs in the transmission of the data on its way to internal RAM will it

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be detected and trigger an error message?

5. Can errors or corruption occur to data in RAM and then be saved to disk without being detected?

6. When making backup copies of disks, I have to swap the source disk and the destination disk back and forth three times before the process is complete. If the slightest alteration of any kind occurs to the data during the copy procedure, is there any point at which the error can be passed on undetected and saved to disk?

7. Obviously, I am wondering if I should check out disk copies as soon as they are made. (And if so, what would be the best way to do it? My friend tells me that simply reloading each file from disk will produce an error message if anything has changed during copying.)

Hopefully, you are going to tell me undetected errors can never occur during copying (and that love never dies), however, unless you explain how it works, I will lie awake at night and wonder. So, I turn to you, the unrivaled experts.

Thanks for the ride,  
Bank Shot  
Quinlan, Tx

[CS - I'm passing your questions along to those more technically savvy than

myself. However, something in the tone of your letter hints to me that you might be somewhat concerned about disk data corruption (don't ask me how I know; I'm paid to know these things).

*In my experience, disks can go bad for any number of reasons, including (but not limited to) exposure to stray magnetic fields, exposure to extremes of temperature and humidity, and exposure to "ju-ju."*

*Now "ju-ju," particularly the "bad ju-ju" one hears so much about these days, can be nearly impossible to detect and avoid. I have found, though, that you can sometimes tell if a corrupted disk has been exposed to bad ju-ju by trying to load the data anyway. By ejecting and re-inserting the disk, and then attempting to load data enough times (I'll usually give it 5 or 6 attempts before giving up) you can confuse whatever ju-ju might be involved, and occasionally get your data to load back into your synth. At this point, of course, you place a new, freshly formatted disk in the drive, and save the data. And if the data is real important, you back it up onto at least one other disk, because the ju-ju gods will now be annoyed, and believe me, THEY KNOW WHERE YOU LIVE.*

*And by the way, yes, you can save corrupted data to a disk. Sweet dreams...]*

[Ensoniq - 1. No, you need to use an

Ensoniq-specified replacement, because the features we use on our disk drives are different than most "off-the-shelf" drives for PCs.

2. No. No.

3. All drives do a checksum automatically to insure data integrity.

4. The error doesn't occur between the drive and the RAM. Either the drive couldn't read the data off of the disk properly (most likely causing a checksum error), or the data was corrupted before it was written to the disk.

5. Yes, power glitches and static electricity can corrupt RAM. The disk drive has no way of knowing if the data in RAM is bad.

6. This is unlikely, unless there are power glitches or static. Note that increasing your sequencer memory (using the SQX-70) will allow you to copy a whole disk in one pass - no more swapping.

7. It will produce an error message if there is a checksum error, but not if the data was corrupted before it was written to the disk. Now how are you sleeping?

P.S. Clark's "Ju-Ju" should not be confused with West African Ju-Ju music - a beautiful, polyrhythmic dance style.]

Dear Hacker

A few months ago I purchased an Ensoniq SoundScape Card for my PC. As there was no MIDI implementation chart in the back of the manual I asked my local Ensoniq agent for a copy. He said he didn't have one, so I sent a fax to Ensoniq requesting a copy. One needs to know what controllers will respond to what in terms of Pitch Bend range, Tuning etc. - all the time realizing that this is not a Pro instrument. My Local Ensoniq agent phoned me back and said "Ensoniq just phoned me and told me to tell you there is no MIDI im-

## Back Issues

Back issues are \$2.00 each. More than 10: \$1.75 each, more than 21: \$1.50 each. (Overseas: \$3 each.) E-mail copies of back issues are available for all issues since #118: \$1 each (anywhere). Orders for e-mail issues should be sent to: [issues@transoniq.com](mailto:issues@transoniq.com).

Issues 1-40, 61, 67-74, 77, 79 and 82-85 are no longer available. Permission has been given to photocopy issues that we no longer have - check the classifieds for people offering them. A free back issue index is available which contains the tables of content for all issues since #43.

