Transoniq Hacker

The Independent News Magazine for Ensoniq Users

Personalizing Your KT-76 or KT-88

Robby Berman

Yesterday I got a new waveform editor for my Mac. It's a beautifully functioning program — great new features and no crashes so far. Thumbs up. And like many modern software programs, it allows me to customize my work environment by letting me choose the colors for the sound waves, backgrounds, even the horizontal/vertical data axes, displayed before me in all their now-gaudy techno-glory. Honestly, I think I spent more time adjusting hues than actually working yesterday. I've settled, for now, on a sort of Southwestern earth-tones motif.

All kidding aside, this ability to customize one's electronic workspace is a great thing. It allows our machines to function more comfortably, more naturally, as extensions of our selves, rather than as inert and foreign devices of metal, plastic and silicon. Have you tailored your KT-76 or KT-88 to your way of doing things yet? While we don't get to change the display colors, there are a host of other useful options Ensoniq offers to make your KT feel like home. Let's discuss them.

Just so we're all experiencing the same thing, press the Select Sound button. You may have to press Bank a few times until there's a dinky "r" in the upper left-hand corner of the display. Now press the button above the 0 and then the button below the 4 to select ROM Sound 04, Big Money Pad. (You want to make big money, don't you? Sure, we all do.).

The doorway to customizing your KT workspace is the next button press: the System*MIDI button.

Don't Look at Me

Press the button below the 0.

The first option we see is the one called "Tune." Obviously, one of the great things about synths like the KT is that they're always in tune; while the rest of your band is arguing over who's sharp and who's flat, you get to stare off dreamily into space looking for all the world as if you're having really deep

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thoughts. But suppose it's just you and the autoharp player with 36 unruly strings who agree with each other but not the rest of the world, tuning-wise. Or how about 36 unruly string players, for that matter. With the Tune parameter, you get to be the big person. By selecting Tune and tweaking it up or down, you earn the right to act superior (for veritable moments!).

Getting (Pleasantly) Bent

"Bnd" refers to the Pitch Bend Wheel, the one furthest away from your torso, over there on the left. The most common setting is 2 — that's how the KT was set when you purchased it — for two semitones of pitch-bend up or down. But you can set it to as many as twelve semitones either way (that's an octave, Vern). Give it a try.

Even more interesting are the 1H to 12H values you'll discover once you pass plain-old-12. These are the telltale signs of a seriously cool (read: *important*) feature that Ensoniq synths have offered since all the way back in the SQ-80, with the exception of a few early versions of the VFX. When you set Bnd to values followed by an "H," only the notes you've actually got your fingers on will bend; notes that are sustaining won't. For example, set Bnd to 1H. Play a major triad (C, E and G, Vern) on the keyboard, press the sustain pedal before letting go, and then, while holding on to the middle note, let go of the outer two. While still holding the sustain pedal down, push the Pitch Bend wheel forward. See? Only the note you're still holding bends; the others stay put. Nice, huh? Though requiring a little practice, this technique allows you to do some really beautiful things. It's also quite useful in simulating pedal steel guitars, sitars and other bendy instruments, real and imagined.

Stepping Up to the Tables

Certainly the most exotic option on this display is the PTble parameter; obviously (well, maybe not) "PTble" stands for "Pitch Table." The KTs are shipped from the factory using standard modern Western Civ 12-tone equal temperament tuning; Ensoniq's in Malvern, Malvern's in Pennsylvania, Pennsylvania's in the United States, and that's how we hear things around here. Or there. Some of us. The KTs, however, are capable of much more. The keys on the keyboard are just buttons, really; they can be programmed to do many things, among them, to play notes that are tuned differently. Turn to Page 22 in your *Musician's Manual* for a rather shocking list of all the different tunings you can get your keyboard to play.

Yikes. Hanging with the Western thing for a mo more — if you want to hear something closer to what Bach intended, dial in VALLOTTI-C and play some of the composer's work. That's how keyboards were tuned in his day. But you can get way more out there than that. Tunings from all around the world, from many of its cultures, are available to you. Avante ye maties, there are even some tunings here devised by composers Harry Partch and Wendy Carlos. Try some out, and don't be uptight, expecting your Western playing habits to produce music that immediately sounds "right." After all, it's not unlikely that you're about to create melodies you've never even imagined before — this can be a really mind-opening experience. The key is to listen to where the different tunings take your ears, rather than trying to impose familiar order and structure upon them. You don't have to use Big Money Pad, by the way. Any sound will do.

Next time we'll move further into the soon-to-be-comfy world of KT System*MIDI. ▬

Bio: Robby Berman is a musician living amongst the hummingbirds and pines in New York's Hudson Valley. His latest album is the double-groaner, "Rings and Rings."

HYPERSONIQ New Product Announcements

Syntaur Productions has just released some of the first aftermarket sounds to be created for the KT-76 and KT-88 synthesizers. *KT Set 1*, a set of 80 patches available on either PCMCIA card or SysEx disk in a variety of formats, offers a wide range of animated pads and aggresive transwave patches, as well as a good assortment of keyboard, orchestral, bass, and synth sounds. Sam Mims and Todd Speer, two of Syntaur's programmers, worked with Ensoniq to create many of the factory ROM sounds for the KT-76. Once the keyboard was in production, Mims and Speer set about developing additional sounds that Syntaur could offer as a compliment to the factory patches. Syntaur's *KT Set 1* is available for $79.95 on PCMCIA card, and for $39.95 on disk. For further information and a complete catalog of sounds, contact: Syntaur Productions, 5402 W. 43rd St., Houston, TX 77092, phone: 713-682-1960 or 800-334-1288.

Front Panel

RND (♪♪♪)

Ensoniq Announcements

Clinic time! Come join Ensoniq at the following locations (see list below) for news about new products and sounds, and some helpful interaction with your local Ensoniq District Sales Manager.

Hacker News

John Allen tells us there was a minor error in his instructions for loading *eTH* into MSWorks 3.0 in Issue #123 *Interface*. The number of columns should be set to *two*, of course. Specifically, in Format > Columns, set Number-of-columns = 2, Space-between = .3 cm (0.12"), and Line-between = off.

Speaking of the *Interface*... It seems like Ensoniq must be doing such a wonderful job that our number of letters has been dropping off. Hey — don't forget that the *Interface* is also for hints, tips, opinions, new instrument development requests, third-party requests, article requests, whatever. (And, of course, also gripes.)

Ensoniq Clinic Dates

Alaska		
10/14	The Music Works	Anchorage
Arizona		
10/24	Synthony Music	Phoenix
11/01	Guitar & Keyboard City	Glendale
11/02	Flagstaff Music	Flagstaff
11/03	Prescott Music	Prescott
11/17	Guitar Etc.	Tuscon
California		
10/17	Music Unlimited	San Leandro
10/19	Guitar Center	San Jose
10/25	Spitzer Music	Stockton
10/26	Skip's Music	Modesto
10/27	Guitar Center	Hollywood
11/07	Nadines	Hollywood
11/08	Trill Music	Riverside
11/09	Music Mart	San Diego
11/14	Stockdale Music	Bakersfield
11/15	American Music	Fresno
11/16	Guitar Center	San Bernadino
11/21	Guitar Center	Covina
11/29	Professional Sound	San Diego
Connecticut		
10/10	Gordon/Lasalle	E. Hartford
11/25	Caruso Music	New London
Delaware		
11/01	B & B Music	Camden
Florida		
10/09	Band Central Station	Gainesville
11/06	Abe Music	Miami
Georgia		
10/30	Jackson's Music	Riverdale
11/02	Ken Stanton	Marietta
11/14	Portman's Music	Savannah
11/21	Atlanta Discount Music	Atlanta
Hawaii		
10/17	Easy Music	Honolulu
10/18	Bounty Music	Kahului
Idaho		
11/01	Deep River Music	Blackfoot
Illinois		
10/16	Soundpost	LaGrange
10/17	Soundpost	Mt. Prospect
10/18	Soundpost	Skokie
10/19	Music Lab	Lansing
11/08	Byassee Keyboards	Marion
11/09	Samuel Music	Effingham
Indiana		
10/24	Far Out Music	Jeffersonville
11/06	Conservatory of Music	Terre Haute
11/07	Opus 1	Evansville
Iowa		
10/24	West Music	Marion
Louisiana		
12/05	Be Bop Music	Baton Rouge
12/07	Sound Chek	Metairie
12/12	Lafayette's Prosound	Lafayette

Maryland

11/14	Bill's Music House	Baltimore

Massachusetts

11/07	Falcetti Music	Springfield
11/28	Rick's Music World	Swansea

Michigan

10/10	Bogner Music	Flint
10/11	Evola Music	Waterford
10/12	Music Box	Clinton Township
11/01	Farrow's Music	Kalamazoo
11/02	Marshall Music	Lansing

Mississippi

10/17	Morrison Brothers	Jackson

Missouri

11/09	Big Dude's Music City	Kansas City
11/14	McMurray Music	St. Louis
11/16	Sounds Great	Springfield

Montana

10/11	Pro Musical Sound	Missoula

Nevada

11/24	Pro Music & Drum 1	Las Vegas

New Hampshire

10/25	E.U. Wurlitzer	Nashua

New Jersey

10/09	The Music Place	Berlin
10/11	Keyboard World	Ledgewood
11/02	Rondo Music	Union
11/02	Russo Music	Trenton
11/06	Dave Phillips Music	Phillipsburg
11/09	Jack's Musical Instruments	Red Bank

New Mexico

10/12	Grandma's Music	Albuquerque

New York

10/17	McNeil Music	Ithaca
10/18	Northern Music & Video	Potsdam
10/19	Big Apple Music	New Hartford
10/24	Manny's/Audio Techniques	New York City
10/29	Manny's NYC Musical Kids	New York City
11/15	McNeil Music	Vestal
11/16	Costello Music	Fredonia
12/07	Unistage Music	Buffalo

North Carolina

10/25	Music Loft	Raleigh
10/26	Reliable Music	Charlotte
11/15	Music Loft	Greensboro

Ohio

10/17	Midwest Music	Cincinnati
11/08	Moeller Music	West Chester
11/09	Marion Music	Marion
11/21	Lentine's Music	Richmond Heights

Oklahoma

10/10	Del City Music	Del City
11/07	Music City West	Tulsa

Oregon

11/08	Portland Music	Portland
11/09	Keyboard Associates	Eugene

Pennsylvania

10/10	George's Music	Springfield
10/26	Wray Music	Lemoyne
11/15	Menchey Music	York
12/06	Osiecki Brothers Music	Erie

South Dakota

10/26	Sioux Falls Music	Sioux Falls

Tennessee

10/18	Musitron	Memphis

Texas

10/09	Brook Mays	Mesquite
10/19	Hermes	McAllen
10/24	H & H Music	Friendswood
10/26	H & H Music (Katy)	Houston
10/25	Evans Music City	Houston
11/02	Brook Mays Keyboard Superstore	Dallas
11/28	H & H Music (Willowbrook)	Houston

Utah

10/10	Wagstaff Music	Murray

Vermont

11/21	Advance Music Systems	Burlington

Virginia

11/16	Virginia Music	Richmond

Washington

10/12	Music World	Spokane
10/24	American Music	Seattle
11/07	Music 6000	Olympia

West Virginia

10/19	Pied Piper Music	Huntington

Wisconsin

11/21	Henri's Music	Green Bay

Wavetable Wrangling on the SQ/KS/KT Series

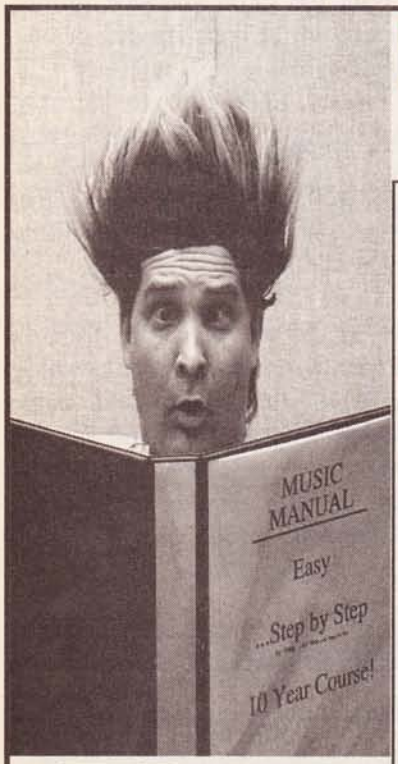
Jeff Jetton

When you come down to it, every sound in your keyboard starts with a humble waveform. Back in the days of Rubik's cubes and parachute pants, you were pretty much limited to the standard sawtooth and square waves, but now most synthesizers offer all sorts of sampled waveforms. The SQ series sports a handsome array of over one hundred such waves, and the KS/KT units have even more. With the following dirty trick, however, you can even further increase the amount of raw material you have at your disposal.

