AFTER TOUCH

THE OFFICIAL PUBLICATION OF THE YAMAHA USERS GROUP

C1 Music Software

YAMAHA®

News & Information

THE WINTER NAMM SHOW, held January 20-22 at the Anaheim Convention Center, proved to be busy for the people at the Yamaha Corporation of America exhibit. In addition to showcasing the complete line of Yamaha products, the exhibit was the center for a number of other activities, including demonstrations by Yamaha's team of Product Specialists, autograph sessions with a number of top artists, three days of performances by Chick Corea, and a special C1 giveaway.

All four of Yamaha's DMI Product Specialists, Phil Clendennin, Danny Hoefer, Mark Santos, and Kevin Stratton, were on hand to demonstrate the new DMI products. (For more on the Product Specialists, see the interview in the January 1989 issue of AfterTouch.)

Drummers on hand for autograph sessions included Bobby Blotzer of RATT, LA session player Vinnie Colauita, Alex Acuna, Peter Erskine, Aresnio Hall's drummer Terri Lyne Carrington, Dave Garibaldi from Wishful Thinking, and the drummer in Chick Corea's current band, Dave Weckl. Also on hand to sign autographs were bassists Jeff Berlin, an LA session player, Verdine White of Earth, Wind and Fire, and the bass player for Mr. Big, Billy Sheehan.

Visitors to the exhibit were treated to performances by The Chick Corea Akoustic Band. Besides Chick Corea, who used a Yamaha MIDI grand, KX88, KX5, TX16W, and MC2404, the group consisted of John Patitucci, who played an LB5 custom-5 string bass, and Dave Weckl, who played on Tour Series Custom drums in Cobalt Blue with the SD295 Metal Snare and DSP850 double bass drum pedal. They did three shows a day, and had standing-room only crowds for all performances. The sound system was all Yamaha, including a PM300 mixer for the house sound and new "AST" loudspeaker systems. AST stands for Active Servo Technology, a newly-developed Yamaha technique that provides exceptional low frequency performance with a relatively small speaker cabinet—attaining sub-woofer-type bass response without the mass associated with existing sub-woofer speaker systems.
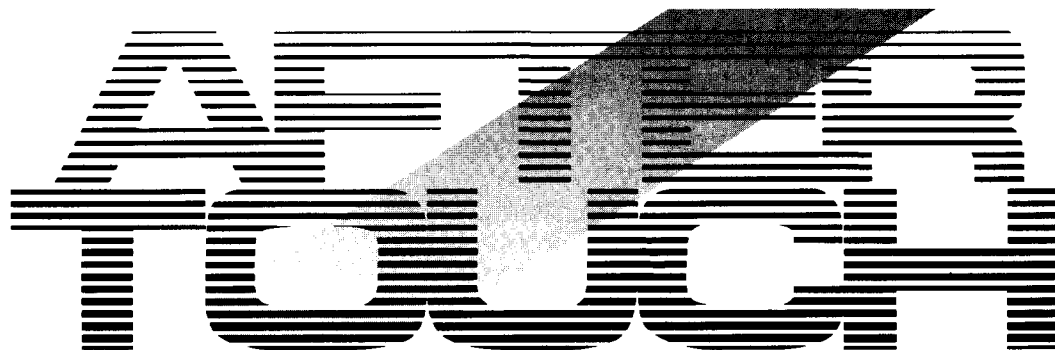
Yamaha also held drawings on Friday and Saturday for a C1 Music Computer and accompanying software packages. Friday's grand prize winner was Scott Zehm, of San Bernardino, California. Scott's prize was a standard C1 with two disk drives, plus an extensive software package. The lucky man of the weekend might well have been Saturday's grand prize winner, David Oviatt. The day before, David had been a runner-up in the drawing, winning a jacket instead of the C1. Undeterred, David entered the drawing on Saturday, and became the grand prize winner of the day. He won a C1/20 (a C1 equipped with a 20 meg hard disk drive) plus an extensive software package.

Yamaha wishes to acknowledge and thank the following software companies who donated products for these drawings: Auricle Control Systems, Bacchus Software Systems, Computer Business Associates, Dr. T's Music Software, Dynaware, Electronic Courseware Systems, Golden Midi Music & Software, Robert Keller, LTA Productions, Macaluso, Magnetic Music, MIDIconcepts, Midisoft, Music Soft, Passport Designs, Playroom Software, Rigamer Technology, Silver Wolf Software, SNAP Software, Sound Quest, Temporal Acuity Products, Turtle Beach Softworks, Twelve Tone Systems, and Voyetra Technologies.   —Sibyl Darter

Soundcheck '88 Update

The International Popular Music Festival will be held, as previously reported in AfterTouch, on February 12th, at the Fuji televison studios in Tokyo. The previous location, Budokan, on the grounds of the Imperial Palace, was not available due to the recent passing of Japan's honored Emperor Hirohito. This year, the United States will be represented by the winner of Soundcheck '88, Giraffe. This San Jose-based group is leaving for Japan on February 7th, accompanied by Soundcheck A&R person Bob Stabile. Doug Buttleman, the executive Producer of the Soundcheck project, will be leaving a day later, along with a group of celebrity judges from the USA. There are 21 finalist bands, from 15 different countries.

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Questions & Answers

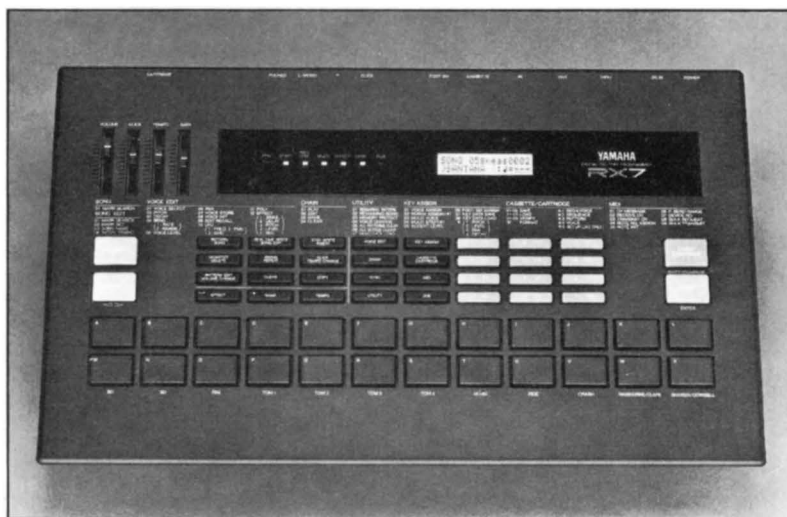## Answers To Questions From Readers. By Steve Deming & Tom Darter.

I have an RX7 drum machine that I use with an IBM sequence program (Texture). Is there a way I can turn Effects on and off via MIDI?— Jon Epperson, Mission Viejo, CA.

Yes, this is possible. You need to send the RX7 a System Exclusive "remote switch parameter change message" from your computer. The message string is shown below on the left (in hexidecimal), with explanations on the right:

Hex code	explanation
F0	Sys Ex message
43	Yamaha ID number
1n	substatus and device number (n = MIDI channel)
02	group and sub-group
50	parameter group
1B	parameter number: Effects
00 or 7F	00 = off; 7F = on
F7	end of Sys Ex message

RX7 digital rhythm programmer.

I own a CX5M computer, which I love, but when I feel like creating graphics with MSX Basic I find the unit a little lacking. I though I had been saved when I saw a CX5M II on display in a local store, but I was told it was not for sale. What is the story?—Brad Morris, Peoria, IL.

The CX5M II has been officially discontinued, so it is no longer available at any retail outlet.