ESQ-1 coverage started with Issue #13. SQ-80 coverage started with #29, (although most ESQ-1 coverage also applies to the SQ-80). EPS coverage got going with #35 (and also applies to the ASR-10). VFX coverage (which also applies to the SDs) got started in #48. The SQs got going in #63. (SQ articles also apply to the KS-32 & KT-76/88.) DP/4 coverage started in #88 (much of which also applies to the ASR-10, and all of which also applies to the DP/2). TS-10/12 coverage got going with #98 but owners should also check out sample reviews (EPS/ASR) and SD & VFX programming tips.

plementation Chart for the SoundScape." I don't believe it for one minute and don't like being fobbed off like that, hence this letter. Come on Ensoniq. How difficult is it to send a fax?!

Regards,  
Dean Brewer  
Fax 011-2711-626-3998  
Email: midiman@onwe.co.za

[Ensoniq - Well, the short answer is that the Soundscape is fully GM compatible. We never created a MIDI implementation chart for it, but if you have a specific question, call and we would be glad to answer it.]

T.H.

I recently had some problems with my SD-1.

Intermittently on powerup some pro-

grams would disappear and the sequencer software and programs would disappear. Authorized repair stations could find nothing wrong with the keyboard. The first trip to Ensoniq (I drove the keyboard directly to Malvern) proved fruitless. They replaced the main board, but as soon as I got home and powered up the keyboard some of the factory-loaded sounds and the sequencer again disappeared.

The next day I took the keyboard back to Malvern and Rob Bonnanno made sure that it was fixed correctly. They never did figure out what caused the problem. As they were swapping out parts (power supply, transformer, and another main board) it continued to erase the sequencer on powerup. Perplexed, they decided to "gut" the keyboard. The only original part on my keyboard is the shell. They replaced everything; main board, power supply, transformer, keyboard, digital display, I mean everything. If it was connected to the main board, it was replaced including the wires and connectors.

This was all done over the course of no more than two hours. I had a series of gigs coming up and had a three-day window. I got the keyboard back the same day.

The kicker is that they treated the problem as a warranty repair. They are truly a class company. The keyboard now works flawlessly and they have a committed user for life.

Please thank the folks at Ensoniq, especially Rob Bonnanno, for valuing the customer!

By the way, I also own a VFX, and despite the bum rap that the keyboard has received (except for the keyboard problem that we all know about - that Ensoniq also fixed under warranty), it has been the most reliable keyboard that I have ever owned. I've had it four years and, like the Energizer bunny, it just keeps going and going and going...

One other item: In Issue #121, Joe Travo indicated that when his VFX

started playing by itself, he was lucky because it was around Christmas and it played a sleighbell patch. I have been unsuccessful in several attempts at creating a decent sleighbell patch. Any chance of getting a copy of that patch in the Hacker?

"Delaware" Dave Musumeci  
Newark, Delaware

[CS - Hey, Dave, you can tell Rob thanks in person, because by being the one-thousandth person to write in to the Hacker, you've won an all-expense paid TRIP TO PHILEDELPHIA. We call it our PHILLY BY DAY tour. Spend countless pleasure-filled hours bussing to well-known Philadelphia, cream cheese provider to the world. Spend a jam-packed five days and two nights at the renowned Philadelphia Motor Inn, where your car is just a stone's throw away (if you'd driven). Spend the afternoon every day at Ensoniq's luxurious service center, where you'll get to see several Ensoniq products repaired RIGHT BEFORE YOUR EYES, and you may even get a crack at answering a few customer service calls when the regular guy goes to lunch. Yes, you'll feel like "one in a thousand" by the time your whirlwind tour breaks. So don't thank me but...

JUST KIDDING! Guess it's a bit of a slow Interface day. Thanks for writing anyway...]

[TH - You'll have to excuse Clark, he's finishing up these letters during the last few minutes before he leaves on vacation.]

[Ensoniq - Thanks for sharing your experience with "the world." We do try to do right by our customers, and it's nice to know we did by you. Rob now has your letter laminated and carries it around in his wallet. There's just no talking to the guy anymore...]