For this example, start with a standard factory piano sound. Head to the "Select Voice" page and solo whatever voice carries the bulk of the piano sound. We'll just edit this one voice for now.

Jump over to the pitch section, and set the modulation source parameter (Bank 1, Screen 1) to MAX ON. Set the modulation amount to -62. Your piano wave has now been pitch-shifted down one octave, more or less. It doesn't sound like a real piano played an octave lower, it sounds like a recording being played at half speed, which is essentially what is happening.

Now bring the pitch back up to normal by setting the octave to +1 and the fine tuning parameter to -13. You'd think we'd be right back where we started, but we're not. Our piano sounds quite different, more like a CP-70 electric piano. This is because the octave setting doesn't really change the physical pitch of the waveform, it only determines what note on the keyboard plays what sample in waveform memory. On the other hand, the MAX ON modulation is changing the actual playback speed of the sample. These two settings are working together to create



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-Chris Rice, Marketing Director, Twelve Tone Systems

a waveform that plays at the correct pitch, but doesn't sound the same.

Here're some other settings for you to play with:

Mod Amount	Octave	Fine
-74	+2	-19
-86	+3	-12
+62	-1	+03
+74	-2	+13

Of course, you can use this technique on any waveform you like. Remember that some waves (such as the KS-32's "16-BIT PIANO-HI") only play within a certain range, so when you change the octave setting, you're also shifting that range up or down. Also, depending on the waveform, and where you're playing on the keyboard, you may have to tweak the fine tuning a bit. The easiest way is to use the compare button to check your tuning with the original patch. ▬

Bio: Nashville-based keyboard player Jeff Jetton toured with John Berry for two years, and is currently on the road with Warner/Reprise recording artist Victoria Shaw. If he were to be reincarnated as a Muppet, it would probably be "Beaker." You can contact him via E-Mail at jeffjetton@aol.com if you have any comments or questions.

TS-10/12 CD-ROM Compatibility

Part Two

Anthony Ferrara

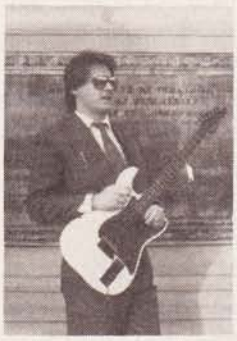
Now that we have covered the ways in which your TS can communicate through SCSI with your PC-compatible computer (Issue #121), let's focus on the specific file storage capabilities shared between the two devices.

SCSI Data Storage For Your PC and Ensoniq TS-10/12

An important point to consider is the fact that converting your PC-compatible computer to allow SCSI capability will not automatically mean that your keyboard and the computer are now able to share the same formatted hard drive or related information. There is a very cost-effective method of using one removable drive with the two different "computers": since both the PC-compatible computer and the TS-10/12 have different operating system formats, it is possible to format a cartridge for each. However, there is another option as of this month.

Storing EPS and ASR instrument files to your SCSI Hard Drive

Late breaking news! There is a third-party software program on the way that will allow you to write, save, and configure your SCSI hard drive with EPS and ASR format instrument files. Giebler Enterprises is adding SCSI capability to their Ensoniq Disk Manager (EDM) software for IBM-PCs. The new features will allow TS owners to use their PC to copy their favorite sounds from diskettes and CD-ROM to a SCSI hard disk that can be read by the TS. Previously, an ASR was required to copy the sounds to the SCSI hard disk. With the EDM software utility, sub-directories can be viewed all at once instead of one file at a time. If your PC already has a SCSI interface with the appropriate software drivers, EDM can provide easy access to Ensoniq SCSI hard disks without purchasing any additional hardware. The new SCSI features should be available by the time you read this. For more information about the Ensoniq Disk Manager, call Giebler Enterprises directly at (610) 933-0332. ▬



Bio and self-serving plug: Anthony Ferrara has written for Electronic Musician, Recording, *and* Keyboard *magazines. He is still hard at work on some new "snappy ditties," and is playing concerts in the Philadelphia area. Call 215-742-0738 for concert info.*

Missing or Damaged Issues?

Every month we mail out thousands of issues and every month about a dozen get "misplaced" by the Post Office. If you're ever one of the winners of this lottery, just give us a call (503-227-6848, 8 am – 8 pm Pacific Time) and we'll be happy to mail a replacement copy — no prob. (However, if you accuse us of nefarious schemes to "rip you off," you will be offered a refund and given helpful subscription info for other musician magazines.)

Lightshield for Ensoniq Keyboards

Mike Kuk

You ever have this happen? You have everything set up — you know what you want to play — you look out at the audience, there on the lawn — they're ready and waiting (some skeptically, some with hearts aflutter). You push your buttons. You poise your hands artistically above the board. You look down and all you can really make out is a hellish glare from the display panel. Now what?

Occasionally I am called upon to perform at outdoor ceremonies and parties. I usually request that I and my instruments be placed in the shade, because the direct sunlight usually bleaches out the display — I cannot always get my way. Thus, the need for this easy-to-build device.

A shield of some sort would permit me to see the electronic display and provide a measure of security as to where I am going with my music. (I perform live with some sequencing of support parts.) I researched the keyboard accessory market and found that nothing was available but that I would keep my eyes open. And by keeping my eyes open (and cleaning the garage) I found a new, still-in-the-box air deflector. I believe I found the answer.

My original deflector was the 99-cent variety. I painted it black, glued it to the correct length, installed some Velcro(tm) on the flat edge, and put corresponding strips on my SD-1/32. It was great — until I dropped it from a height of about three feet. It shattered, and I knew it was time for Version 2...

Off to the store, and what I found was an "unbreakable" air deflector — the *Deflect-o* (available at most hardware stores, Target and K-Mart). Cost: $2.50. The better grade plastic allows it to fit snugly in its groves so gluing isn't necessary. I removed the magnets from the sides by gently pushing them out with a large flat-blade screwdriver. I also trimmed away loose flashing and filed and rough spots. It was ready for painting and Velcro.

I choose a high-quality automotive lacquer paint in flat/semi-satin black. I dusted the paint on at first, allowing it to dry between coats, and built up a nice finish. Do the underside first, then finish the outside.

I applied the Velcro strips and interconnected the two halves. The lacquer paint really burned or fused itself to the plastic, so even when you slide the cover to accommodate different size displays, there's no chipping.

Oh yeah, I dropped it again. It is very durable, flexible plastic. This is the answer for the traveling musician who encounters too much sunlight during outdoor shows. ▬

Bio: While not fighting fires, Mike Kuk has been performing professionally for over 30 years. He's played for several well-known country and rock artists and is currently using his SD-1 to support his Cajun work, play military ceremonies, and perform firefighter memorial services.

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.

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 most 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.

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		

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; their web site at http://www.ozemail.com.au/~elfa; or e-mail their resident clinician, Michael Allen, at 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 (Geoff Mason).

TS Questions – Pat Esslinger, Internet: pate@execpc.com, Compuserve: 74240,1562, or AOL: ESSLIP.

TS, VFX, and SD-1 Questions – Stuart Hosking, stuh@ozemail.com.au.

MIDI users and ASR-10 Questions – Ariel and Meiri Dvorjetski, Internet: s3761921@techst02.technion.ac.il, or dvorjet@techunix.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 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, Cinetunes. 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 MIDILINE 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.

And The Winner Is...

Sam S. Mims

Sometime ago, perhaps as far back as the Neolithic Period, I announced a *Hacker* contest based on my article "Programming for Peak Polyphony." We were in search of the patch that sounded the biggest and baddest in all the land, a patch which nonetheless used only one single voice of polyphony. The winner was to receive a coveted $25 gift certificate from Syntaur Productions. Finally, the panel of judges (myself and Todd Speer) has completed its daunting task of listening to the entries (too unnumerous to mention), and with those dancing melodies still in our minds...

Garry Wasyliw, please step forward! Thanks to your unbounded programming prowess, your limitless sonic creativity, and your mastery over those magnificent Malvern machines o' music, we are honored to present you with this token of our esteem, this symbol of our gratitude, this citation of our boundless respect and admiration. Ladies and gentlemen, Garry Wasyliw, an entertainer and a true humanitarian! (Well, we'll mail it to him.)

Garry lives in Regina, Saskatchewan (that's in Canada, eh?), and we'll nevertheless honor the gift certificate in U.S. dollars. We wouldn't think of doing otherwise, of course, even though it wasn't strictly stated in the contest rules which currency "dollars" referred to. (It will require an extra 8 cents to mail the certificate to this foreign land, however, which we'll have to smooth over with our accounting department.)

The runner-up is Kirk Slinkard, of Lakewood, Colorado. (That's suspiciously due south of Regina, eh?, both cities being just slightly east of 105 degrees latitude.) While Kirk's patch is more musically useful (it will be published in a future issue), we felt that Garry's concoction relied on more creativity in programming, so Garry got the nod. No bribes or extortion were encountered by the judges.

SUSPENCE is what Garry named his invention, and we decided not to deduct points for the spelling variation (must be a Canadian spelling, eh?). It is a TS patch that relies on five different voices playing in sequence. We tried to bust him on overlapping voices, which would have required a brief two voices of polyphony, but Garry came away clean. He cleverly used effects to smear the voices a bit, making them sound much bigger, and capped it all off with a celebratory key-up effect.

The Mod Mixer modulation of Voice 2's transwave adds a wonderful timbral effect. And both the Noise source (on Voice 2) and Envelope 1 (on Voice 3) were used to modulate pitch and add to the fun. Excellent job, Garry! ▬

TS-10 Hackerpatch

TS-10 Prog: SUSPENCE

By: Garry Wasyliw

WAVES	1	2	3	4	5	6
Wave	Crystal	Bell-Xwv1	Synthbell	Chifflute	Spinner-2	Off
Wave Class	Inharmnic	Transwv	Inharmnic	WindReed	Inharmnic	
Delay	0000	0341	1051	1461	KYUP	
MS Shift	+07	-	+00	+00	+00	
Direction	Forward	-	Forward	Forward	Forward	
SS Offset	00	-	00	00	00	
Modsrc	Off	Mixer	Off	Off	Off	
Modamt	-	+70	-	-	-	
Index	-	00	-	-	-	

MOD MIXER	1	2	3	4	5	6
Src-1	-	LFO	LFO	-	Off	
Src-2	-	Env1	Env1	-	Press	
Src-2 Scale	-	2.0	2.0	-	1.0	
Shape	-	Quant-08	Quant-08	-	Smoother	

PITCH	1	2	3	4	5	6
Octave	-1	-1	-1	+0	+1	
Semitone	+00	+00	+00	+00	+00	
Fine	+00	+00	+00	+00	+00	
Glidemode	None	None	None	None	None	
Glidetime	-	-	-	-	-	

PITCH MODS	1	2	3	4	5	6
Modsrc	Off	Noise	Off	Off	Off	
Modamt	-	+67	-	-	-	
Bend	Sys	Sys	Sys	Sys	Sys	
PitchTbl	System	System	System	System	System	
Env1	+00	+00	-31	+00	+00	
LFO	+20	+00	+00	+00	+00	

FILTER 1	1	2	3	4	5	6
Mode	LP/3	LP/3	LP/3	LP/3	LP/3	
Cutoff	052*	064*	*054	046*	087*	
Kbd	-15	-25	-25	-15	-15	
Modsrc	Off	Mixer	Mixer	Off	Mixer	
Modamt	-	+24	+24	-	+24	
Env2	+60	+75	+60	+46	+15	

FILTER 2	1	2	3	4	5	6
Mode	LP/1	LP/1	LP/1	LP/1	LP/1	
Cutoff	103*	097*	127*	127*	127*	
Kbd	-19	+30	+30	-15	-15	
Modsrc	Off	Off	Off	Off	Off	
Modamt	-	-	-	-	-	
Env2	+00	+00	+00	+00	+00	

OUTPUT	1	2	3	4	5	6
Kbd Scale	+00	+00	+00	+00	+00	
Lo/Hi Key	-	-	-	-	-	
Vol (db)	+05	-06	-06	-06	+03	
Modsrc	Kbd	Kbd	Kbd	Off	Wheel	
Modamt	+20	-20	-20	-	-84	
Dest Bus	FX1	FX2	FX1	FX2	FX1	
Pan	-38	-64	+00	+63	+00	
Modsrc	Off	Off	Off	Off	LFO	
Modamt	-	-	-	-	+99	
Voice Prior	Med	Med	Med	Med	Med	
Vel-Window	-	-	-	-	-	
Lo	000	000	000	000	000	
Hi	127	127	127	127	127	