I use a DX7 II FD to control a Roland MKS20 sound module. There are two scenarios I've been trying to achieve without success. Here they are: 1) I would like one foot controller controlling the DX's local volume, while the other foot controller controls MIDI volume only (for the MKS20). Is this possible? 2) Is there any way I can program these machines so that my left hand (on the DX) is playing a DX patch only, while my right hand (on the DX) is playing a piano patch on the MKS20 only?— Eric Tallman, San Francisco, CA

First, question one: If you look under the words "Foot control" in the DX7 screen displays for its Foot Controllers, you will see numbers: 4 for FC1 and 7 for FC2. This means that FC1 outputs MIDI Controller Code 04 information (MIDI Foot Controller), while FC2 outputs MIDI Controller Code 07 information (MIDI Volume). Both Foot Controllers are programmed as part of voice data in the DX7 II. Therefore, to get the effect you want, you need to program the following on the DX7 *for each voice you want to use:* FC1—program it to control Volume only (set the Volume parameter to a high number, like 99, and set the other FC1 parameters to 0); FC2—program it so that all parameters are set to zero (meaning that it will have no effect on the DX's internal sounds). Finally, make sure that the MKS20 is set to respond to MIDI Volume.

Question two presents more of a problem: The DX7 II outputs on only one MIDI channel at a time, and the MKS20 does not have a MIDI key limit feature. It would be possible to "turn off" the DX's right hand, by setting up a Split mode performance that uses a "dummy" voice in the right hand location (a voice where *all* operator output levels are set to 0); however, you still wouldn't be able to stop the MKS20 from responding to the MIDI notes being played by your left hand on the DX. The only solution would be to use a MIDI data modifier (like the MEP4 MIDI event processor) to filter out all of your left hand notes, allowing only those from your right hand to reach the MKS20.

I will soon be working with my own G10 MIDI guitar controller and G10C controller set. What are your recommendations for a wireless setup? My first instinct is to use a standard wireless unit on the guitar strap. However, in order to use a wireless unit between the G10 and the G10C, I need to get some kind of a conversion cord for the multi-pin connection between the two. Most of my post-G10C problems are due to MIDI DIN 5-pin incompatibility with the standard ¼" plug. Does Yamaha offer a MIDI-in, ¼" signal-out for connecting MIDI-sized equipment to standard units?—Tony Max Nance, Orange, N.J.

Well, first of all, it is impossible to convert a MIDI-type signal to an electronic audio-type signal (the kind transmitted by standard wireless units) simply by using some kind of conversion cable. Remember that the output signal from the G10C is a MIDI-type signal: It must be connected to a MIDI-compatible tone generator (VIA MIDI) in order for the system to create sound—the sounds themselves come from a tone generator, while all of the MIDI data for controlling the tone generator comes from the G10/G10C system.

To make a wireless connection between the G10C and your tone generator, you would have to use a MIDI wireless setup, which is considerably more expensive than a standard wireless unit.

Finally, the multi-pin connector between the G10 and G10C also carries a specialized kind of data, which cannot be converted into "standard wireless" data through the use of converter cord; in fact, such a cord would be impossible to make. There is no wireless unit that allows connection between the G10 MIDI guitar and the G10C controller.

I want to control my Yamaha RX5 rhythm programmer from my Macintosh. To do this, I need a manual or pamphlet that gives the MIDI commands for the unit (particularly the System Exclusive commands). Where can I get this information?—Tony Zepeda, Oakland, CA.

System Exclusive and other MIDI documentation can be purchased from the Yamaha Electronic Service Parts Department. For more information, write to: Yamaha Corporation of America, Electronic Service Parts Department, P.O. Box 6600, Buena Park, CA 90622; or call 1-800-443-3548.

RX17 digital rhythm programmer.

I am writing about the RX17 drum machine. I cannot get the cassette storage feature to work. I even tried the Radio Shack dataset model mentioned in your earlier answer on this subject (in the July 1988 issue) but still no luck. I usually get a message saying "LOADING or VERIFY ERROR," which according to the manual means that the RX17 does not recognize the data, but is at least hearing something. Do you have any further suggestions?—Kenn Busch, Janesville, WI

Based on the message you are getting, it sounds like the problem is that you are using high bias tape with a normal bias machine. The Radio Shack units we mentioned in July (CCR81 and CCR82) are both normal bias machines. It is very important to use normal bias tape when using these normal bias machines for data storage.

Our band uses the D1500 digital delay and the R1000 digital reverb, and we've lost the owners manuals for both. How can we get another copy of each?—Gerald Jones, Scottsboro, AL.

To get a copy of the D1500 or R1000 owners manuals, write to: Yamaha Corporation of America, Pro Audio Division, Literature Dept., P.O. Box 6600, Buena Park, CA 90622

I recently bought a used Yamaha PSS-360, a model that I believe had been discontinued. I would like to get an owners manual. Can you tell me how I might find one?—Elly Barker, Urbana, IL.

To get a copy of the PSS-360 owners manual, write to: Yamaha Corporation of America, Consumer Products Division, Literature Dept., P.O. Box 6600, Buena Park, CA 90622

Notes from "The 'burbs"

An Insider's Look At Jerry Goldsmith's Scoring Sessions For The New Joe Dante Film. By Tom Darter.

SESSION: "THE 'BURBS," a film directed by Joe Dante; starring Tom Hanks, Carrie Fisher, and Bruce Dern; produced by Larry Brezner and Michael Finnell, to be released by Universal on February 17th. Music by Jerry Goldsmith, the award-winning composer of more than 130 film scores.

Cast: A 70-piece orchestra, including three keyboard parts. Besides composing the music, Jerry Goldsmith will be conducting the sessions. Bruce Botnick is the recording engineer; Ken Hall is the Music Editor, (working with an Auricle program); Authur Morton is handling the orchestrations; and the contractor for the sessions is Sandy DeCrescent.

Location: The Universal lot on Stage 10, which is the scoring stage. The basic scoring sessions covers four days: November 28, 29, and 30, and December 1. All four sessions are doubles: three hours in the morning, an hour for lunch, three hours in the afternoon. On the first day, Monday, the keyboard players are asked to get there an hour early at nine o'clock, to make sure that there are no problems in getting the keyboard gear set up—it's not a good idea to take time making sure the keyboards work while the full orchestra is sitting there.

Jerry Goldsmith treats snythesizers just like he treats all other members of the orchestra. He makes specific demands, and expects specific results. His short-score compositions always include detailed instructions for the entire orchestration, and that *includes* the electronic instruments. During recording, he is very careful about the overall mix: he adjusts the electronics, adjusts the acoustic instruments, adjusts the overall mix and then records.

There are three keyboard desks for the film: Ralph Grierson is playing desk one for the first two days (he has other work scheduled for the last two days); Mike Lang is playing desk two for the first two days, and will switch to desk one for the last two days; replacing Ralph Grierson on Wednesday and Thursday (and playing desk two) will be Randy Kerber; and I am playing desk three all four days.

Desk one has piano, a Yamaha TX16W, Roland D-50 (sometimes the two are MIDIed together), and Emulator II. Desk two has Yamaha DX7, D-50, and Emulator II. Desk

Jerry Goldsmith conducting a scoring session.

three has DX7, D-50, and Roland Super JX. There is a lot of jumping back and forth on certain cues.

For the Emulator II and TX16W, Jerry brought all of the disks; for the D-50, the DX, and Super JX, he brought all of the cartridges. Each one of his parts indicates what instrument is to be played, if it is to be MIDIed to some other instrument, and what sounds from his cartridges or disks are to be called up. For this reason, the various keyboard setups are not the standard setup that many of the performers bring—Jerry requests that only certain instruments be brought.

Ralph Grierson, for instance, brought much less than half of his standard setup, and the same is true for Mike Lang and Randy Kerber. This is a cause for some mixed feelings: In the past, Ralph has suggested that, since he spends a lot of time putting his setup together and feels comfortable with it, he would like to have the opportunity to use his entire basic setup; but he also understands that Jerry's compositional approach doesn't require that.