Dear Sirs,

After reading the Hacker for the best part of three years I feel that I must

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have owned the only two Ensoniq products which work every time. I had an ESQ-1 for many years, no problems at all, that I sold and purchased an SQ-R+ – which in two-and-a-half years of ownership has proven to be 100% reliable. (Thank god I gave the VFX a miss.) My SQ-R+ has not been upgraded to 32 voices due to the very high cost (\$600+). For not much more it's possible to pick up a second-hand Korg M1R.

On my SQ-R+ I have found two problems:

a) When editing, by pressing ALL on the Wave Page, the system should make the same changes to all three voices/parameters. This function has proven to be unreliable. Is this a known bug and will an upgrade fix it?

b) Background noise – after reading letters in the Interface concerning the level of background noise/hum from the SQ synths I decided that the noise level from my SQ-R+ was normal. However, I recently had to replace the battery – a simple job with no problems. As the top was off I started to check the tightness of all the screws which hold the synth together. Most were loose – even the earth lead from the power supply. After tightening up all loose screws and refitting the top I was very pleased to find that when I plugged in the synth the background hum was gone. I now own a quiet SQ-R+.

Now a question: Inside the SQ-R+ there is an empty socket marked, "U38 ROM3." Why is it empty, what is it for, and will Ensoniq or some third-party produce an upgrade kit to use it?

Keep up the good work.

Best regards,  
Andrew Brimming  
Bristol, England

[CS – a) Actually, this feature has worked rather well all along. My guess is that you're not aware of the two different modes for changing parameters when ALL voices are selected.

*Method 1: Using the incldec buttons when ALL voices are selected increments or decrements the selected parameter for all voices by the same amount. For example, if voice 1 has a Fine Tune setting of -5, voice two has a setting of 0, and voice three has a setting of +5, pressing the Up arrow button once will result in voice one changing to a value of -4, voice two to +1, and voice three to +6.*

*Method 2: Using the data entry slider will set all voices to the same value (the value showing in the display), then will edit all voices equally. For example, if voice 1 has a Fine Tune setting of -5, voice two has a setting of 0, and voice three has a setting of +5, moving the data slider until +6 shows in the display will set the fine tuning for all three voices to +6.*

*b) Kids, don't try this one at home. If you think you instrument might benefit from this or some other form of service, it's recommended that you have such service performed at an authorized service center. Performing such operations on your own could void your warranty.*

*As for the U38 ROM3 socket, it's funny, because I found an extra U38 ROM3 rattling around inside my SQ-R+; you don't suppose...*

*Kidding. The slot is probably there to leave the door open for some sort of future expansion which never actually took place. A lot of manufacturers design "hooks" into their systems so that they can add hardware later on, should the need arise.]*

*[Ensoniq – We have been putting in room for different types of expansion into our products for some time now, so we can leave a door to future, unplanned upgrades. This does not mean that we can always produce them, but it keeps us from kicking ourselves for not being able to when we find the need to. The SQ-R (all flavors) is no longer in production and we will not offer any type of expansion/enhancements for it. Sorry.]*

Hacker:

Point Counterpoint  
Rap: music or business?

I'm really sick and tired of hearing people say one thing about music, only to do the exact opposite with it. Rap is a polarizing subject, and whether I should tackle it, whether it belongs as the subject of an article, or whether it belongs in this magazine (or not), somebody has to say something about it. I'm personally tired of having people badmouth it only to go out every weekend and dance their fannies off to it. I'm tired of musicians dissin' it only to copy it from successful grooves. I'm really sick and tired of all the controversy surrounding rap, and since the *Hacker* is a public forum, I'm gonna state my position on the matter. Hope it's not trying to put out a fire with gasoline...

Let's be brutally honest; some rap is truly crap. To loop and lift a two-bar 82 BPM phrase for 5 minutes just doesn't qualify as music, even if you record a real analog synth lead line 5 octaves over it. Even if you wash the NWA and Gansta out of it, it's still little more than a record skip. Okay, so you add TR808 to it; it's all of a sudden different? You speed it up to the 140's and add B-3 house samples to it, it's different? Okay, so you get real slick and loop a 4-bar phrase; that's twice the music? NOT! Then there're acts like Digable Planets that are more jazz than gansta, but they're still rap. Hell, The Last Poets were rapping in 1968 about REAL problems and didn't raise this much ruckus.