LFO	1	2	3	4	5	6
Rate	60*	19*	19*	-	06*	
Modsrc	Veloc	Wheel	Wheel	-	Off	
Modamt	+20	+99	+99	-	-	
Depth	25	04	04	-	50	
Modsrc	Noise	Wheel	Wheel	-	Off	
Modamt	+10	+39	+39	-	-	
Waveshape	Sine/Tri	Sine/Tri	Sine/Tri	-	Triangle	
Restr Mode	Off	On	On	-	Off	
Phase	000	000	000	-	000	
Delay	05	05	05	-	00	
Noise Rate	08	94	94	-	70	

SELECT VOICE

00	1	2	3	4	5
0*	1		3		
*0		2	3		
**		2	3		5

ENV1	1	2	3	4	5	6
Attack	-	07	15	-	-	
Decay	-	16	40	-	-	
Decay 2	-	20	10	-	-	
Decay 3	-	25	00	-	-	
Release	-	50	50	-	-	
Peak	-	99	00	-	-	
Break 1	-	77	99	-	-	
Break 2	-	59	00	-	-	
Sustain	-	00	00	-	-	
Vel-Level	-	00	00	-	-	
Mode	-	Norm	Norm	-	-	
Vel Curve	-	Cnvx2	Cnvx2	-	-	
Kbd Track	-	+00	+00	-	-	
Vel-Attack	-	00	00	-	-	
Vel-Rels	-	+00	+00	-	-	

ENV2	1	2	3	4	5	6
Attack	17*	10*	08*	00*	00*	
Decay	20	11	40	45	35	
Decay 2	20	12	12	60	54	
Decay 3	20	05	05	70	50	
Release	20*	41*	41*	61*	61*	
Peak	99	99	99	99	99	
Break 1	85	65	65	90	99	
Break 2	62	99	99	75	75	
Sustain	00	00	00	25	80	
Vel-Level	25	59	59	59	59	
Mode	Norm	Repeat	Repeat	Norm	Norm	
Vel Curve	Linear	Linear	Linear	Linear	Linear	
Kbd Track	+03	+00	+00	+00	+00	
Vel-Attack	07	00	00	00	00	
Vel-Rels	+00	+00	+00	+00	+00	

ENV3	1	2	3	4	5	6
Attack	00*	00*	00*	00*	00*	
Decay	20	38	30	30	22	
Decay 2	15	00	00	50	50	
Decay 3	00	00	00	50	60	
Release	00*	00*	00*	00*	60*	
Peak	99	99	99	99	84	
Break 1	90	90	90	94	99	
Break 2	75	00	00	90	90	
Sustain	00	00	00	85	00	
Vel-Level	20	13	13	09	08	
Mode	Norm	Norm	Norm	Norm	Norm	
Vel Curve	Cnvx1	Cnvx1	Cnvx1	Cnvx1	Cnvx1	
Kbd Track	+08	+10	+10	+10	+10	
Vel-Attack	05	00	00	00	00	
Vel-Rels	+00	-09	-09	-09	-09	

PGM CONTROL (Page 1)

Type	Synother
Option	None
Press	Chan
Patch	Live
Restrike	50

PGM CONTROL (Pages 2 & 3)

Atck	+00	V1	+08
Rels	+00	V2	+08
Bright	+00	V3	+08
Timbre	+00	V4	+08
Rate	+00	V5	+08
XCtrl	+00	V6	+00

EFFECTS

Effect #	59 Pitch Shifter & Delay
FX1	PitchDDL=80
FX2	PitchDDL=51
V1 Semi	+00
V1 Fine	+72
V1 Level	99
V1 Pan	-99
V2 Semi	-01
V2 Fine	+11
V2 Level	99
V2 Pan	+99

EFFECTS (Cont.)

Delay Regen	-84
Time L	0213
Time R	0075
Mix	44
Dry Lead	99
Mod1 Src	Off
Min	-
Max	-
Mod2 Src	Off
Min	-
Max	-

DP Stuff

Other Types of Reverbs

Ray Legnini

In this installment, we are going to explore two of the other reverb types available in the DP/4. Of course, this also applies to the DP/4+ and the DP/2. The DP/4 has Reverse and Gated algorithms available in addition to the standard complement of halls, rooms and plates. As usual, you'll need to set up your sound system with the DP/4 being monitored in stereo. A mono send from your sound source or console will be sufficient. Hook that up to Input #1. Again I'll suggest that you use a sequencer for sending test material into the reverb to allow hands free tweaking. Select the Config "Select 1U Presets," #52. Now hit the Unit A button to select the first preset for our experiments today.

breveR esreveR

The Reverse Reverb algo, found in ROM at #55, employs an envelope generator similar to those found in a synth. (Sometimes called an "ADSR," for *Attack, Decay, Sustain* and *Release,* or an "ADR" if the envelope has no dedicated Decay segment.) In this case we have an Attack, a Hold (the Sustain portion) and a Release. So, that means that we have an ADR; there is no Decay segment in the DP/4 envelope. If you understand programming a synth envelope, then you are well on your way to mastering the reverse reverb in the DP/4. Here's how it works: When your signal crosses the *threshold,* the envelope begins. This fades in the reverb according to the time you set for parameter #04, *Rev Attack.* The envelope then proceeds as it would if it were in a synth. It goes to the next stage, the *Hold Time,* again another user defined time. After this time has passed, the envelope immediately goes into its *Release,* which is parameter #05. This may sound like a long amount of time, but remember, these times are in milliseconds.

While reverse effects are great on drums, don't rule out this algo for other creative purposes. If you need an eerie vocal timbre, try sending the vocal into Reverse Reverb, with an envelope set up to complement the tempo of the music. This can be done by setting the times to the numbers you get from a Beats to Milliseconds conversion chart or by the "divide the tempo into 60,000 method." [Divide 60,000 (one minute's worth of milliseconds) by the tempo to get the value of one quarter note in msec. Then divide or multiply that number as needed to get other musical note values.]

Suppose your music is at 100 BPM. Simple division says that one quarter note equals 600 msec. We'll use the value for an eighth note, 300 msec. Go into edit mode by hitting the EDIT button. Enter this time into the parameter values for *hold time, attack* and *release.* Set parameter #06, Reverse Trigger Threshold, to -30db for starters. Change the level on parameter #12 to "00." This will eliminate the slapback delay effect also present in this effect algo. Play some parts into this effect. Vocals take on a spooky quality; drums and percussion have a techno edge to them. Move the value of the threshold, #06, lower (around -50 dB) and try some sustained guitar chords. The effect will trigger multiple times as the guitar decays to below the threshold. Experiment further with the setting of the threshold parameter while a test sequence is playing. This will need to be tweaked to give the desired result according to the context of the part being sent to the DP/4.

Gated Reverb

The gated reverb effect has been popular for a number of years. Some guy named Phil used it on his tunes. It caught on. The old fashioned way to make gated reverb was by applying a noise gate to the output signal of an analog plate reverb, thereby drastically and abruptly shortening the reverb decay. The same concept lives in the DP/4, but in one algorithm. You need to understand that there are two independent components here, too, just as in the version above. From the Reverse Reverb explanation above, you should understand the concept of an envelope's hold and release times. A similar thing happens here. We have two parameters that you would typically adjust to taste after calling up this reverb: *Hold Time* and *Release Time.* Call up preset #57. While playing a percussive source into the DP/4, move the value of parameter 06, Release Time, from its minimum of 1 msec (very abrupt) to 400 msec (smooth decay, like a short plate reverb). Set this back to 100 msec. when you're done. Do the same exercise while moving parameter #04, Hold Time. The tempo conversion tips from above apply here as well. A Hold Time of 250 msec and a Release Time of 50 msec would be relevant to a tempo of 120 BPM; try it. Save your edit!

That's all for this installment. Send in a cool patch, maybe we can publish it in a future *DP/4 Hackerpatch.* ▬

Bio: Ray Legnini is the former President of Brazil. He now works as a sound jockey at the Ensoniq factory in Malvern.

Bargain Bassment

Robby Berman

Product: *The Bass Appetiser* — 98 synth bass samples on audio CD.
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From: XLS FOOD, Total Recording Studio, Saars 99, CH2000 Neuchatel, Switzerland, phone: 01141 38 240804 (voice) and 01141 38 240971 (fax). Distribution for the U.S. is being worked out. In the U.K., contact Time + Space.
Price: $99.95 US.

I've been writing *Hacker* reviews of sounds and samples for quite a while now, and a pattern has emerged. Most sound sets come with a little introductory note explaining that this particular set was put together because nobody else had ever done the job right and the creators felt that they better just do it themselves (in one of those Escherian twists our universe is so fond of, one might come to the conclusion that all of these sound designers are implicitly insulting each other). By now, I've learned that most of these introductory notes lead to sounds that are perplexingly un-unique. Ah well. So here comes another, *The Bass Appetiser* (sic), from Switzerland's XLS Food (X-tra Large Sampling), an audio CD with a library of synth bass sounds. Usual introductory justification ensues, but, wait — lookit all this stuff. Can you spell "comprehensive?" (um... "c" ...uh...)

I think it's safe to say, if you're into synth bass and don't mind doing your own sampling, you're gonna like *The Bass Appetiser*. It's a $99.95 collection of 98 synth basses taken from a variety of sources: JD 800, Jupiter 8, Prophet 5, DX-7, WaveStation, CS-70, K2000, Matrix 12, SH-101, Oscar, MiniMoog, XB-2, Microwave Waldorf, MKS-50, Prophet 600. There are also samples taken from the ASR and Akai S-3200, themselves samplers (paging Mr. Escher, paging Mr. Escher...).

Most of the basses here are in mono. The stereo imaging in the 10 or so stereo basses is often pretty subtle, though there are a few that are very stereo. Of course, most of the time, mono bass sounds are what you're going to want.

The basses provided range from tubby to ripping to weird to buzzy to tasteful. Some of the sounds have a resonant filter component.

The Good News

Well, there's a lot to say in this category.

One of the pitfalls in sampling synths is that they're such noisy old cusses. The bass sounds here have been intelligently massaged using the latest Mac tools, like Digidesign's DINR (As in "someone's in the kitchen with?" Or is it, "Gee, I wish it was time for...?"). The sounds wound up about as quiet as they can be without losing their intended edge.

One of the things I like best about *The Bass Appetiser* is that most of the basses are multisample-ready, which is to say that XLS Food offers between 7 and 11 different pitches for each sound, at intervals of 4 or 5 semitones. This means you don't have to stretch notes beyond recognition as you play up and down the keyboard, and it makes looping really easy. Synth bass sounds usually work well with short loops late in the sample, but the catch is that loops that sound good on one end of the keyboard may sound lousy on the other. Multisampling spares you this dilemma, since no sample has to be stretched more than a few notes in either direction, and loops can maintain their sonic integrity. XLS has also done an excellent job in matching the multisamples — as you move around on the keyboard, you've really got to listen very carefully to perceive that you're moving from one sample to another. Good job, XLS.

As far as getting these puppies into your sampler, well, that's also a snap. The reason that there are only 98 samples is that number 99 is an alignment tone. Play this track into your sampler to set your input level so that the peak light is just flickering, and all the samples should arrive at usable levels. I found it easy to set the threshold on my ASR sampling input screen so that I didn't have to trim the note attacks at all.

The variety of samples offered is quite good. It's hard to imagine a usable synth bass stone XLS Food has left unturned. Some of the sounds differ from each other only in subtle ways — perfect for synth bass aficionados. And there are some low lows here, too. One of the sounds was so deep, it slipped right past my Sony MDR headphones; I could only tell it was there by the valiant efforts the little

diaphragms were obviously making to pass on some sub-sonic secret they were being told. My speakers confirmed that this wasn't just my imagination — they produced the missing notes.

The Bad News

The bad news is that there's no bad news. Sorry (oh, wait, is that more good news?).

A couple of thoughts about the booklet included with the CD. All the samples are clearly listed by name, along with XLS' guesstimate as to what style of music they're appropriate for, number of samples for each sound, the pitches of those samples, their source and their mono or stereo nature. This all helps make the sampling process easy to manage. The booklet is written in a freewheeling, humorous style that fails to quite make the leap into the English language intact. Oh well, so few of us are even fully mono-lingual; how can one complain? It is kinda odd that the Welcome section comes at the back of the booklet, but I'm picking nits here (and, my, they are tasty).

A note for church-oriented samplists interested in this set: some of the language here is a bit street. It's not something that would bother most of us (potty mouths that we are), but you may be a bit put off by it.

Conclusion (you saw it coming, didn't you?): *The Bass Appetiser* is a great deal if you're the type who rumbles at the sound of synth basses. There's a large selection of high-quality, easy-to-sample sounds, at a very reasonable price. Actually, it's downright cheap, given how much time and effort *The Bass Appetiser* must have taken to put together. And no sound designers should be able to whine about not being able to find synth bass sounds anymore. This is one appetizer that leaves you completely sated. ▬

Bio: Though he may be just too darn winsome to say so himself, Robby Berman is a musician living in upstate New York. His latest magnum opus is "Rings and Rings."