While there are some composers who spend a fair amount of time working out particular sounds or getting aspects of the synthesizer setup worked out ahead of time, many composers hire keyboardists or synthesizer players that they

know well, write the parts with general directions as to the kind of sounds they want, and then it is the responsibility of the synthesizer player to program the sounds, MIDI various instruments together, and get the final sound.

Jerry Goldsmith, on the other hand, approaches the instruments as he does the rest of the instruments of the orchestra: it is always the case that he comes prepared with all of the sounds that he wants, and a very specific selection of instruments. That's why it is so easy to list the specific instruments being used in the score. This was no less true for the other scoring sessions I have worked on with Jerry: *Explorers*, *Poltergeist II*, and *Innerspace*. Jerry really knows his stuff.

We only has a few difficulties during the setup period: Ralph Grierson's MIDI patching machine crashed as it was being set up; it might hae been a problem with a cable, or there may have been a problem with AC being plugged in or unplugged at the wrong time. In any case, Ralph wound up having to do all of his MIDI patching manually. He did say that it was lucky that the unit happened to blow up at this particular time, rather than at almost any of his other dates when he's using his full setup, because then he would have had a very difficult time making the necessary instrumental changes, particularly in a TV score, where a keyboard player is often called upon to make a large number of changes in a very small amount of time.

A few anxious moments were caused by the TX16W – it was rented, and showed up originally without the System disk; finally, the System disk showed up, and we loaded the necessary sounds without further difficulty.

Also, thank God for edit/play buffers: we only had one cartridge for each type of unit, and sometimes two different keyboardists needed a sound from a cartridge on same cue. No one wanted to alter the internal memory of the units they were using, but it wasn't necessary: One player would load a sound into the edit/play buffer from the cartridge, then pass it on to next keyboardist; if one had to change sounds on the same instrument during a cue, he was the one who would keep the cartridge plugged into his unit.

The TX16W does not have a volume control on front panel, so to pull instrument in and out of mix during a cue, we had to call up a page with volume, and move from 99 to 0 or vice versa. Luckily, there was no change of Performance during any cue, so this was no problem.

During any session, you always learn that what you *thought* would be difficult and what actually *is* difficult are sometimes very different. In this session, I had none of the those pages full

Jerry Goldsmith with Tom Darter at a scoring session for the film Poltergeist II.

of notes that test your sight-reading and your nerves, but there were other things. Here are three of the difficult things I learned about on this date:

1) Whole notes. In the very first cue of the movie, my part called for octave whole-notes on the D-50, held for four bars. This innocuous-looking part was actually tied to a D-50 patch that contained a rhythmic, multi-timbral, quasi-sequenced effect that was perfectly in time with the click and meter of the cue. Therefore, if I don't play the octave right on the downbeat of the first bar, the rhythm for the entire four bars will be wrong. Not really difficult, but something you can't afford to lose concentration on.

2) Straightforward eighth-notes in a moderately fast tempo. If a part like this is exposed (either as a solo or with just a few other instruments), any error sticks out like a sore thumb, and the part doesn't look or sound hard. If you get too comfortable with your old piano chops, your hand (or one finger) will stray over an extra synthesizer key and create a "clam"–keep those fingers high, and be careful.

3) Program changes during a cue. If you call up the wrong sound or fail to connect (or disconnect) a MIDI hookup, it's just as bad as missing 200 notes. Also, if you have to make MIDI

G10 MIDI Performances

TX81Z Performances For The G10 MIDI Guitarist. By Craig Anderton.

WHEN RESPONDING TO MIDI guitar controllers such as the Yamaha G10, all synthesizers and tone generators are *not* created equal—some lack the MIDI features necessary to link synthesizer and controller together in an efficient manner.

The most important of these features is the ability to receive on at least six different MIDI channels at once, since guitar controllers usually work best when each string can control its own channel. One benefit of this approach is that bending one string will not bend the pitch of the other strings (while with a keyboard, bending with the pitch bend wheel usually changes the pitch of *all* keys being held down). Another benefit is that each voice controlled by that MIDI channel can be set to "mono mode." This insures that each channel will play only one note at a time, thus mimicking the way a guitar string responds (since each string also plays just one note at a time).

Performance Mode Basics

The TX81Z and TX802 tone generators are very well-suited to guitar synthesis. The main reason for the cost differential between the two is sound quality, circuit complexity, and extra user RAM, not any differences in MIDI guitar compatibility. Both are equally flexible for guitar applications, thanks to the availability of *Performance* mode.

In this mode, each MIDI channel controls its own *instrument*. An instrument is a combination of any one of the synth's voices along with several associated settings: number of notes the voice will play (usually one note with MIDI guitar), volume, transposition, detuning, output assignment, LFO selection, microtuning, and

upper/lower key limit. Since each string can control a different voice, you can have, for example, bass voices on the bottom two strings, lead guitar on the top two strings, and some kind of piano sound for the middle two strings.

Typical Performance 1: Mono Mode

Let's look at the two Performances I've found most useful when feeding a TX81Z from the G10 (the screen dumps are taken from the "TX81Z Pro" editor/librarian from Digital Music Services). These Performances can serve as "templates" into which you can plug different Voice numbers and other parameters to create different sounds.

Figure 1 shows a very common MIDI guitar Performance that assigns each string to its own channel. Each instrument plays one note and the same Voice number (112 in this case). The first six instruments play the first six MIDI channels (as expected), but instruments 7 and 8 are assigned to MIDI channels 1 and 2, which correspond to the controller's two highest strings. These additional instruments thicken the upper register by doubling the top two strings. To add a chorusing effect, note that instruments 7 and 8 are detuned by -2. Also, since doubling the sound makes the top two strings louder than the others, the volume for the doubled instruments has been reduced to 77.

Detuning and volume changes hold many other possibilities. For example, with the above template, try detuning instruments 5 and 7 (which are set to the same MIDI channel and therefore play the same notes) by +2 and -2 respectively. This would again give a large enough frequency offset for chorusing, but the offset