Music and creativity and message seem to all get lumped together as a common definition of "music" when all three are totally independent of one another. You couldn't replace Dr. Dre's emerald metallic '63 Impala w/ hydraulics "It was a good Day" video with Gwar's video clips, although the message is the same, coming from different races but the same place. By the same token, who could've imagined Parliament and the Red Hot Chili Peppers on the same

stage for Grammy night doing "Give it Away"? How did rap get so ferocious we now hear the same 2-4 bar 82 BPM loops with provocative females singing seductive tunes like TLC's "Red Light Special"?

A wise man once told me "Follow the Money." There are now more indie-produced hits than genuine A and R-produced label stars; major labels recruit artists away from indie labels with the allure of their distribution superiority. Sprinkle in a video or two with the promise of heavy play in the pop radio/MTV rotation, and all of a sudden that 90%/10% record deal split doesn't seem so bad after all. Here's the rule of the road: it's music until you start getting paid for it. After that, it's called a J-O-B, and a new set of rules take precedence. Keep that perspective; it'll make more sense.

Like it or not, call it what you will, rap is music and accounts for nearly 72% of record sales (er, CD sales). You can be purist and elitist and say that's just the commercial aspect of rap. But somebody's out there recording it, and if it's distributed in an audio format, well, if it walks like a duck and quacks like a duck, burying your head in the sand won't make it an ostrich. Somebody's out there buying it in droves. And it hasn't gone away, has it? It's resurrected the aftermarket car audio market, spawned a new industry of hoopdees and slam trucks, as well as made CDs the 45s of the 21st Century. So, to answer the question, rap is BOTH music and business. More business than music to some, and vice versa. Vote with your wallet if offended: that mechanism seems to work well.

That very mechanism also put Ensoniq at

the top of the sampler mountain. So you wanna blame them or thank them? After all, it's their fault that it's so easy to catch a groove, loop it, resample it, add the boomin' drums, sequence it and play over it. Are you so polarized you think it's their fault?

Not me: I'm just jealous I didn't think of it first. Music is cultural reflection; don't expect to impose personal standards on someone else's idea and then diss it because it doesn't look like what you wanna see. Ensoniq just made the brush: you're the canvas. If you don't like what you see, paint your own. After all, you have the most elegant of creative musical devices (and not that polarized space between your ears, either!). And a little company in Malvern makes a few elegant creative devices to render that vision into reality. Deal with it.

Pat Finnigan  
Greenfield, In

*[CS - No matter what your feeling about rap and all its derivatives, it would be pretty hard to deny the impact the music and attitudes have had on society. In my opinion, no other music form has done more in the last 20 years or so to expand our popular music vocabulary in terms of melody, harmony, and timbre. It would also be hard to find another music form containing social and political commentary that has enjoyed a broader audience. And it seems to me that a lot of the comments I hear about rap (and any of the newer music forms, for that matter) sound uncannily similar to comments I first heard about the music I grew up listening to and loving - the psychedelic-era rantings of such untrained, unwashed musical illiterates as*

*Jimi Hendrix, the Doors, and the Beatles.]*

*[Ensoniq - Go boy-ee!]*

To: [interface@transoniq.com](mailto:interface@transoniq.com)  
Subject: Replacing Track Sounds

I am having problems replacing track sounds with certain sequences on a TS-12. For example, the TS-12 is playing a sequence and I decide to change a track sound. I stop sequence, push replace track sound, select bank and sound that I want to replace original track sound with and hit replace track sound. The display indicates that I have indeed changed to my selected sound but when I go to play the sequence, the display reverts to the old track sounds. In fact the tracks always show what sound I have selected until I hit play. Then it all changes back. This only occurs with a few sequences that I have converted from general MIDI using Giebler disk manager. This is darn perturbing. Please make it stop.

Aaaaaaandy@aol.com

*[CS - What's happening here is that the sequences you've converted contain program change messages; these will continue to select the sound that plays for each track until you remove them. Perhaps the easiest way to do this is to select the offending track, then press the "Edit Track" button, then the soft button under the word \*MORE\*. From this page, select FILTER, set the filter to PROGRAM-CHNG, and press \*YES\*. This will remove any program change events from the current track, and allow you to select your own sounds for the track.]*

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