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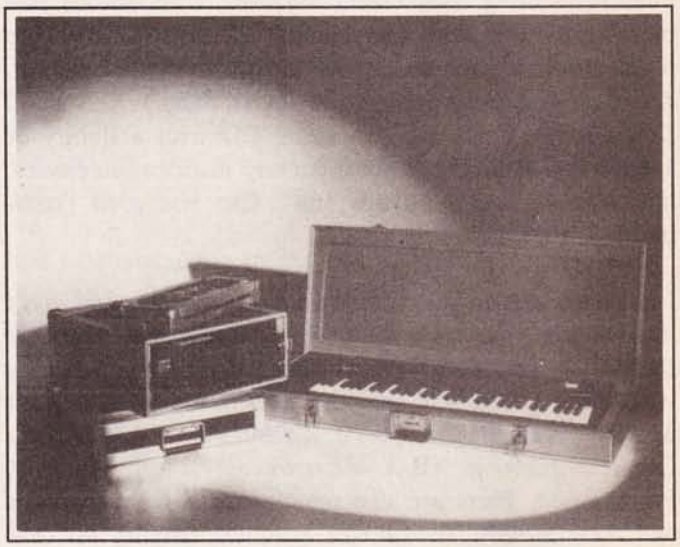

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Loop Modulation for the EPS/ASR

Jack Schieffer

Back in the January 1995 issue (TH #115), I wrote an article about creating and using transwaves on your EPS/ASR sampler. The transwave is a way to put changing timbres into your sounds. As an outgrowth of that experimentation, I learned about another way to add sonic movement to your Ensoniq sampler. Once again, we will be using those wonderful, wacky, wave modulation parameters on the Edit-Wave page. This time, however, we will switch from transwave modulation to modulation of the Loop Start variety.

Basically, this type of modulation moves the loop start closer to the loop end, shortening the loop and changing the sound. Normally, monkeying with the loop length would wreak havoc on the pitch of a short loop, but the Ensoniq engineers thoughtfully included a feature that can maintain the proper pitch. As the loop gets shorter, the shape of the wave changes and creates a different timbre. Using this function can add a lot of life and energy to an otherwise static sound.

An Example

The initial step is to find a sample to work with. I am using the OB-8* instrument from the Essential Sound Disks that came with my EPS-16+. First, you will need to disable Auto-Loop Finding on the Edit-System page. In the OB-8* sound, the 00 patch select consists of one wavesample on Layer 1. Select that sample and go to the Edit Wave page. Set these parameters:

Sample Start = 8221 (14)
Sample End = 8788 (15)
Loop Start = 8446 (14)
Loop End = 8595 .63 (15)

You might want to eliminate the unused layers (2,3, and 4) to save memory. Use the Delete Layer on the Cmd-Layer page. You can also use the Truncate command (on the Cmd-Wave page) to eliminate any unnecessary data. Leaving a little bit of data before and after the loop seems to help prevent weird noises when you modulate the loop.

These settings give us a "short loop," a sample in which the pitch is determined by the length of the loop rather than by the pitch of the underlying sample. If you don't have the OB-8* sound, just about any sound will do. Merely slice off a small section of the wave data to serve as your short loop.

The parameters for loop modulation are on the Edit-Wave page. Set WAVE MOD TYPE = LPSTRT-X. For now, set the SOURCE = VEL. Now we can use keyboard velocity to modulate the loop start to shorten the loop. An important factor in this technique is to set the proper range and amount of modulation. Too little means we can't hear any changes; too much will result in a nasty sound. I used WAVE MOD AMOUNT = +25 and RANGE = 512 with the OB-8* sample. For other samples, you will just have to play around with the settings until you find something that sounds good.

Now try playing a few notes, some hard and some soft. The sound should get brighter as you play harder. As the loop start gets moved, the shape of the wave changes, resulting in different overtones and and a different sound. With a little work, we can turn this into an even better sound.

Making It Better

Let's turn this example into a synth-bass type of sound. The amplitude envelope is set to a full-on organ default. To make it more bass-like, go to the Edit-Env 3 page and set these parameters:

Hard Vel	00	99	99	00	00
Soft Vel	00	75	75	00	00
Times	01	04	50	00	10

2nd Release = 40 Level = -29
Soft Vel Curve = Vel

Next, go to the Edit-Filter page and set these parameters:

Mode	F1 = 3/LP	F2 = 1/LP
Cutoff	F1 = 90	F2 = 90
Env 2 Amt	F1 = +0	F2 = +0

F1 Mod = Wheel * +30
F2 Mod = Wheel * +30

This gives you additional control over the sound by using the mod wheel to brighten and darken the tone. If you

prefer to keep both hands on the keys, you can substitute the CV pedal or perhaps assign the LFO to modulate the filter. You may want to employ the well-used but effective trick of copying and detuning layers to fatten up the sound.

As always, be sure to save your work. When you do, you should be pleasantly surprised at the block size (if you deleted layers and truncated earlier).

What Next?

Up to this point, we have focused on using keyboard velocity to alter the sound. You should experiment with other modulation sources: pressure/aftertouch, mod wheel (turn off the vibrato first), LFO, and so forth. Try using other samples for the basis of your sound. You'll get the most predictable results using short loops or "synthesizer" waves like sine, sawtooth, etc. Try other envelope and filter settings to get different types of sounds (strings, bells, and so on). The envelope templates provide an excellent starting point.

Hopefully, this look at one of your sampler's "synthesis" functions will inspire you to delve into programming your sounds. One of the biggest complaints about samplers is that sampled sounds have little life. Well, with your Ensoniq sampler, you can program some expressive touches that will knock the socks off even the worst critics. ▬

Bio: Ackjay oveslay ishay PSEhay.

Sampler Hackerpatch: Industrial Bass

Tom Shear

In earlier columns, we have explored many ways in which to feed your sampler new sounds without shelling out a lot of your hard-earned cash. This month, we'll look at a way to turn the EPS-16+ factory sound "Rock Steel" into a metallic, industrial bass sound worthy of the classic PPG synths.

1. Load up the sound "Rock Steel" from disk #ED-010.

2. Next, press COMMAND-INSTRUMENT and select CREATE NEW INSTRUMENT. Follow this by pressing COMMAND-LAYER and selecting CREATE NEW LAYER, to make the first layer in our new instrument.

3. Now, select the "Rock Steel" instrument again and hit EDIT so you see the ROCK STEEL LYR=1 WS=1 page. Press middle C on your keyboard and you should see the WS number change to 14. Once you have wavesample 14 selected, press COMMAND-WAVE and choose COPY WAVESAMPLE. Copy wavesample 14 to layer one of our new instrument. Select the new instrument. This wavesample is now wavesample 1 of our new instrument.

4. Hit EDIT-PITCH and hit the left arrow button once so you see the WS RNG page. Play the lowest and then the highest keys on your keyboard. We are telling the EPS that we want the wavesample to cover the whole range of the keyboard. Press the right arrow button and set your ROOT KEY to B4.

5. After you've done this, go to the filter section by pressing EDIT-FILTER. Press the right arrow button once to get you to the CUTOFF page. Set both values to about 30. Hit the right arrow key once more so you see the ENV 2 AMT page. Set both values to +99.

6. Press EDIT-ENV 2. Scroll with the right arrow key and set the TIMES values so they read: 21 11 0 0 0. Scroll right again until you see the SOFT VEL CURVE and set it to VEL.

And there you have it. A new bass sound in 6 easy steps. You may want to play with the ENV 2 values until you get a response and envelope that suits your playing style. Other suggestions: hit EDIT-WAVE and change the SMPL START value to 1. This will take some of the edge off the attack. Also, try copying this layer and changing the fine value on the EDIT-PITCH page to get some fat chorusing effects. Or, try copying the layer and moving the root key of the 2nd layer up or down and octave... the possibilities are endless. Hopefully this'll get you thinking a little harder about what other cool sounds are hidden among your factory disks. There's gold in them thar disks! Happy hunting! ▬

Bio: Tom Shear edits television commercials for a living. But don't hold that against him.

Optimizing *Your* Synthesizer Palette

Pat Finnigan

IMHO Ensoniq keyboards are the most over-engineered and underutilized creations I've ever had the fortune of making acquaintance with. From the early days of the Mirage, with answers like "Wow, I didn't know you could have four instruments in a keyboard half!" to "Geez, is *that* what those patch buttons do?", Ensoniq remains a very polarizing influence in the market. And so much of the core synths (SQ and VFX variants) *still* remain so unexplored, I thought I drop a few hints to optimize these greatest of the Ensoniq line.

(A) Get a RAM card! Regardless of whether your synth has a disk drive or not, you're sure to nuke some very flave sounds just overwriting with your edits. And even if you've got them backed up on disk, how productive is it to save and load "single patch" files? At my age, time is 3X money, and your's ain't getting any cheaper, either. Spring for a cart, copy RAM or Internal patches to it, *then* edit away. The rationale for all of this, besides the above, is...

(B) Organize your sounds! Nothing gets me so @#$%^& mad as loading a "Sound & Seq" file, only to find I didn't save my latest and greatest patch edits with the sequence. And yes, up until I got comfortable with the instrument did I realize how to do it. It's funny how I didn't have a problem quasi-memorizing the patch locations on my SQ-1: it isn't so funny how I can't locate a similar sound in my SD-1 since *six* patches change each button press; synaptic flatulence. Group these sounds together so you can easily find them: pianos in one bank, basses in another. Especially if you've got a computer, because you should...

(C) Map your sounds! Follow a consistent slate. Nothing is more frustrating than the bass track on channel #2 on track 4 jumps to channel #4 on track 6 from Seq 2 to Seq 3. And there's no excuse for it. As if the instrument wasn't busy enough, here you are jumping patches and channels mid-tune, not to mention the FX track assignment nightmare this creates. This also pertains to "local-MIDI-both" assignments; that's a *very* wonderful surprise when some outboard MIDI gear decides to chime in for no apparent reason in the middle of a performance. Keep your slate consistent from track to track, sequence to sequence. You probably know how long it takes to set a recording date up and get things right; imagine your Ensoniq doing that much work between sequences. Give it some processor headroom and follow consistent track and channel assignments. Work with Windows's MIDI Mapper for a coupla hours and you'll come running back to your synth to, of all things, make some music.

(D) Squeeze that polyphony! Not everybody has one of the new 64-voice wonders (I sure don't), so if you're still grinding away on your 21 or 32-voice variant, disable some of those extra waves you don't use. You'll have to edit the voice off to return it to the polyphony pool, as a patch reserves the wave whether you use it or not. True, it can be "stolen" if max polyphony is reached, but that's *exactly* what you're trying to avoid. Learn to use the FX to fatten up single-oscillator sounds; after all, that's what the competition is doing. Guess who they learned it from? I've gotten away with 18 oscillators for full-size (16- piece) dance band charts, and although the sax section doesn't sound exactly like six saxes, it sure sounds like a credible four reeds if you apply judicious chorus. And it's the illusion of a sax section that's credible.

(E) Add RAM! If you're fortunate enough to be doing the TS-thing, you've got the absolute best of both worlds; wavetables and blank wave space. Use that blank wave space and load up on RAM SIMM modules for high-calorie sounds. 1 Meg SIMMS are below $30 in the back 30 pages or so of MacWorld and MacUser, so get busy. Even if just to load effects, get some. Your perspective of drum kits will *never* be the same.

There you have it in a nutshell. Assuming you have the normal stuff like the sustain pedal and a CV pedal, these few hints will go a long way to realizing your musical whims in shorter time and greater flexibility. Coming soon: hints for the tre' loopers... ▬

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

How Sounds Work

Part XV: Trumped on Trumpets?

Mark Clifton

I've only played two instruments in my life with any sort of assurance: trumpet and keyboard (wouldn't it be ironic if, after all this writing and programming, I actually couldn't play a single note on the old black and whites?). Brass gradually lost out over the years to plastic and circuits when I found out about all the cool, instantly gratifying sounds I could create on a synth. Great compositional tool, too. Also didn't have nearly the practice curve that a trumpet did. Push a button, get a sound. Wind instruments usually require years of intense practice just to develop a good tone. All the notes were there, fingerings and scales the same for every octave. Skill and practice still required, but at least a lot of those initial bumps were ironed out. I, in the complete laziness and comfort of my basement studio, could be a one-man orchestra and create music and sound all of my own without having to know anything about either.