TX81Z FM digital tone generator.
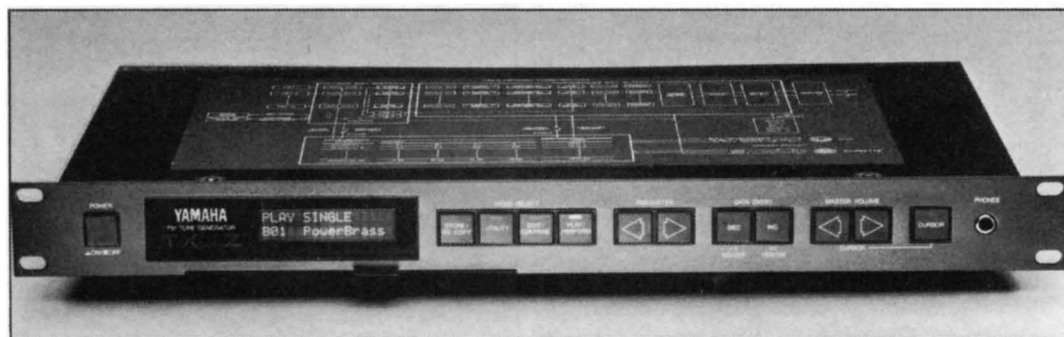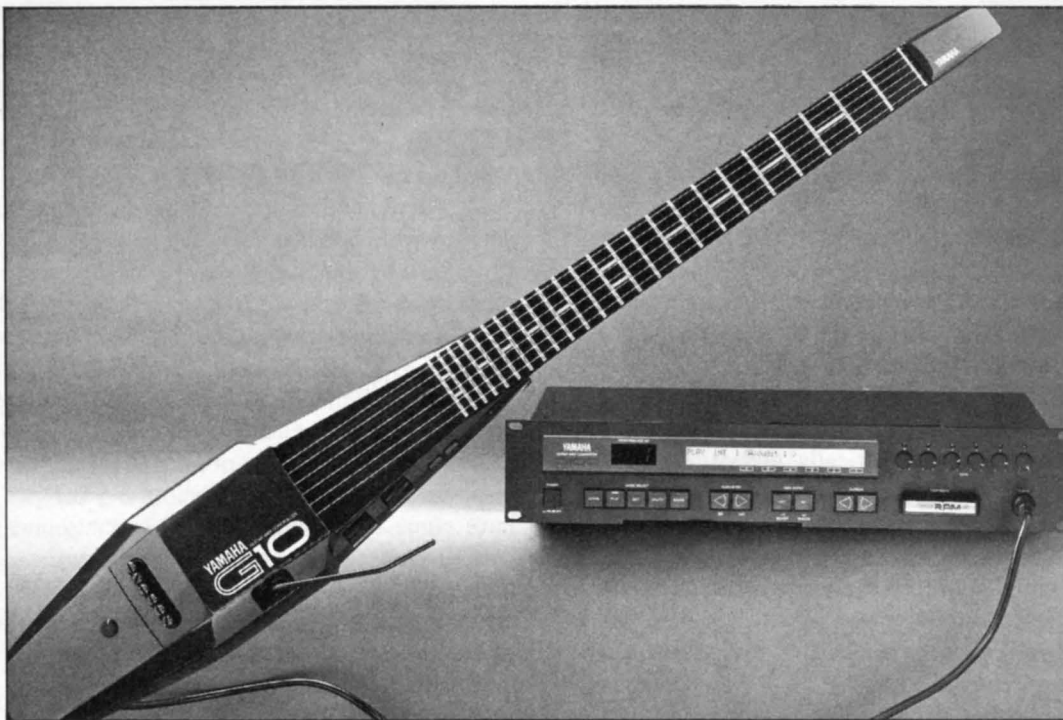
G10 MIDI guitar system.

would be centered around concert pitch. In this case, you'd probably want to set both instruments to a somewhat lower but equal volume, say around 80.

On some sounds, doubling the bottom two strings can add a really strong low end. This is particularly effective on MIDIfied rhythm guitar parts. Another trick is to transpose the doubled instruments an octave higher or lower; adding a sub-octave to the bottom two strings works very well.

Finally, don't forget to edit each single Voice so that its mode (in the Function menu) is Mono, not Poly, and *save* it before working with a Performance. Mono mode insures the most guitar-like feel.

Typical Performance #2: Omni Mode

Mono mode is not the optimum choice if you don't want a newly-played note to cut off any previously-played notes that are still sounding

Figure 1. A typical mono mode TX81Z Performance for use with the G10.

Performance Editor

name: Pulse Wave			
assign mode NORM			
micro tune select OCT.			
effect select OFF			

1: MellowSqar	5: MellowSqar
2: MellowSqar	6: MellowSqar
3: MellowSqar	7: MellowSqar
4: MellowSqar	8: MellowSqar

inst. number	1	2	3	4	5	6	7	8
number of notes	1	1	1	1	1	1	1	1
voice number	129	129	129	129	129	129	129	129
receive ch.	1	2	3	4	5	6	1	2
key limit /L	C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
key limit /H	G 8	G 8	G 8	G 8	G 8	G 8	G 8	G 8

	1	2	3	4	5	6	7	8
detune	+0	+0	+0	+0	+0	+0	-2	-2
note shift	+12	+12	+12	+12	+12	+12	+12	+12
volume	73	73	99	99	99	99	50	50
out assign	LR	LR	LR	LR	LR	LR	LR	LR
lfo select	1	2	VIB	VIB	VIB	VIB	VIB	VIB
micro tune	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

G10

on that same string. Choirs, flutes, strings, horns, and similar "pad" sounds (as well as patches with long release times where you need to avoid having notes cut each other off) require a Performance like the one shown in Figure 2.

In this Performance, only instrument 1 is of interest because it has all eight of the TX81Z's notes assigned to it. Assigning eight notes to an instrument automatically takes all the other instruments out of the picture. However, remember that the guitar is still transmitting in Mono mode. Setting the receive channel to Omni guarantees that signals from any of the strings will be played by the assigned Voice, up to a total of eight notes sounding simultaneously.

In this case, you need to go into the Function menu for the single Voice used with this Performance, set the mode to Poly, and *save* the Voice. Otherwise, you'll hear only one note at a time, even if you strum a chord.

Another important point is that setting the pitch bend response to zero makes life a lot easier with this performance. This is because in Omni mode, bending more than one string confuses the TX81Z, which can't decide which of the various bend messages it should follow. The result is a rough and uneven sound. However, in cases where bending is absolutely necessary, if you can avoid bending more than one string at a time you'll be able to get away with adding some pitch bend response.

One Final Tip

One point about MIDI guitar that doesn't seem to have gotten a lot of print is the subject of adding special effects. Over the years, we have come to associate certain guitar sounds with specific signal processors—the wah-wahs of funk music, the fuzz of heavy metal, a bit of long echo on a stinging lead part, slapback echo for a rockabilly groove, and so on. Adding some guitar-oriented signal processing to a synth's sound will often make a MIDI guitar feel much more like a "real" guitar, because you'll be hearing a more familiar sound. Try chorusing some rhythm parts, too.

MIDI guitar can be a lot of fun, but it can't be said enough that you have to optimize the controller, the converter, and the synthesizer to make the whole process work. Hopefully this article has provided a bit of insight into how to tweak your synthezier and tone generator Performances for MIDI guitar.

Figure 2. A typical omni mode TX81Z Performance for use with the G10.

Performance Editor

name: Horns *

1: HornMut*	5:
2:	6:
3:	7:
4:	8:

assign mode	NORM
micro tune select	OCT.
effect select	OFF

inst. number	1	2	3	4	5	6	7	8
number of notes	8	0	0	0	0	0	0	0
voice number	107	107	107	107	107	107	101	101
receive ch.	OMNI	2	3	4	5	6	7	8
key limit /L	C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
key limit /H	G 8	G 8	G 8	G 8	G 8	G 8	G 8	G 8
detune	+0	+0	+0	+0	+0	+0	+0	+0
note shift	+0	+0	+0	+0	+0	+0	+0	+0
volume	99	99	99	99	99	99	99	99
out assign	LR	LR	LR	LR	LR	LR	LR	LR
lfo select	OFF	OFF	OFF	OFF	OFF	OFF	VIB	VIB
micro tune	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Sequence For The C1

S INCE YOU CAN RUN just about any kind of MS-DOS software on the Yamaha C1 Music Computer, it's easy to forget that those MIDI ports, CS sliders and note-value keys aren't just added for cosmetic value. Despite its multi-talented nature, the C1 was primarily designed as a tool for music creation. With that in mind, Yamaha has introduced Sequence, a professional sequencer software package that is specially designed to give musicians access to the C1's unique music making capabilities.

Graphic Interface

Some popular computers have a form of user interface known as a graphic interface. Without naming names, you'll probably recognize one of these computers by the presence of a small trash can in the lower right corner of the screen when the computer is turned on. This type of interface has proven to be especially useful for music applications. As a general rule, MS-DOS applications don't use a graphic interface, but Yamaha has thoughtfully included a graphic interface package with Sequence so that you can take advantage of features like pull-down menus, scroll bars, and graphic editing. For those of you who are addicted to a mouse, Sequence also supports both mouse and keyboard commands.

In addition to providing a graphic environment to aid in music creation, Yamaha has given a great deal of attention to the C1's music hardware. Recording can take place from either of the two MIDI IN ports, and each track can be assigned to play back through any of the eight MIDI OUT ports. The CS1 and CS2 sliders are available for data entry (you'll appreciate this when you want to move quickly from the lowest to the highest value in a range) and tempo control during a playback.

If you happen to find yourself without a MIDI keyboard, you can still compose by step recording using the C1 keyboard. The notes can be entered on the C1 note keys (which are logically laid out to resemble a piano keyboard), the note values can be set with the note value keys, and the proper octave can be set with the C1's octave keys. If you need to do long sequences, Sequence is also smart about how

An Introduction To Yamaha's New Sequencer Program For The C1 Music Computer. By Scott Plunkett.

much extended memory is available on the C1. With the standard 512k of extended memory, about 39,000 notes can be stored. If you need extra memory, you can buy an EMB15 RAM board to boost your extended memory to 2 meg and get a healthy 193,000 note capacity.

If you're the type of composer who needs that 193,000 note capacity, you'll be happy to know that Sequence has 400 tracks. Only (!) 200 of them can play simultaneously, but you can use the others for editing or making safety copies of tracks. There's also a handy provision for converting any part of a track into a pattern. A pattern may then be inserted into any of the 400 tracks at any specified location. Up to 1024 patterns can be defined at one time, so frequently used phrases or repeating parts may quickly be constructed, edited, and inserted into empty tracks for song creation.

Master Track

You can simply set a tempo and a meter and begin recording or playback, or you can use the Master Track if you want complicated meter and tempo changes. The Master Track Numeric Editor lets you see all of the current meter and tempo changes and edit them as single events. The location of each event is shown in Meas/Beat/Clock and Hr/Min/Sec/Frm format so that you can make changes based on SMPTE time code locations. Since you can record tempo changes in real time using the CS1 slider or even record tempo changes over MIDI, the Master Track editor gives you a convenient way to edit out mistakes or insert new data.

The Master Track is also used for inserting Rehearsal Marks. Any time you want to mark a particular location for playback, you can insert a Rehearsal Mark with a comment. By specifying the proper Rehearsal Mark for playback, you can jump immediately to any position in the song.

Recording With Sequence

Both realtime and step recording are possible with Sequence. In realtime record you have the option of using replace mode, which erases what

Sequence

what was previously on the track and replaces it with the new recording, or overdub mode, which adds the new recording to the old. Loop recording is available (with the option of quantizing during recording) for building up drum and rhythm tracks quickly, and there are three punch modes, including an auto punch mode that can punch in and out to the precision of Sequence's 480-clocks-per-quarter-note resolution.

Sequence can record on multiple tracks simultaneously, which can really come in handy when you need to port over a song from another sequencer. In fact, since each of the two MIDI IN ports are active and each port supports all 16 MIDI channels, you have the potential of recording up to 32 different parts in one pass. Sequence can record while it's synchronized to other sequencers with standard MIDI clock, direct SMPTE sync (using the C1's SMPTE ports), or MIDI Time Code.

When you finish recording a track, Sequence responds by giving you a visual representation of what was recorded in the Track Data area at the bottom of the screen. You'll never have to wonder anymore about whether a track actually contains data. This display is normally what you see at the bottom of the main screen, but there are actually some powerful functions hidden within the Track Data area.

Clicking the mouse button beside the Track Data title brings up the Track Attribute screen. For each track, you can set a time offset to move the track forward or backward in time, change the transposition, or send an initial program change, volume, or pan value whenever playback begins. A unique feature in the Track Attribute window is the individual track tempo LFO. You can set the speed and depth of the tempo LFO on each track to give a more fluid, human feel to quantized tracks.

From the Track Attribute screen, you can go to the Track Comment screen to add a 32 character comment for each track. This is a good place to put information about the tone generators and patches you used, in case you want to reconstruct a performance later. The last hidden function, Velocity Meter, is the most entertaining. With this feature you can watch the changing note-on velocity of each track as it plays back. This is sort of like having a block of MIDI VU meters at your disposal, except you never have to worry about clipping.

Bar Graph And Numeric Edit Windows

One advantage software sequencers have always had over their hardware counterparts is that they can make good use of the computer's screen size. Screen size really becomes a big plus when it's time to edit. Instead of seeing just one MIDI event at a time, whole note lists can be shown, or some form of graphic editing can be used. Since both styles of editing have their advantages, Sequence uses them both.

When you select a track to edit, you can choose either a Bar Graph edit window or a Numeric Editor. Since up to 4 of these edit windows can be opened and viewed simultaneously, you can actually edit a track using a combination of the two methods.

The Bar Graph window shows notes in a "piano roll" style. Each note is represented by a bar

Main Recorder display of the Sequence program.
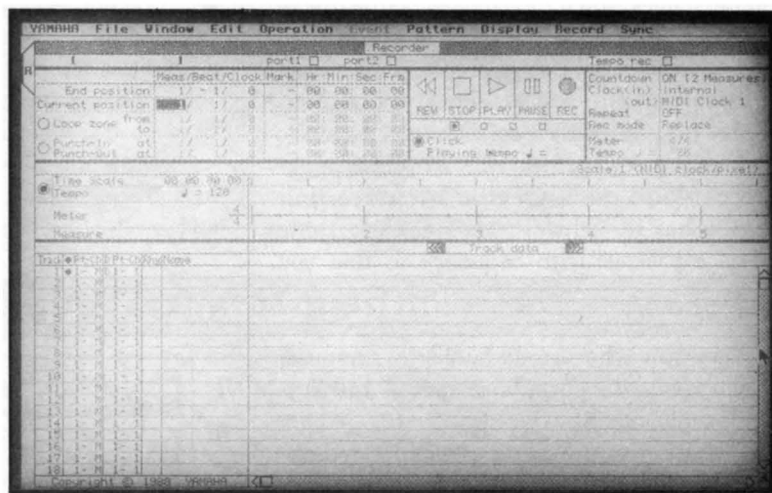
whose location in the window determines the pitch and starting point (in measure/beat/clock format). The length of the bar corresponds to how long the note was held down when the track was recorded. To make mistakes easier to find, the C1 sends a Note On message to your tone generator so that you can hear the pitch whenever you select a note bar for editing. With the mouse, you can lengthen notes, shorten notes, delete notes, move notes, or even draw new notes.

The Numeric Editor gives you a complete list of all of the MIDI events in the track. If you aren't interested in seeing those pitch bends that you got a bit carried away with, don't

worry, you can filter out any type of data with the edit filter. Like the Master Track editing window, the Numeric Editor shows the starting time of every event in both measure/beat/clock and hour/minute/second/frame formats. If you're scrolling through and want to hear a particular note, clicking the mouse on the note number will send it to your tone generators. There's also a PLAY button in the upper right corner of the window that will play all of the events that are currently visible. Any of the data that appears in the window can be changed, and events can easily be inserted or deleted.

Region Editing

If you don't want to work on individual events, Sequence lets you select a region by dragging the mouse over the desired area in the Bar Graph or Numeric Editor window, or by using the Set Region command to set region start and end points. Entire tracks can also be selected by simply clicking on the track number in the main display. In addition to the standard Copy, Cut, and Replace options, you can Filter Out specific types of data from a track or use the "Cut with Time" function to shorten tracks by removing the selected region itself along with the data in the region.

As you would expect with a professional sequencer, you can do things like quantize a region (Note On with or without duration, Note Off with or without duration, etc.), transpose, modify velocities and gate times, or thin out and modify controller data. There are also some clever commands to create trills, tremolos and arpeggios from your recorded data. And if you start getting tired of those step recorded and quantized tracks, there's a Bounce function that changes the feel to a shuffle or, if you like, something more exotic.