Actually, I've learned quite a bit over the years thanks to my trusty SQ-1, much of which is directly responsible for this series. I also learned a lot from my horn blowin' days, especially about the soul of the acoustic instrument. It would seem natural, then, that to this day I would be picky about my trumpet sounds. I like to think that I'm picky and critical about all my sounds, as a programmer should be, as a musician should be. But having held and known the instrument I can say that I feel an enhanced kinship with its particular voice. When I play a synthesized trumpet, I blow it. The keys become valves, circuitry becomes brass tubing and slides. At least that's how I want it to feel. It's a bit harder than that, though, especially given the quality of sampled trumpet wave data we have to work with in our SQ's, or most other synths for that matter. When's the last time you heard an artificial solo trumpet sound that really blew you away, that fooled you, that excited you? You've probably heard more outstanding synth saxes in your life than trumpets! Why? Who knows. Brass always seems harder to imitate than you think. Perhaps it's the failure to capture overtones and hidden nuances or the sheer power of the instrument in the sampling process. Maybe it's a lack of interest on programmers' parts. After all, people rarely use sampled trumpet voices. They spend all that development time on better piano sounds, for god's sake!

Whatever it is, I've done my best to crack at least some of the secrets of the instrument and have programmed "Solo Trumpet 2," which I will now proceed to dissect. (A little progress has been made since *Part VII,* which also dealt with brass and featured some nice trombone and trumpet section patches, so I invite you to refer back to that issue as well.) As usual, complete magical realism is not guaranteed, though expressiveness and usefulness in a musical context is. Also, feel free to customize any of the features of this patch to your own taste. Musicians often spend a great deal of time and money customizing their instruments, so you can at least tweak a few parameters to optimize your synth patches!

We'll start with the Wave section, as usual, and work our way up the signal path to the effects (or from left to right if you follow the buttons on the panel). Waveform choice was a completely obvious one, though expanded types can plug in the Muted Trumpet expansion wave for an incredibly groovy harmony-muted sound that would resurrect Miles himself with only a minimal amount of tweaking. For now, though, just the good old Solo Trumpet wave. I rambled a bit about the mysterious and oft-neglected Voice Restrike Decay Time parameter a bit last time, warning folks to listen carefully in selecting an optimum value. Too little and rapidly repeated notes will choke. Too much and they'll ring. Well, a cool little tip I discovered in the process of programming this month's sound: if you want a completely neutral response to this parameter (i.e. no ringing or clipping), set it to a value equal to that of your AMP envelope's release time. That simple. Tested it briefly and unscientifically, and it seemed to work out in every case. Since this patch's release value is 17, so is its Restrike Decay Time.

All is normal in the Pitch section, with a hint of LFO mod for vibrato and Glide set to Retrigger for monophonic operation (turn it off if you want to play chords). Envelope 1 provides a very discrete parabolic pitch blip (I've found that brass instruments usually sound better with parabolic blips, while woodwinds should follow a straight downward ramp). The rest of the LFO vibrato is in the filters, since brass vibrato, like that of all other wind instruments, is mostly a modulation of timbre and not of pitch. The LFO is controlled by the modwheel and is set to a fairly fast sine wave shape with the retrigger on. Standard Wind Instrument Vibrato is explained in past installments of this

series. Speed is fully customizable to your own specs, of course.

The filters were programmed for maximum velocity response and a full, brassy tone. Cutoff is nearly completely controlled by Envelope 2. The envelope has a slightly soft attack that, due to an Attack Velocity value of 06, quickly goes to maximum level when velocity is increased. The original sample's attack was realistic enough that I saw little reason to alter it extensively with the envelopes. Too much and it would have had that awful synthy "whaaa" attack that ruins so many brass sounds. In programming the envelopes remember that a trumpet's attack sounds just like its name — trum-pet — a "tah" attack followed by a release of spit and a sustain. The release of the note is accompanied by a closing of the jaw, exactly the opposite motion as the attack, so it is equally crisp, with no undue ringing. The envelopes do decay slightly over time as our player, though completely theoretical and artificial, is still human and will run out of breath. Level Velocity on Envelope 2 is extremely high, making lower velocities very dark and muted and high ones bold and brassy, allowing a complete range of timbre under your fingertips. It is very important to change this parameter to match your playing style comfortably. Too much velocity sensitivity in a sound combined with too much heaviness in a player's touch and the inconsistent response can get downright annoying, as well as just plain unmusical.

Absolutely nothing remarkable in the Output section. Reverb, as with last month's patch, is applied very sparingly. After all, it's the subtleties of the sound we're trying to showcase here, not the effects. Any obscene effecting is better done in the privacy of your own home. Actually, the obscenity is being saved for the next installment, when we'll learn how to grow, like slimy alien triffids, like squirming sonic sea monkeys burping forth from the pulsating, electrical-taped cones of your speakers, truly awful and offensive analog sounds. ▬

Bio: Mark Clifton has holed himself up at Virginia Commonwealth University as a Communications Arts and Design major. When not drawing naked people and obsessing over typefaces he's studying the fine art of jazz and blues (in addition to the occasional industrial refresher) and reading all the French literature he can get his hands on, despite the fact that he still can't speak a word of the language.

Prog: SOLO TRUMPET 2

By: Mark Clifton

WAVE	1	2	3
Select Voice	On	Off	Off
Wave Class	Brass		
Wave	SoloTrumpet		
Delay Time	000		
Wave Direction	Fwd		
Start Index	00		
MODSCR	Off		
MODAMT	-		
Restrk Decay	17		

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

ENV1	1	2	3
Initial	00		
Peak	40		
Break	00		
Sustain	00		
Attack	11		
Decay 1	12		
Decay 2	00		
Release	99		
Vel-Level	00		
Vel-Attack	00		
Vel Curve	Lin		
Mode	Finish		
KBD Track	+00		

LFO	1	2	3
LFO Speed	36		
Noise Rate	00		
Level	00		
Delay	00		
MODSRC	Wheel		
Wave	Sine		
Restart	On		

FILTER	1	2	3
Filter 1	3Lo		
Filter 2	1Lo		
FC1 Cutoff	009		
ENV 2	+99		
FC1 KBD	-16		
MODSCR	LFO		
MODAMT	+21		
FC2 Cutoff	002		
ENV2	+76		
FC2 KBD	+03		
FC1MOD-FC2	On		

ENV2	1	2	3
Initial	72		
Peak	99		
Break	99		
Sustain	99		
Attack	03		
Decay 1	31		
Decay 2	29		
Release	16		
Vel-Level	53		
Vel-Attack	06		
Vel Curve	Conv		
Mode	Norm		
KBD Track	-42		

AMP	1	2	3
Initial	99		
Peak	99		
Break	92		
Sustain	85		
Attack	09		
Decay 1	05		
Decay 2	70		
Release	17		
Vel-Level	40		
Vel-Attack	00		
Vel Curve	Conv		
Mode	Norm		
KBD Track	+14		

OUTPUT	1	2	3
VOL	99		
Boost	On		
MODSRC	Off		
MODAMT	-		
KBD Scale	+00		
Key Range	A0-C8		
Output Bus	FX1		
Priority	Med		
Pan	+00		
Vel window	>000		

EFFECTS — ROOM REVERB	
FX-1	32
FX-2	25
Decay Time	36
Diffusion	33
Detune Rate	32
Detune Depth	12
HF Damping	53
HF Bandwidth	99
LF Decay	+07
MOD (Dest)	Decay
BY (MODSRC)	Modpedal
MODAMT	-99

Hacker Reinitialization

Newbie's Corner

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 (KSs and KTs in particular — and he's checking 'em for freshness), so here we go...

Synthesis and the SQ Series

Clark Salisbury

In this installment of our continuing SQ-1 series, we'll be dealing with acoustics, synthesis theory, and the basics that you should know in order to create your own sounds. And we'll try to keep doing enough hands-on stuff,too, to try to keep things interesting. But first, the fundamentals.

Sound Principles

Simply put, sound is a fluctuation in air pressure which has both a positive and a negative component. This pattern of positive and negative fluctuations in air pressure could be compared to the ripples on the surface of a pond into which a stome has been dropped; perhaps this is why we think of these air-pressure fluctuations as "sound waves."

Within these sound waves is all the information necessary for us to determine what kind of a sound we are hearing and where it's coming from. If we could separate these sound waves into their component parts and understand how these parts work together, we'd have a pretty good basis upon which to develop a general theory of synthesis. Fortunately, understanding sound in terms of its components isn't difficult.

The Characteristics Of Sound

We can think of sound in terms of four basic components; pitch, timbre, direction and ambience.

Pitch tells us whether a sound is high or low, or whether a note is a "C#" or a "Bb." Timbre is the textural character of a sound (it is timbre that allows us to distinguish whether the "C#" we hear is being played on a piano or on a violin). Of course, sound does not exist in a vacuum, so we must also take into account the direction that a sound is coming from, and the ambient space in which a sound occurs.

Pitch

Pitch is perhaps the easiest of these components to recognize. It is pitch that gives us melody and harmony. But how is it that we are able to distinguish between various pitches?

If sound waves are consistent and repetitive, we will perceive the sound as pitched. In other words, if the vibrations occur regularly, (for example 440 times every second), we can say that the sound has a pitch — in this case a pitch of A above middle C. We express the speed at which a sound wave vibrates in terms of its "frequency"; that is, how frequently a sound wave repeats itself over a given period of time, usually a single second. We have a term for this: "Hertz" (usually abbreviated to Hz). So when we say a sound wave has a frequency of 440 Hz, we are saying that the sound wave is repeating at a rate of 440 times every second. The range of human hearing is generally thought to be from 20 Hz to 20 kHz (kHz being the abreviation for kilohertz, or thousands-of-hertz), although these numbers will differ from one individual to the next.

Now 20 kHz may seem like a lot of Hertz to deal with, but it's not really, especially when you consider that a linear change in a sound's pitch corresponds to an exponential change in a sound's frequency. In other words, the pitch that we call A above middle C has a frequency of 440 Hz. But the A one ocatve higher (the next A up on the piano keyboard), has a frequency twice that of the lower octave, or 880 Hz. At two octaves up the frequency is quadrupled, giving us get 1760 Hz (440 Hz x 2 x 2). Continuing up, we'll find the octaves at 3520 Hz and finally at 7040 Hz, which is the highest A on the piano keyboard. And this is only about an octave and a half lower than the highest pitch that humans can (theoretically) hear.

Going down in pitch, starting with A 440 Hz, the next lower A is at 220 Hz. The next octave down yields 110 Hz, then 55 Hz, and finally 27.5 Hz. At these frequencies we're again reaching the limits of human hearing. Frequencies lower than this will be likely be perceived as rumbles rather than pitched sounds.

Timbre

The sound of a flute is obviously different than that of a guitar. How is it that we can tell the two sounds apart? It is timbre, mainly, that provides us with the necessary clues. Timbre is the basic textural substance of a sound. Is the sound dark or bright? Is it fat or thin? Is it "woody" sounding or "nasal" sounding? All these qualities come under the general heading of "timbre."

Think of timbre as the product of a sound's overtones (the frequencies of individual elements contained within a sound) and the amplitude envelope (volume shape) of each of these overtones. When you play a note on a guitar, for example, the complex sound you hear will be composed of a number of individual frequencies. The one that you hear as being the pitch of the note ("A" at 440 Hz, for example) is called the "fun-

damental"; it is the fundamental frequency of the note that you've played. The other frequencies contained within the sound are called "overtones" because they are generally higher in pitch than the fundamental. The interesting thing is, you don't hear the overtones individually; taken together, though, they make up the tone of the sound you hear, in perhaps the same way that you perceive the mixture of red and yellow as "orange," and not "red/yellow."

Overtones often have a harmonic relationship to the fundamental frequency. This relationship is easily described in terms of simple multiplication — each harmonic in a series is the product of the fundamental and its position in the series. Simply put, multiply the fundamental by two to find the second harmonic; multiply the fundamental by three to find the third harmonic; and so on. For example, if our fundamental frequency is 55 Hz, the 2nd harmonic has a frequency of 2 times the first, or 110 Hz. And the 3rd harmonic has a frequency of 3 times the first, or 165 Hz.

Some harmonics, however, have little or no relationship to the fundamental. These are called "non-harmonic overtones." Others may be lower in frequency than the fundamental; these are called "sub-harmonics." The point, though, is that it is the combination of the fundamental and its harmonics that provides a sound with its basic texture.

There are other factors which determine a sound's final character besides the presence of any particular grouping of overtones, though. The loudness of each overtone and how its loudness might change over time are also important factors.There is a form of synthesis designed to let you specify all these variables when creating a sound; it's called "Additive Synthesis."

Additive Synthesis And The Sine Wave

Since "sound wave" doesn't really sound very scientific anymore, we like to call an individual sound a "waveform" nowadays. The simplest waveform is the sine wave; it has, theoretically, no overtones at all, just a fundamental frequency. It has a very pure sound, like a mellow flute or whistle. There's a couple of nifty tricks we can do with sine waves, but first we'll need to create a simple program in the SQ-1. We can think of this as an "Initialization Program"; it will have most of the basic parameters that we'll be dealing with "initialized" to straightforward values. This will also insure that we're all working from the same place.