Rhythm Note Assign Tables And MIDI Macros

If you've ever created a drum part for one drum machine and then decided to switch to another drum machine, you've probably been a victim of the "Those Note Assignments Don't Live Here" syndrome. Since every drum machine manufacturer decides on a different default note setting for each drum, the chances are very slim that you'll actually hear a kick drum playing when you play your kick drum track with the new drum machine. Sure, you could change all of the note assigns on the new machine, but you'll probably get tired of learn-

C1 music computer.

ing the operating systems of every drum machine you encounter. A simpler way to approach the problem is to use Sequence's Rhythm Note Assign table. With this table you can designate different playback notes for each recorded note. So, for instance, if D1 is designated as the kick drum note on one drum machine and A1 on another, you could assign all D1 notes to play A1 notes with the Rhythm Note Assign table.

The MIDI Macro function is a powerful feature designed for experienced MIDI users. A string of MIDI data can be entered and saved as one of 128 MIDI macros. Any of the 128 macros can be inserted into a track to be sent when the sequence plays back. This can be particularly useful for sending MIDI System Exclusive codes to your tone generators to change voice parameters during a performance.

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Unfortunately, with a professional program like Sequence, covering all of its many features in one article is impossible. But, the strengths of this kind of program are as much in its user interface and the way it allows you to work as in the individual features that it includes. The best way to get an idea of what Sequence can do is to go to your local authorized Yamaha C1 dealer and ask for a demo or, better yet, actually make some music with it yourself.

Hot Tips

Readers Tips For The MEP4, MV802, And More.

MEP4 MIDI event processor.

Three Ways To Adjust The DX7's Velocity Range With An MEP4

By Jack R. McCreary

The expressiveness and feel of the DX7 and PF15 (with a MIDI retrofit) make them excellent master keyboards. Unfortunately, however, since neither keyboard puts out a higher MIDI velocity than about 105, they are not very suitable for use with non-Yamaha products that comply with the standard MIDI velocity scale of 0-127.

I have used the Yamaha MEP4 MIDI event processor to change the velocity scale of the DX7 and PF15 in the following three ways:

Velocity Shift. In its only explicit reference to this issue, the MEP4 owners manual suggests shifting the entire velocity scale, using settings like this on one processor:
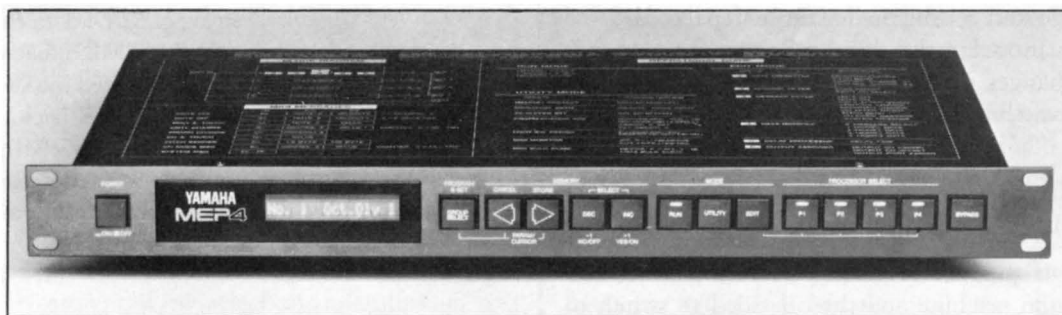
```
0:MSG:9n.xx.yy
1:OFS:yy,V = + 22
```

(A second processor is also needed to pass through velocity messages of 0 in an unmodified form to provide for Note Off commands.)

While correcting the upper end of the velocity scale, this solution also distorts the lower end of the scale so that extremely soft passages can no longer be played.

3-Way Split Velocity Shift. An improvement over the above setup is to use three processors to add extra velocity values in progressively greater amounts. (One processor must still be dedicated to protect the integrity of

Note Off = Zero Velocity commands.) Though the values should be tweaked to match different equipment and playing styles, something along the following lines works well:

Processor One: The message filter passes both Note On and Note Off commands. The Data Modifier is Limited (LIM) to pass through unmodified velocity values from 0 through 40 (decimal) only.

Processors Two through Four: Only Note On commands pass the Message Filter. Using the LIM command, each processor passes through successive bands of the DX or PF velocity range; for example, 41-60, 61-80, and 81-105 (all decimal values). Following this, an offset (OFS) function adds progressively greater amounts of velocity in each processor; for example, $V = + 4$ in Processor Two, followed by $V = + 12$ in Three, and $V = + 22$ in Four.

Though the modified velocity scale is not seamless—there is an abrupt break between 40 and 45, for example, and a gap of 10 at the highest break point—both the lowest and highest MIDI velocity values are preserved. Furthermore, the breaks that do occur in this modified velocity scale are effectively masked by the three-way split. Under the Velocity Shift formula in example 1 above, a 22-point velocity shift more than doubles the lower values. In this setup, 10 additional units near the top of the velocity scale represent a proportionately small shift.

Reshaping Upper Velocity Curve. This setup requires only two processors. Processor One passes both Note On and Note Off commands through the Data Filter, and sends through (LIM) unmodified velocity values from 0 to 79 (decimal). Processor Two limits the range of modifications to the velocity scale from 80 to the upper end of the DX/PF scale. The velocity date (yy) is then offset (OFS) by a value of −40 and, finally, expanded by a factor of 2 (EXP: yy, R = 2).

As a result of these operations, an incoming velocity value of 80 is still transmitted as 80 (80 − 40 = 40; 40x2 = 80). However, at higher velocity values, the scale is reshaped to transmit progressively higher velocity values. For example, 90 on the DX/PF scale becomes 100 at the MEP4's output (90 − 40 = 50; 50x2 = 100). The maximum DX/PF value of 105 now becomes 130 (105 − 40 = 75; 75x2 = 130).

Experimentation with these values suggests that an even lower break point for the beginning of this upper velocity curve can be effective. Some of my MIDI slaves respond best when the LIM command begins at a velocity value as low as 74 (decimal) with an OFS of V = −37.

For most applications, this is the best solution to the DX/PF velocity problem. Lower velocity values are preserved; also, unlike the two previous solutions, the maximum MIDI velocity of 127 is reached without creating discontinuities. In addition, this setup frees two MEP4 processors for other assignments.

I hope other MEP4 users find these setups useful.

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Getting More Than Eight Input Channels From A Yamaha MV802 Mixer

By James A. Laing, Jr.

I recently purchased a Yamaha MV802 to mix my keyboards and tone generators. I've discovered that I really have more than eight input channels available to me, even if the "extra" channels don't have the same flexibility as the eight "main" channels provided by MV802.

I have two stereo tone generators (Yamaha TX802 and Kurzweil K1000) plus a drum machine. I also like to use the MV802 for playing CDs (using my portable CD player) while the band is on break. I only use one of the two

MV802 rack-mount mixer.

available Effects Loops (for reverb), so I use the stereo returns from the unused Effects Loop as inputs for my CD player! Using the Aux Return controls, I effectively have volume and balance controls for the CD player.

I use a Roland D-50 as part of my setup; since I use its "built-in" effects only, I need to add only its output to the mixer—so I use the "Sub In" R/L jacks. I simply use the D-50's volume control and effects controls. This means that I've used four line-level sources (two for the CD player and two for the D-50) without using any of the eight "main" channels.

The eight main channels are available for the TX802, my Kurzweil K1000, and my drum machine. Since these units use only six of the eight channels, channels 1 and 2 are still free for mics! And, if I have a need for more inputs, there's always the "Sub In" AUX 1 and AUX 2 jacks! I hadn't realized when I purchased the MV802 that it would allow for such flexibility. Maybe others could benefit from realizing that there are ways to add extra inputs to their MV802.