First, select ROM program #34 on the SQ-1 — it's called "Organ 4." Press the [Edit Sound] button, and you should find yourself at the "Edit Voice=XX" page. If not, press the bank 0 button and, if necessary, scroll until you reach this page. Continue scrolling until the voice that's showing (probably "Voice 1") begins flashing, and change this to read "Edit Voice=ALL" (using the slider or up button). The lower line of the display should be showing all three voices on; this is indicating that all three voices are active in this program.

Press the "Pitch" button (the bank 1 button) and scroll (if necessary) until the value next to "Oct=XX" begins flashing. Use the data slider to set the value to "+0."

Here's an important bit of information: You may be tempted to use the up/down arrow buttons to make this parameter change, but don't. When you are editing more than one voice at a time (as we are here), moving the data slider will set the value for the current parameter to the same thing for all voices before affecting any change. In other words, if you have two voices tuned an octave apart — say, one at "+1" octave and one at "+2" octaves — moving the slider will set them both to the same octave before changing the octave. You'll end up with both voices at "+3," or "-2," or whatever value you settle on. If, however, you use the up/down buttons to change values, the values for both voices will be incremented and/or decremented the same amount. In other words, we'd end up with our voices tuned to "+2" and "+3," or "-1" and "+0" in this example. They'd be tuned higher or lower, but they'd still have the same relationship to each other; they'd still be an octave apart. Since what we're after here is to get all three voices tuned to the same octave ("+0" in this case) we need to use the data slider.

At any rate, what we have accomplished so far is to set all three voices to the same octave. Next, scroll once to the right to select the "Semi=XX" parameter and use the short-cut (pressing the up and down buttons simultaneously) to set its value to "0." This might seem strange since the value showing is already set to "0" but remember that you're only seeing the value for one of the three voices. We can make sure that all three voices are set to "0" by choosing that parameter now, while all three voices are selected for editing. And for the same reason, our next move is to scroll once more to the right to select the "Fine=XX" parameter and use the short-cut to set its value to "0" as well.

Next, we'll want to move to the filter menu, so press the "Filter" button (the bank 4 button), and if you're not already there, scroll to the filter mode page (this is the page that shows "Filter 1=XX" on the upper line of the display, and "Filter 2=XX" on the lower line). Use the data slider to change values here until the display shows "Filter 1=3LoPass Filter 2=1LoPass." Do this even if the display is showing these values already; remember, we're only seeing values for one of the three voices, and

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we want to make sure that they're all set to the same thing. Now scroll to the right until you see "FC1=XX" in the upper line of the display. Set the value here to "127," all the way up. Continue to scroll to the right until you reach the page showing "FC2=XX" on the upper line and set this value to "127" as well.

Next, we'll want to move to the "Output" menu; press the bank 7 button. Scroll to the page that shows "Vol=XX Boost=XX" on the upper line of the display. Select the volume parameter and set it to a value of "75"; the display should show "Vol= 75."

Finally, let's return to the "Wave" menu, so press the bank 1 button. We should still be at the "Edit Voice=XX" page, so scroll to the right until you reach the "Wave=XX" page. The display should be showing "Wave=WAVEFORM" on the top line, and either "ORGAN VARIATION," "PIPE ORGAN," or "BRASS ORGAN" on the bottom line. Scroll to the bottom line to select it for editing (it should begin flashing) and use the data slider to set it to "SINE."

At this point, all three voices are set to play sine waves, with plain vanilla settings for the synthesizer functions (other than the effects processing, which we haven't changed yet) with all voices tuned to the same octave. Listen to the sound; fairly boring, right? For now, name this sound "INIT" and save it to memory somewhere.

Play the lowest "A" on the SQ-1 keyboard; it will produce a sine wave with a frequency of 55 Hz. This is one octave higher than the lowest note on the piano keyboard. To hear a sine wave at the frequency of 27.5 Hz, simply move to the "Pitch" menu (press the bank 1 button), select "Oct=+0," and hit the down button once, so the value reads "Oct=-1." The lowest "A" on the keyboard is now playing a pitch of 27.5 Hz. Pretty low, eh?

Anyway, the sine wave is important in that we can think of complex waves like pianos and helicopters as being combinations of sine waves, each at a different frequency and amplitude (volume). If most of the sine waves within a complex wave are harmonically related, we'll hear that particular wave as having a specific pitch and timbre. If most of the sine waves contained within the waveform are not harmonically related, we'll hear the wave as being unpitched. Here's an experiment.

Set the "Oct=XX" parameter to a value of "+0." This will reset all voices to the "+0" octave. Now move to the "Wave" menu, and scroll to the "Edit Voice=XX" page. Select voice 2 for editing; that is, scroll until the word "ALL" on the "Edit Voice=XX" page is flashing, and hit the down button twice. The display should be showing "Edit Voice=VOICE2." Now move to the "Pitch" menu and increase the value of the octave parameter by one. Play a note. The sound you hear doesn't appear to be any higher in pitch; rather, it seems to have gotten brighter. When you're dealing with very basic waves you tend to hear the upper pitches as harmonics of the fundamental frequency rather than as separate pitches. This is the case particularly when the upper frequencies are harmonically related to the fundamental, as is the case here. We have tuned voice 2 to the frequency of the the second harmonic.

Head back to the "Wave" menu, and select "VOICE 3" as the "Edit Voice." Now return to the "Pitch" menu. Let's set the pitch of voice 3 to a higher pitch than either voice 1 or voice 2, but keep voice 3 harmonically related. Try setting it to "Oct=+1" and "Semi=+07" ("Semi" stands for "semitone." A semitone represents a pitch change of a single half-step — the distance between two adjacent keys on a piano keyboard). This tunes voice three one octave and 7 semitones (an octave and a fifth) above the pitch of voice 1. You will notice, if you play the keyboard of the SQ-1, that the sound is brighter yet, and you still don't hear the the voices as producing three separate pitches.

This process of adding sine waves together forms the basis of a kind of synthesis known as additive synthesis — literally, adding simple tones together to create more complex ones. Of course, there's a lot more to an acoustic sound than the three simple overtones we've worked with here. A complex timbre, such as that from a guitar or a violin, can be made up of hundreds of these overtones, each one swelling and decaying according to its own pattern. To recreate these sounds using additive techniques we'd need dozens of sine waves, each dynamically controllable, as well as a rather thorough knowledge of acoustic sound theory.

The SQ-1, however, provides another method for creating complex, musically satisfying textures. Stuffed into the memory chips of the SQ-1 are a total of 121 waves. Some of these are simple waves, like the sine wave we've been working with, but many are very complex. The Transwaves, for example, can change harmonic character dynamically, and a number of waves sampled from acoustic instruments are included as well. This selection makes it easy to create beautiful and striking sounds on the SQ-1 without having to suffer the tedium of additive synthesis. So stay tuned; there's much more to come. ▬

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.

Morpheus-Chicken from Rubber Chicken

Steve Vincent

Product: *Morpheus-Chicken Sample Set.*
For: EPSs, ASRs, TSs.
Price: $59.95 + S/H.
From: Rubber Chicken Software Co., Box 100, Willmar, MN 56201, phone: 1-800-8-PRO-EPS. Overseas: 612-235-9798, e-mail: chickenEPS@aol.com.

What I wanted was a Morpheus. What I could afford was Rubber Chicken's 15-disk set of Morpheus samples. For $59.95 you get 27 instruments for your Ensoniq sampler from the Morpheus, Emu's ground-breaking morphing synth.

At first I was disappointed that these sounds didn't transform my EPS into a Morpheus, but our Ensoniq boards just can't do the magic of 14-pole multi-stage resonant filters. So, rather than compare the *Morpheus Chicken* set to an actual Morpheus synth, I evaluated the sounds on their own merit as EPS/ASR/TS instruments.

There's a little bit of everything here, which means that we get kind of a mixed bag. The set can be roughly divided into five categories: Sound track/transwave type instruments, Percussion/special effects, Lead/comp synth sounds, Pads and guitars. I'll hit some highlights and some lowlights.

This set's strong suits are in the pad and lead synth departments. EPIC MOMENT is a versatile instrument (only 473 blocks) and shows off Rubber Chicken's extensive Patch Select programming chops with an orchestral soundtrack morph pad, a percussive comp pad, and a nice string pad all in one. NORMAL SYNTH, a little heftier at 1367 blocks, is a mellow brass pad with a phat low end. COOKIN is an analog-y lead sound with some nice sample/hold type filter mods in glide mode. In the percussion department, the standout is JAVA TEA, an excellent, very musical small gong which is going to get some heavy rotation in the ethnic department.

Most of the "sound track" morphing sounds are well done, with plenty of patch select options and programming, but I find myself wondering about the usefulness of these one-note wonders unless I'm recording ambient mood CDs.

Another standout is GTR CHORUS. As a guitarist, I'm typically unimpressed with guitar samples, but this is a very well done, usable instrument. As a solo instrument it ain't gonna fool nobody, but I can hear it doing guitar comp duty in the mix, and the 12-string Patch Select is one of the best I've heard; it could easily double a melody line with no complaints from this plank-spanker.

As I said earlier, this is a mixed bag; that means there are some sounds that I feel are not up to the quality I've come to expect from Rubber Chicken. In the "objective" department, a few of the sounds seem to have been inadequately sampled/programmed. SHARP STRIKE, a velocity/filter lead sound, has a pretty obvious sample split point between F#3 and G3, and suffers from loopitis (i.e., you can hear the loop), my least-favorite artifact of sample technology. STRIKE BELLS, a ship or church bell with ambient squeaks and a repeating clapper strike, could be a really cool sound, but it's not looped! If you hold a note the sound just plays out and ends, with an audible pop at sample's end. If it has to be a one-shot sample, it would probably be worth double the block size (it's only 460 blocks as it is) for longer play. Finally, POP BRASS also suffers from some pretty obvious multisample split points.

In the "subjective" department, I found most of the brass instruments about on a par with ESQ-1 brass sounds, with the exception of BRASS KING, which has a nice, thickly-chorused Patch Select. METAL GROWL, YEOW, DA RADIO and RADIO HIT made me think that if that's how the Morpheus sounds in those departments, then stick to the pads and lead sounds. I know that the Morpheus "speaks" (quite literally!), but some of its complexity doesn't translate well to Ensoniq samplers. It sort of seems like Rubber Chicken tried to show what the Morpheus can do, giving us a smattering of a number of different kinds of sounds, rather than focus more on the synth's strong suits.

Balancing out these negatives, I still find Rubber Chicken to be perhaps the most responsive third-party sound company I've had dealings with. It's the only outfit in my experience that has actually taken *Hacker* review criticism and re-tweaked its sounds in response. And it's the *only* place I know of that still offers its latest samples in

honest-to-goodness native EPS Classic format, not just ASR samples that leave it to us to change filter params to make them usable. I listened to these sounds on an ASR as well as my EPS Classic, and sure enough, these here are genuine EPS samples. I assume ASR owners would get an ASR-specific version.

In summary, 20 percent go straight to my SCSI drive for regular rotation, 40 percent go "on hold" for possible future fiddling, 20 percent need some real customizing, and a final 20 percent should never have been born. ▬

Special thanks to Phil Curry at American Music for the use of an ASR-88.

Bio: Steve Vincent recently morphed from starving therapist to starving musician/engineer with his new endeavor, Portent Music in Tacoma, Washington, where he is working on his second independent CD. He can be reached on the Internet at vincents@harbornet.com.

Letters to Businessman Jeffrey

Wherein Jeffrey Answers The Most Asked Music Business Questions

Jeffrey Fisher

Dear Jeffrey,

I sent out my jingle demo tape to a bunch of people, but not a single one replied. What did I do wrong? — Utterly Confused.

Dear Utterly Confused,

There are many factors that could account for your dismal response. These include:

- Your prospect list
- The timing of your offer
- The package you sent
- The music on the demo
- How you follow up

Check your list of music prospects carefully. There are essentially four places to send your jingle demo: Advertising agencies, radio and TV stations, production companies, and direct to advertisers. Of these, the ad agency is the best prospect for your tape. But first make sure the ad agency produces radio and TV spots. If they specialize in print, you'll waste your pitch (and money). Make sure you send your tape to a specific person. Call your prospects and ask who buys music for their company. Send your tape directly to that person.

When you send your promotional package is another crucial factor. Plan your mail to arrive on a Tuesday or Wednesday when the mail is lighter. This reduces the competition for attention you may face. Don't forget many people are busy or don't need your services at this time. Your tape is ignored in such situations. That's why you should never rely on one single mailing or contact to do the whole selling job for you. Instead of sending out tapes blindly, try other promotional strategies to get people interested in your work. Persistence is the key. Don't be a pest, but do keep your name alive.