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Using E! To Reduce Noise Levels

By Mark Nadlin

Here is a tip for E! equipped DX7 II users. The noise level of any MIDI piece can be reduced by altering the velocity level in E!'s Track Assign map (accessed via button #28). Since "5" is the normal velocity level, levels of "6" or "7" work well.

On muddy–sounding patches, increasing the curve to "Pos 1" and decreasing the level to "4" usually improves the clarity.

Altering levels here allows you to trim the audio volume fader and results in "cleaner" audio.

MIDI Mixup

MIDI Feedback And Other Horrors. By Michael Babcock.

STOP!STOP!STOP!STOP!STOP!STOP!STOP! andtheregoesthatredlightagain...

Ron can't make it stop, and he has to. The most innocent of gestures and we are buried with exploding cascades of repetitious notes. Feedback?! Shades of amateur engineering at a rock concert sound check—the Sorcerer's Apprentice in sound, no brooms or buckets, compressed to 700 milliseconds.

Click. (Ron got it to stop.) Blink. Stupor. What happened?

Welcome to the non-standard world of what we thought was a perfectly good MIDI cable. Yeah, folks. Feedback.

Ron had caught a great riff on the sequencer of his Prophet VS synthesizer, and had decided to do some program changing from his Atari-ST-based sequencer. So he grabbed the MIDI cords he bought specially yesterday for this occasion (on special), patched the OUT of the Atari to the IN of the VS, patched the IN of the Atari to the OUT of the VS, and turned on both machines.

Instant sonic Sorcerer's Apprentice.

Ron has encountered two standardization sins. One is on the Atari, the other is in his new MIDI cables. Both problems arise because MIDI doesn't use all 5 pins in the DIN connector.

The MIDI specification uses a 5-pin connector to do a job that requires only 3 pins because at the time MIDI was born, 5-pin DIN connectors were cheap and available, and there was already a little experience using this type of cable for synchronizing instruments. So the specification calls for using only the middle three pins on the connector. What about the outside pins?

Atari's response on the ST was to reduce component count (save money) by putting the MIDI IN and MIDI OUT signals on its two sockets where they belong, and putting the MIDI THRU signals on the (unused) outer pins of the ST's MIDI OUT socket—no separate MIDI THRU socket. That system seems safe enough, since a true MIDI cable doesn't use the outer pins at all—the THRU signal simply goes nowhere. And if you really want the Atari's MIDI THRU signal, an easy, pleasant Saturday project builds you one. (If you're not into building, three audio DIN-to-RCA adapter cables and several RCA female-to-female adapters will do it.)

The manufacturer of Ron's new so-called MIDI cables also did something contrary to MIDI spec. Rather than leave the outer pins unconnected to any wires in the cable, this manufacturer wired the left two pins together and the right two pins together. (I've speculated as to why and haven't come up with anything convincing.)

The combination of Atari ST MIDI OUT/ THRU and a cable with outer pins wired together gave Ron a weird signal path. Any MIDI signal passing from VS MIDI OUT to Atari ST MIDI IN should stop at the Atari, unless you have connected to the Atari MIDI THRU. What must NOT happen in this hookup is to allow a MIDI signal to flow into the Atari MIDI IN and get onto the Atari MIDI OUT line. THRU yes; OUT no. But Ron's cable has shorted the Atari MIDI OUT and MIDI THRU together, and sent note information back to the MIDI IN on the VS. The VS both plays the note and sends that note to the VS's sequencer—which dutifully sends it to MIDI OUT, to the Atari ... We now have a feedback loop, using a MIDI hookup that is entirely normal and legal.

What's supposed to happen? Let's look at the MIDI spec:

Cables shall have a maximum length of fifty feet (15 meters), and shall be terminated on each end by a corresponding 5-pin DIN male plug, such as the SWITCHCRAFT 05GM5M. The cable shall be shielded twisted pair, with the shield connected to pin 2 at both ends.

What pins do we attach to? What do we do with the pins we don't use? Is a cable that does MORE than what this paragraph says still a MIDI cable? Some answers might come from elsewhere in the MIDI spec. The diagrams help some. They tell us that on both MIDI THRU and MIDI OUT, pin 4 is connected (through a 220-ohm resistor) to a +5 volt power source in the machine, that pin 5 gets the MIDI signal, pin 2 is grounded, and pins 1 and 3 are unused and unconnected. (See Figure 1.)

On MIDI IN, pins 4 and 5 go almost directly to a light-emitting diode (contained in a component called an opto-isolator) such that electrons must flow into pin 5, through the light-emitting diode in the opto-isolator, and back out of the machine through pin 4. Again there are unconnected pins: pins 1 and 3 again, *and also pin 2*. Repeat: pin 2 is unconnected—it is *not grounded*.

So what we have is a MIDI signal's electron flow (negative charges) passing from machine A out pin 5, into machine B via pin 5, passing through a light-emitting diode, back out of machine B via pin 4, and back into maching A via pin 5, ending up being pulled into the +5 volt side of machine A's power supply. (Interesting: machine B's light-emitting diode is run by machine A's circuits—there is *no electrical contact!* So how does the signal get through? Because inside machine B's MIDI IN opto-isolator, a sensor picks up the emitted light from the diode and sends a current on to the rest of machine B. For a very short distance, the signal is sent by light, not by wire; the two machines are thus electrically isolated.)

And here's a subtle detail: the MIDI spec doesn't mention it, but it is important that the circular metal housing that surrounds the 5 pins in the cable be *not attached to the shield wire!* The cable shielding is attached to pin 2 at both ends of the cable; pin two of MIDI OUT and MIDI THRU are grounded, so the cable shield will work. This shield wire does NOT have to carry a return current (unlike the shield in common consumer-grade audio cables). The pin-5 wire sends a signal to the light-emitting diode, and the pin-4 wire completes the circuit back to the sending machine. Note that the receiving machine (MIDI IN) does *not* have pin 2 con-

nected. So there should be *no* connection between the grounds of the two machines! *But—* suppose the cable connector's metal housing is connected to the shield wire: Then, when the cable is inserted into the MIDI sockets on the two machines, the housings contact the machines' metal chassis, creating an electrical path between the grounds of the two machines. And now the electrical isolation is broken, and the likely consequence is hum, maybe RFI, and even computer noise—noise from the MIDI data signal itself. But that's another MIDI Mixup.

So how do you protect yourself?

Check your cables electrically. You can use a test meter, set for resistance. If the meter jumps to (nearly) 0 ohms, it means "there *is* an electrical path;" if the resistance remains high, it means "there is *no* electrical path." (Any other value means you have a weird cable!) You might make something out of some wire and a flashlight (light means "electrical path"), or even an oscillator—use your ingenuity. Touch one tester wire to one pin of one connector (use an alligator clip if you have one.)

Now go the other connector with your other tester wire, and touch *each* of the pins in that connector, and the circular metal housing. You should get these results::

- For the middle three pins (2, 4 & 5): each pin should be connected ONLY to the corresponding pin in the other connector—2 to 2, 4 to 4, and 5 to 5. NO connection to pins 1 or 3, or the housing. (Check especially: no connection of 4 to 1, nor 5 to 3 nor 2 to the housing.)
- The circular metal housing shouldn't be connected to anything.
- Pins 1 & 3: well...

Well, what about pins 1 & 3? They shouldn't be connected to 4 or 5. If they are unconnected to anything, that's OK for MIDI. How about 1 to 1, and 3 to 3? It probably won't hurt anything, unless some manufacturer gets nervous about unattached connector pins (worried about RFI noise), and grounds them. Or unless somebody wants to save a nickel and puts some strange signal on them, such as MIDI THRU. But this is where we came in. ...

C1 Users Central

Presenting A C1 Program For Loading Data From A C1 Disk To A DX7 II. By Jim Smerdel & Tom Darter.