The promotional material you send can work against you. If you just drop your tape in the mail with a sticky note attached, don't expect your prospects to take you seriously. Your sales letter, brochure, business card, and such make the first impression. If prospects aren't intrigued by this material, they'll never put your tape on.

Dare I say it, but your music might not be making the grade. The first track is critical. Put your best music up front... grab attention and hold it. You might consider using a three or four minute montage of your best work instead of full-length tracks. This way only the best parts of your music are showcased. That approach can really make prospects sit up and take notice. Remember, your tape alone is never going to close sales for you. It's one step in an often long, arduous process.

How did you follow up your mailings? Did you expect people to come crashing down your door? May I let you in on a little secret? The burden to make sales is yours alone. About one week after you've dropped your material on your prospect, call them and mention the demo tape. *Brief-*

ly outline your past projects and ask if you could discuss future projects with them. Try to set up a meeting and use that to close the sale. If not, keep contacting this client until they are ready to use your services.

Here's another observation. Many of these problems are not unique to the commercial music industry. Business is business, the world over. If marketing and selling products and services were so easy we would all be millionaires. Success doesn't come overnight. It requires hard work, dedication, constant purpose, and a carefully considered strategy that you work every day. Following this process you will, slowly and steadily, build your soundtrack scoring and jingle business to the level of success you desire. It's you, your talent, and your commitment that will make it happen.

Dear Jeffrey,

I need a quick fix of cash. Payments on my Ensoniq gear are due soon. Do you have some information on how I can get more business right away? — Dismally Desperate

Dear Dismally Desperate,

Your ability to get new clients and keep current ones is the single most important factor to your success. Here are ten ways to get new clients right now:

Always keep looking for new business. You never stop promoting. That fact must become a permanent part of your psyche. And the major focus of your time, money, and effort.

Build strong relationships with existing clients. Your philosophy should be to make customers, not sales. While it's always tempting to go after quick bucks, the real money is made by treating your clients fairly, giving more than they ever expect, and cultivating long-standing, mutually profitable relationships.

Keep watching for opportunities. There may be voids in your market that your music products and services can fill. Listen to your clients. They'll tell you what they want. Make sure you give it to them.

Pay attention to what is really happening. Things change. New trends appear. Clients leave. New opportunities arise. Stay informed about your market and use that information to improve your current situation.

Stay connected. You must keep in touch with your existing client base regularly. Get them to help you find new clients. Ask them to help refer business your way. Don't just take from them, give them something in return. In a world filled with commodity items, your service — the attention you give — to your clients is the absolute best way to separate your music products and services from the crowd. Service sells. Use it to your advantage by working hard for your clients all the time!

Get ready. Prepare the materials you need to answer inquires and solve your client's problems in advance. Don't go in unprepared. Also, watch out for changing circumstances and the unexpected.

Adapt. Study your current offerings and look for ways to re-package or diversify your line. There is only so much time in a day so you must package your knowledge and skills into many different forms. Work to build more passive sources of income that don't squander your precious resources.

Position your offers. What sets you apart from the crowd? What is your particular niche? What benefits, solutions, and results do you provide exclusively to your clients? Make sure you use that information in your selling appeals.

Grab attention. Every day each of us gets bombarded with messages. You must learn to set yourself apart from the barrage.

Carve out a niche. You can't be all things to all people. You must find your own piece of the market and work it hard. For example, my Musician's Business Building Bookshelf is highly targeted on music business matters. The resources I create and choose are designed to help you start, build, and sustain a profitable music career. I don't carry stuff that teaches you how to write lyrics or hook up MIDI gear. The focus is business... and getting your share of it. You would do well to adapt this model to your work.

Follow these tips and you should cover those payments easily. And if you have any other music business questions, drop the *Hacker* a note and I'll try to answer them in another issue. ▬

Bio: Jeffrey enjoys eating pizza and reading. His favorite books are Cash Tracks *and* Musician's Survival Manual. *And just because he wrote them doesn't mean they're not good reading. He'll send you copies if you want, but you'll have to get your own pizza.*

Classifieds

HARDWARE/SOFTWARE

SQ-80m; ESQ-M module with factory-modified SQ-80 ROM installation in excellent condition, with cartridge; Best offer. Call Tony at 215/742-0738; leave message and number and I'll be back with you A.S.A.P.!!!

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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.

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EPS-16 PLUS with full memory expansion, hundreds of sounds, and hard case. Brand new condition. $1000. 607-776-9867 or 607-962-8078.

Wanted: KX-5, EPS-M. Bob, 607-898-4868.

If you're crazy enough to be selling your gear...

Please be sure to pass along how absolutely vital it is to have a subscription to the *Transoniq Hacker*. And how wonderful we are. And how you couldn't have survived without us. And how they should quick send us a check before they do anything else. And...

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TH's Jack Tolin presents SYNTH-BITS! Classic HR-16 drums (2 disks; 49 sounds), M1 synth-textures (5 disks; 50 sounds) come in easy to manage samples that turn your EPS-16+ or ASR-10 into a synthesizer! Star-Trec SF blurbs (2 disks; 20 sounds). Only $4 a disk s/h. Get all for $30! SF blurbs for your PC, add $2 with your order. Jack Tolin, 9314 Myrtle Ave., # 186, Kansas City, MO 64132.

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MISC

Mint back issues of *Transoniq Hacker*. #31 - #34, 39, 43 - 67, 71 - 79. $40 for the lot, including UPS. Glen Bering, Box 7053, Ann Arbor, MI 48107. Phone: (313) 995-5445.

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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.

Hello,

Does anyone know whether there is going to be another OS upgrade for the **KS-32**? I have 3.0 and I know 3.01 exists. Jeff Jetton, in Issue 120, hinted toward a version 3.5. And, what is the difference between version 3.0 and 3.01?

Also, can someone clear up the issue of compatibility for me? I am confused, not knowing the entire line of Ensoniq keyboards, as to what the KS-32 is compatible with in terms of sound swapping and RAM cards. SD, SQ et al.

Thanks a million.
Joe Stokes
JosephS552@AOL.com (Boy, what a great name.)

[CS – Ensoniq'll have to let you know about the OS (although, I can tell you it's rare for any manufacturer to release OS upgrades for instruments that are out of production).

As far as compatibility goes, any SQ-series cards will work with your KS-32. This would include cards (and sounds) designed for the SQ-1, SQ-2, SQ-32, and SQ-R. Sounds designed for other instruments (the SD-Series, TS-Series, or KT-Series, for example) will not work with your instrument.]

[Ensoniq – We have no plans for another OS release for the KS-32. But it still is in production, so disregard Clark's comment regarding this.

The KS-32 shares the complete library of sounds available for the SQ-1/2/R Series of instruments. Any SC, ISC, or EX card can work with it, so you have 12 different ROM cards to choose from. To get sound listings of these cards you can request documents 0840 through 0850 from our automatic fax retrieval system (call 800-257-1439), log onto CompuServe (type GO MIENSONIQ), or call Doug at 800-553-5151 and we'll mail you a listing. They'll be up on our Web page soon, as well.]

Dear Hacker,

I have an **ASR-10** with 16MB RAM, SCSI Interface and an IOmega Bournelli removable 150-meg hard disk. I would get a SCSI interface for my PC if I could find some software that would let me manipulate the Ensoniq hard disk on a PC. Giebler Enterprises offers something like this for the floppy disks but if I could just plug in the Transportable Removable hard disk drive into the PC and copy, defragment, repair bad sectors, etc., that would be GREAT. Is this available? If so, where can I get a copy?

Thanks,
Randy Weaver
Cincinnati, Ohio

[CS – So far as I know, the Giebler software does not yet support SCSI communications, although plans are in the works to include SCSI functionality in an upcoming release, so stay tuned. Other than that, I know of no other software that does anything along these lines.]

[TH – Check out Tony Ferrara's article elsewhere in this issue. Geibler's software should be out by now.]

Hacker:

Thanx for your excellent magazine.

Three questions relating to a **TS-12.**

Doing an edit copy within the sequencer, the TS went away for a while, thought about it, thought about it some more, and some more... After several minutes, I gave up waiting, switched off and on again. All the sequence memory had been erased, and the RAM sounds and presets scrambled. How can I restore the factory defaults? Can I get a disk from somewhere?

I like B flat minor, but particularly with an augmented fourth and diminished seventh: E natural and A flat get hit HARD. They now respond very differently to press velocity, being more sensitive than the rest. Can I do anything about that?

I used to think that the monster-lead and velocity-wah guitar sounds were great. Now I've started playing in a group, I realize they are nothing compared to the real thing. Will *TH* do an article on some more realistic guitar sounds? I have in mind something less "tinny" with more low frequencies and greater frequency modulation in the earlier life of the note. Eventually evolving (perhaps under control of the mod wheel) to a higher harmonic, at an octave, or octave plus fifth, or two, above the fundamental, rather like a very high-Q filter, but tuned relative to the fundamental. It would be nice also if the distortion could be made more grungy and less clean and bright.

Or perhaps someone could recommend some patches for purchase.

Thanx
Michael Ibison
mike@atman.princeton.edu

[CS – Can't say that I know why your TS-12 gave itself a lobotomy, but you

might keep your eye on it. If you're concerned, you might try contacting Ensoniq Customer Service (610-647-3930) directly, and seeing what they have to say about it. As far as your factory programs, you'll find them backed-up on the disk that came with your TS-12. If you can't find said disk, try your local dealer or Ensoniq Customer Service; either should be able to help out.

Now when it comes to guitar sounds, I know just what you mean (being a guitar player myself). I find that my favorite guitar sounds tend to make use of the GUITAR AMP effects on board the TS. These provide (at least, to my ear) sounds that are much more typical of electric guitar run through an amplifier – thicker, crunchier, and browner (as Eddie Van Whoozit would say). You'll probably have to experiment with these effects yourself, though; most programmers don't seem to use them much – probably owing to the fact that there's no reverb or delay (or other "spacializing" effect) available when using the AMP simulators.]

[Ensoniq – The disk that came with your TS-12 (called TSD-300) has many back-up files on it, including all the ROM and RAM Programs and Presets.

We've never heard of the keyboard response changing with wear or use. Is it the pressure response, the velocity response, or both? It seems unlikely that the velocity response would change, but we suppose that the pressure strip could be getting compressed and might need to be changed. You should definitely call Customer Service.]

Hi once again TH,

E-mail sure makes it easy to write!

In TH #123, you put in my woes of the **ASR-10**. Well, I just got it back after a little over six weeks in the local and Malvern "hospitals." I have just packed it up for further surgery, this time going directly to Malvern.

The loop forward/loop bidirection anomalies were cured, but now I notice that the "B" audio channel produces a loud buzzing noise, even with headphones. I don't think that I ever tried that channel to record anything, since I bought it in April.

Both times, at Tony's suggestion, I removed the extra 8 meg of memory, and still the same noises. (So I should play my TS-12 and be happy, or well, I do have two ordinary old pianos. They work pretty well too!)

So back it goes, a second time.

Anybody else ever have service problems like this? Good thing this is mostly a hobby! (I am an engineer for a living. Power converters, not digital stuff.)

Thank you,
Jeff Porter
Brodheadsville, Pa

[CS – I have not heard of any particular problems with one or the other audio inputs on the ASR, so I'm not sure what to tell you (other than maybe it's time to get in touch with Ensoniq Service again). The one thing you might check, is make sure that you don't have some sort of ground loop between the ASR and some other piece of equipment. You could try monitoring the "B" input through headphones, with nothing else connected to the ASR, including your mixer/amp, MIDI, and so on. If the ASR is still exhibiting the buzz, even with nothing but headphones plugged in, I think I'd make a date with a service tech ASAP.]

TH,

Let me begin by saying that you put out a first-rate magazine. The information contained within is extremely useful and no one's questions are ignored. I especially enjoy your reviews of CD-ROMs and disk sets. (If you haven't picked up Syntaur's "Kinkin' Drums" set, reviewed by Jeremy Ryan in the July '95 issue, do so immediately! It's great!)

Speaking of reviews... in the future are you going to look into:

A) The Iomega Zip Drive (100-Meg cartridges),

B) The LA Riots CD-ROMs (Vols. 1 & 2),

C) The Chicag/DJ Jazzy Jeff/Steve Gadd CD-ROMs?

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It's good to have at least SOME idea of what you're getting into before you purchase these expensive items!

Now on to a larger issue. I bought my **ASR-10** (keyboard version) about a year ago and only recently came across the funds to acquire more memory. I wanted to increase my ASR's power to 10 Megs. Thinking that mail order would be the quickest way, I made the call. I asked all the usual SIMM questions: pin number, parity, access speed, etc. Confident that I was going to receive what I needed, I waited patiently (yeah, right) for my package to arrive in the mail.