THIS MONTH, we present a simple C1 program that can be used to load voice and performance data from a C1 data disk to a DX7 II. (It is the companion to last month's program, which was designed to dump voice and performance data from a DX7 II and save it to a C1 data disk.) In order to use this program, you must first put together a disk that will hold both this program and the other system files needed to operate the C1. To prepare the disk, follow these steps:

1) Boot up the computer with the DOS disk in drive A. Put a blank disk in drive B and format it, using the format command (as follows—format b:/s).
2) The computer will prompt you from there, and format the disk in drive B. A basic form of DOS will be copied onto the disk.
3) Copy onto the disk the file COMMAND.COM from the DOS disk in drive A (use this command—copy command.com b:).
4) Insert the MIDI Monitor disk in drive A.
5) Copy onto the disk the four BULK files from the Monitor disk in drive A (use this command—copy bulk*.* b:).

At this point, you still need to enter the program, using the DOS text editor of your choice. Type it in just as it looks, and save it to your disk as a text only file. Be sure to include the "BAT" extension in the file name; this indicates that it is a DOS batch file.

Once you have entered the program on the disk, you are set. Put the disk in drive A (you can boot the computer with this disk), and put a data disk in drive B. Make MIDI connections between the C1 and the DX7 II, and make sure that the DX7's Device Number is set to 1.

The program is expecting to see three banks of information from the DX7 II (Voice bank A, Voice bank B, and Performance); however, you don't have to send or receive all three banks. If you want to skip a bank or banks, use a single "x" as a placeholder. To run the program, type in the file name (LD-DX7II.BAT) followed by

the names of the three files you want to send to the DX7 from your data disk (be sure to put a single space between each of the file names); then, hit RETURN.

• • • •

```
echo off

rem ================================
rem     AfterTouch Version
rem     LD-DX7II.BAT SEPT 29, 1988
rem     Written by Jim Smerdel, ver 1.0
rem ================================

rem ================================
rem     Check to see if all x's were entered?
rem ================================

if not%1 = = x goto notx
if not%2 = = x goto notx
if not%3 = = x goto notx
goto endl
:notx

rem ================================
rem     Check to see if the files exist on b: drive?
rem ================================

if%1 = = x goto bank2
if not exist b:%1 goto ckbank2
goto bank2
:ckbank2
echo*** %1 isn't on drive b, Ctrl + break to quit!, or to continue
pause
:bank2
if%2 = = x goto perf1
if not exist b:%2 goto ckperf1
goto perf1
:ckperf1
echo*** %2 isn't on drive b, Ctrl + break to quit!, or to continue
pause
:perf1
if%3 = = x goto continue
if not exist b:%3 goto levck
goto continue
:levck
echo*** %3 isn't on drive b, Ctrl + break to quit!, or to continue
pause
:continue

rem ================================
rem     insert file names into bulk transmit commands
rem     and create temporary file = tempfile
rem ================================

if%1 = x goto bk2
echo pause *** Ready to send voices to bank 1-32 of the dx7II>tempfile
echo tr dx7__2__p__off(0), 1>>tempfile
echo tr dx7__2__rblok(0,0),1>>tempfile
echo tr "b:%1",1>>tempfile
:bk2
if%2 = = x goto pf1
echo pause *** Ready to send voices to bank 32-64 of the dx7II>>tempfile
echo tr dx7__2__rblok(0,1),1>>tempfile
```

LET US HEAR FROM YOU! We want AfterTouch to be an information network for *all* users of Yamaha professional musical products, so please join in. We're looking for many different kinds of material.

Have you created an incredible patch or performance for the DX7 II, the TX81Z, or any of the other members of the Yamaha family of FM digital synthesizers and tone generators? How about a patch for the SPX90 II multi-effects processor, or a great voice edit or pattern for the RX5? If so, send them in. If we use your material, we'll give you full credit plus $25.00 for each item used.

Have you discovered a trick that increases the musical flexibility of one of the Yamaha professional musical products? Send it in to our "Hot Tips" column. If we use your tip, you'll receive full credit plus a check for $25.00.

Have you developed a new approach to one of the Yamaha professional musical products, or have you discovered an important secret regarding their use? Put it on paper and send it to us. Don't worry about your writing style—just get the information down. If we decide to use your material as a full article in AfterTouch, we'll write it up, put your name on it, and send you a check for $100.00. (An AfterTouch article always covers at least one magazine page—which translates to at least four double-spaced pages of typescript.)

By the way, we cannot assume liability for the safe return of unused ideas, patches, or manuscripts. We will only be able to return unused material if you enclose a self-addressed, stamped envelope with your submission.

And, if you just have a question regarding the use of Yamaha professional musical products, send it along too. We'll do our best to answer it in the pages of AfterTouch. (We regret that we won't be able to answer questions through the mail, but we will use all of your questions to guide us in our choice of future topics.)

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AFTER-TOUCH is a monthly informational publication from the DMI Division of Yamaha

C1 Users *Continued*

```
echo tr "b:%2",1>>tempfile
:pf1
if%3 = = x goto nopf1
echo pause ***Ready to send Performance data to the dx7II>>tempfile
echo tr "b:%3",1>>tempfile
:nopf1
echo beep ********finished********>>tempfile

rem = = = = = = = = = = = = = = = = = = = = = = = = = = = = = =
rem    redirect commands from temporary file into bulk program.
rem = = = = = = = = = = = = = = = = = = = = = = = = = = = = = =
```

```
bulk<tempfile
del tempfile
goto end

rem = = = = = = = = = = = = = = = = = = = = = = = = = = = = = =
rem    if you come directly here you must have entered all x's
rem = = = = = = = = = = = = = = = = = = = = = = = = = = = = = =
:end1
echo ****you must enter at least one file name!, try again.
:end
```

AFTERTOUCH
P.O. Box 7938
Northridge, CA 91327-79_

"The 'burbs"

or program changes a during cue, it is *very* important to remember to reset everything for the beginning of the next take–this is one of the easiest things to forget and screw up on.

Just as you learn about new difficulties at each session, you also learn about things that help you get through the day. Here are three things that came in very handy for me during the sessions:

1) The Yamaha YME8. In simple MIDI setups like the ones used for "The 'burbs" sessions, it is very easy to turn instruments on and off with a YME8: You don't have to remember to reach somewhere else to turn volume on and off. Also, if you are using an instrument with a "Local Off" MIDI feature as your master, you can hook the instrument to itself using YME8 and make all MIDI changes at one location–this allows you use one keyboard as the master, even when its sound is not required. Of course, for more complicated MIDI setups, a more complicated MIDI patching system is a necessity.

2) More than one keyboard instrument. Even with sophisticated MIDI patchers, complex MIDI master keyboard controllers, and state-of-the-art tone generators, it is sometimes useful to be able to change sounds simply by moving your hand to another keyboard. Granted, it is great to need only two (or three) to get the job done

(thanks to rack-mount MIDIed tone generators), but it's also great to have an extra keyboard when the music is moving and changing quickly.

3) Your fellow keyboardists. A few of the cues called for odd MIDI changes between instruments that were parts of more than one desk; in every case, the players all banded together to figure out a way to take care of it (plug in or pull out a MIDI cable, adjust volume on an instrument, and so on).

During the sessions, Jerry Goldsmith was adept at making quick changes to his music to meet the changing needs of the picture. At one point, Joe Dante asked him how he was able to do it so consistently, and Jerry answered, "It comes from working in radio, which was done live. If there are just ten minutes until air time, you take care of it!"

Of course, some things always have to be done again, especially if the cut of the film changes following preview screenings. We had one final single session on January 3rd, 1989, from 7:30 to 10:30 PM. Only a few cues were re-done, and everything went smoothly. At the end of the session, Jerry told Joe Dante jokingly that he couldn't make any more changes, since he (Jerry) was leaving for Italy the next day, to begin work on another film score.