The alarm should have gone off when I first opened my SIMMs and noticed their unusual structure. They didn't look like your "average" SIMMs. They didn't have eight D-RAM devices across each SIMM. Rather, each SIMM had two large D-RAM devices on the LEFT side of the chip.

But of course that didn't stop me from installing and powering up my board. I started loading in the largest possible sounds available, everything from huge drum kits to the well-known "Grand Piano." I immediately began to experience the same symptoms that Khew did (see pg. 23 of the January '95 issue). There were "static-type" noises, "Error 145-Reboot" messages, and even incidences of random crashing of the entire system.

Needless, to say, I called Ensoniq. They confirmed my suspicions. It was the type of SIMM chip. They had to be the eight D-RAM device kind. I wasn't really given an explanation as to why this was. Just something to the effect of "...the ASR seems to like the 8-chip kind."

Luckily, I was able to switch my SIMMs with a friend (he had a Quadra 700 with the 8-chip type SIMMs) and rectify the situation. My ASR now runs beautifully and I haven't had a problem yet. My question to you guys is, what is it with the number of D-RAMs on each SIMM? If both kinds of SIMMs are acceptable in MacIntosh computers (and are non-composite, mind you), why is there a problem?

Thank you!
George Marion-Landais
Shreveport, LA

[CS – Word on the street is that the Zip drive works great. Garth Hjelte, for one, swears by 'em. As for your memory problems, well, I guess all's well that ends well. Perhaps Ensoniq can shed some light on the mystery.]

[TH – There's not a whole lot that we can say about disk drives (other than what Clark already mentioned). The CDs are on our list of future reviews. It may be a while...]

[Ensoniq – The 4 MB SIMMs with only two chips on them use 16 Megabit DRAM chips, which weren't available when the ASR-10 was designed. Because of their refresh function, those DRAM chips are not electrically compatible with 1 Megabit DRAM chips, which were the most common chips when we did the design. Since the SIMMs that were available back then were based on 1 Mbit and 4 Mbit DRAM chips, we designed the ASR-10 to use them both.

It is not possible to make the ASR-10 compatible with 1 Mbit, 4 Mbit and 16 Mbit DRAM chips. What we have done is to revise our design, starting with the release of the ASR-88 and all ASR's produced since then, to make them compatible with the 16 Mbit DRAM chips. This does now unfortunately eliminate the ability to have the 10 MB memory configuration (two 4 MB and two 1 MB SIMMs). We did this to be more compatible with the current memory market.

If all this has confused you (I'm not sure I even understand my own answer!), then look to the documentation that came with your ASR. It will tell you which chips your unit can work with (in your case it's obvious that you have the older design). Still confused? Call our Customer Service department at 610-647-3930.]

Dear Hacker (open letter to Ensoniq),

After playing my first synth (**TS-10**) for about two years, I feel compelled to comment. The intelligence built into the instrument is truly amazing. My heartfelt congratulations to all the people responsible. I love it!

(The inevitable "but...")

1. I don't understand why the default setting for each patch selects is "Live." It seems to me that "Hold" would be a much better default. It's much easier to change a "held" patch while playing, than it is to sacrifice a

playing hand to push and hold a patch-select button during performance. I'd prefer to not have to reprogram every patch. Have I missed something?

2. Most of the factory supplied sounds and presets default to Effect #1, which is a DDL + Chorus + Rev. Generally, this effect is quite dominating (particularly the DDL). I think it might be good to let the user decide when to use such embellishment. Instead, let the default be a simple reverb, or maybe just "Dry."

Thanks, in advance, for your reply.

Sincerely,
John C. Rodriques
San Lorenzo, Calif.

[CS – I'm sure Ensoniq will have some input here, but I would like to iterate here that the patch select buttons were originally envisioned as real-time controllers, I believe. They were meant, primarily, to provide the user a way to access several variations in a sound nearly instantly. This would allow one to do things like switch between straight and overblown flute sounds on the fly. If the patch selects were to come up in "held" mode, they wouldn't serve this function unless the user specifically went in and edited them first.

The effects in the TS-10 (as in any synth worth its mettle) are designed to place the sound in the best possible context, whatever the sound's original programmer might think that should be. I think it's probably much easier for most of us to go into a sound and turn the effects off (or select a simple reverb effect) than it is for most of us to program complete (and often complex) effects setups from scratch. So my feeling is that, given the choice, I like having the effects in an instrument pre-programmed, even if they are laid on a bit thick. It's no big deal to turn them off, and if nothing else, it can give me some ideas to use in my own programming.]

[Ensoniq – 1) Clark has it right – we have always viewed Patch Selects as a real-time controller and felt that the HOLD mode might confuse the first-time user. Of course it has its musical place, but when you first come up to a TS in a store and try these buttons the latching effect of HOLD mode might confuse you.

2) We're a bit confused by this comment. Most of the factory sounds are not using that effect per se – they are a broad selection of different effects, whichever is right for the given sound. Are you listening to sounds in a Sequence header, advancing through sounds using the SoundFinder function?

Whatever, we always try to strike a balance between showing off all the effects that we offer to help you hear

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them when trying an instrument out in the store, and staying true to the most musical effect that goes with the sound (no distortion on the flutes, and Leslies on the tuba here!). If reverb is the right answer we do it, but with 300 Programs and 300 Presets we have a lot of diverse ground to cover. Hope this answer helps.]

Hi friends,

While perusing the July Interface I was curious about John Bolles' reference to a possible **SD-1** "bug" with Program 001. It made me wonder:

1. Did this actually turn out to be a bug?

2. What other obscure (or not so obscure) bugs should we be on the lookout for with the 4.10 O.S.?

3. How many bugs would it take to get Ensoniq to issue that one last much awaited O.S. update?

4. If the great minds at Ensoniq consider it necessary to create that one last O.S. update for the SD-1, will they please announce their plans in the *Transoniq Hacker's* Random Notes news column so that users get a chance to express their ideas for new features we hope will also be included?

5. I am also curious about Wildwood Sounds, whose last patch offer appeared sometime around Issue 90. I wrote and got no response. Are you still out there, Wildwood?

6. My final question concerns noise. I have noticed a number of types of pops, clicks, and static. I am wondering if each type has a technical name, how to accurately describe them, what causes them, and how they can be cleaned up. I have heard several times that noise is usually caused by effects processing but I have seldom found the problem to go away when the voices in question are listened to dry. I am wondering if different types of noise are more likely to be traced to hardware like the D/A converter or to programming faux pas like envelope settings. I suspect the latter may often be the case because a form of static that sounds like a snare drum resonating in the background (what did you say it was called?), a type of noise I notice perhaps the most, can be rather pronounced with one patch and yet not exist on an almost identical sounding patch using the same waveforms and output settings for voicings. Any help with terminology, causes or cures would be very much appreciated.

Thanks for the forum,
Becky Dierkson
Lancaster, TX

[CS – I'm afraid that when it comes to noise, there is no comprehensive system of definitions and solutions of the kind I think you're looking for. What you ask is not unlike asking for a set of definitions and fixes for the kinds of noises an old automobile might make. In addition, for the types of noise that do have a name and definition, there's seldom a sure way of determining the nature of the noise simply by describing it, and even if one could do so, the remedy may not be so easy to track down. For example, a typical problem can be a humming sound induced by improper grounding of audio equipment, typically called "60-cycle hum." How do you know if it's a problem? Well, you probably hear a low pitched hum through your audio system. How do you get rid of it? I've read thousands of words in books and magazine articles which describe some possible causes and which include some common solutions, none of which are guaranteed to work.

I've concluded that unless you want to spend some serious time studying audio engineering, the best you can do when noise becomes a problem is to try to track down the best expert you can in the particular field you're working (synthesis, audio engineering, recording, sound reinforcement, etc.), and tell them "I've got this noise that sounds like a snare drum resonating in the background..." If you can come up with the right expert, you should be

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The drives listed below are known to be compatible with the EPS and EPS-16 PLUS *at the time of testing*. Changes in firmware or hardware by drive manufacturers may make later versions incompatible (with the exception of **PS Systems, Ramtek (Eltekon),** and **Frontera** whose drives are configured to work specifically with Ensoniq products). Drives *not* included on this list may also work just fine. For up-to-date information about specific drives call Ensoniq Customer Service: 215-647-3930.

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	PL145 Meg Removable
Mass Micro	Datapack 45

Drives Reported to Work by Readers

The following drives have been reported to work satisfactorily with reader's EPS systems. No guarantees — but they'll *probably* work with yours. Try to try *before* you buy.

Jasmine Direct Drive 100	Quantum 100M, 210M
PowerDrive44	Seagate 80M
Syquest 555 (removable)	Tech Data Model 60e

able to track down the cause. And if you do this enough times with enough of the right experts, you'll eventually learn enough to track down and remedy most of the common clicks, pops, and static (technically known as clicks, pops, and static) on your own.]

[Ensoniq – 4) All right, everyone join in on this on -, you know the words – "We have no current plans for any O.S. updates for the SD-1." (Sorry for the joke at your expense, we just couldn't resist the setup you gave us).]

Dear Transoniq,

Can anyone out there help!?

I've returned to France (from Ireland) and need a sound(s) of some Irish instruments – tin whistle, human whistle, and bodhrem drums.

I'm using the **TS-10** and enjoy the instruments within, particularly the wind (orch) section, but don't like the strings – which sound like many other synths on the market rather than the lush sound I expect. I have yet to get string sounds the equal of the Roland String Section. Also, the Orel Board fitted to the JV880/1080 Module seems to me to be an example of good sampling. I've had a JV80 and a D70 and all the strings seemed very good.

I will be most grateful to anyone who can help and suggest some contacts for the Irish instruments. (I've already been to Syntaur but there were no Irish sounds available.) I would also like to hear of good violin/strings samples for my TS-10.

Many thanks to your magazine, which I am always pleased to see in the mailbox.

Regards,
Stanley McConkey
Montmoreau, France

[Ensoniq – Our TSD-1005 synth Program disk has a bank of Irish instruments, and for a killer Bondran, try the "ETHNIC DRUM" from our AS-4 sampled sound collection. Enjoy!]

Hey Gang!!

A low density disk got stuck in my **ASR-10**. I worked it out and now it will not read low density disks. I can read High Density OK, but I get the message "disk not formatted" when I put a LD in. I bought a cleaning kit and tried that. It didn't work. Any ideas? How much would a new drive cost? Can I put it in myself? (I've installed boards and such into my PC) Is it an alignment thing? Any idea about the cost?

Thanks in advance,
Kevin Burdish
Via Internet

[Ensoniq – HD disks are sensed by a cutout in the disk (on the lower right). It's possible that you broke the switch or the sensor that looks for that cutout. Contact Customer Service – a specific drive mechanism and configuration are needed. You cannot install it yourself.]

Oh Great Ensoniq Gods:

This may be a question, or it may be a feature request. If it is not currently possible, then it should be added to the next OS REV list for my **TS-12**, please!

I would like a file save menu option which allows me to save a song plus all its component sequences and sounds in one step. In other words if I have a song with 5 component sequences, out of which are used a total of 22 sounds, then I should be able to select SAVE 1 SONG and the TS would ask me "Save Sequences & Sounds?" (Y/N) If I say "Yes" then it should save not only the song but also the 5 sequences and the 22 sounds used in the song.

Great idea, huh? This seems to me to be such a natural thing to want to do perhaps the thing already does it! If so, tell me how, please!

PS. If you aren't going to do it, then could SOMEBODY provide some tips on how to manage files on floppy disks in a sane fashion. I need some sort of system similar to managing computer programming projects whereby I can easily save and restore all the elements of various music "projects" together and save/ restore them as needed without having to fret over whether or not I saved the song, plus all the needed sounds, plus all the sequences, plus all the sys-ex stuff, etc... I shouldn't really need a computer to do this, as the idea I laid out above would REALLY do the trick!

Thanks,
jc Harris

[CS – Umm, actually, the TS-series already does pretty much what you ask for. If you select "30-SEQ/SONGS" or "60-SEQ/SONGS" as the file type you wish to save, the TS will give you the option of saving your sounds right along with the file. Then, the next time you load the file, the correct sounds will be loaded (into the correct locations) as well.]

[Ensoniq – Yes, it sounds like a great idea, but it actually is a memory management nightmare for us. If we don't keep track of which locations are filled with which data, then when the TS tries to load back your "object" a lot of shuffling and moving about has to happen, both for the sequencer data and the sound data. That is why we implemented what you asked for in the 30 and 60-SEQ/SONG structures. They let us carve out a chunk of the memory "real-estate" and do exactly what you asked for. Thanks for the input!]

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