

TOUCH

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V50

MARCH 1989

YAMAHA®

News & Information

THIS MONTH, as usual, we have more good material than we have space in which to present it. In order to make room for the contents you see on page 3, we had to skip our popular "MIDI Mixup" and "MIDI Matchup" columns. They will be back next month.

In the meantime, check out some of the special features we have this month. Start with the article called "Getting Acquainted With Your WX7," written by Gregory W. Yasinitsky. In addition to being an AfterTouch reader, Mr. Yasinitsky is an Associate Professor of Music at Washington State University in Pullman, where he directs the Jazz Studies program and teaches saxophone and composition. As a saxophonist, Yasinitsky has appeared with Sarah Vaughn, Stan Getz, the San Francisco Symphony, and many others. He is also a clinician and consultant for Yamaha saxophones.

The Rory Kaplan interview covers a wide range of topics, and gives a different perspective on musicianship. And, in upcoming issues, watch for interviews with musicians like multifaceted keyboardist Chick Corea, popular saxophonist and WX7 player Tom Scott, and award-winning film score composer Jerry Goldsmith.

-Tom Darter

International Popular Music Festival Results

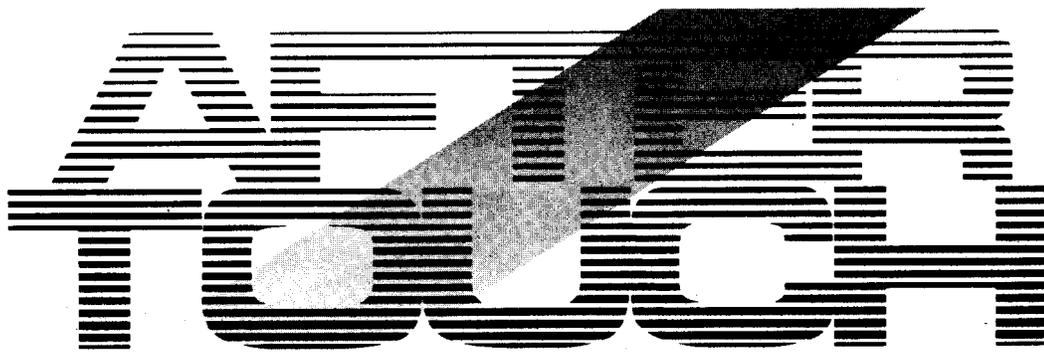
As mentioned in last month's issue of AfterTouch, the finals of the International Popular Music Festival were held on February 12th, at the Fuji television studios in Tokyo, Japan. The United States was represented by Giraffe, the band that won the Soundcheck '88 competition. Giraffe received the Gold (second place) award, which included a cash prize of \$10,000 plus \$10,000 in Yamaha equipment. The Platinum (first place) award went to the Australian band Janz; their award included \$15,000 dollars in cash and \$15,000 in Yamaha gear. Emerald, a band from Indonesia, received the Silver (third place) award, which included \$5,000 in cash and \$5,000 in Yamaha gear.

A TV program of the Festival finals was shown in Japan and Europe a few days after the competition. Negotiations are currently under way for a US showing.

Product Specialist Clinics

The Yamaha Digital Musical Instrument (DMI) division employs a number of top-notch product specialists, who tour the country constantly giving clinics and presentations in conjunction with local Yamaha DMI dealers. Here is a list of upcoming clinic dates and locations, covering the last half of March through the beginning of May.

| Date | Location | Specialist |
|------------|---|---|
| Mar. 15 | Cockeyed Camel Pub Nashville, TN | Phil Clendeninn, Danny Hoefler, MIDI Band |
| Mar. 16-17 | Music Ed. National Conf. Nashville, TN | Phil Clendeninn, Danny Hoefler, MIDI Band |
| Mar. 17 | Stouffer Hotel Nashville, TN | Phil Clendeninn, Danny Hoefler, MIDI Band |
| Apr. 3 | Guitar Shop Chicago, IL | Kevin Stratton |
| Apr. 17 | Naperville Music Naperville, IL | Phil Clendeninn |
| Apr. 18 | Gand Music Northfield, IL | Phil Clendeninn |
| Apr. 19 | The Music Shoppe Normal, IL | Phil Clendeninn |
| Apr. 24 | Falcetti Music Holyoke, MA | Kevin Stratton |
| Apr. 25 | Drome Sound St. Indian Orchard, MA | Kevin Stratton |
| Apr. 26 | Lasalle Music Boston, MA | Kevin Stratton |
| Apr. 27 | Blue Mt. Guitar W. Lebanon, NH | Kevin Stratton |
| May 1 | K.B.D. Systems Virginia Beach, VA | Phil Clendeninn |
| May 2 | Supertone Charlottesville, VA | Phil Clendeninn |
| May 3 | Reliable Music Charlotte, NC | Phil Clendeninn |
| May 4 | Music Loft Raleigh, NC | Phil Clendeninn |



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Questions & Answers

Answers To Questions From Readers. By Steve Demming & Tom Darter.

I have a MIDI recording studio focused around an Atari 130XE (with a Hybrid Arts MIDI Interface) running the Hybrid Arts MIDITrack III MIDI Recorder software. A friend of mine came over with his Yamaha MIDI drum pads and control unit, and we tried to record his drumming using the MIDITrack III system. We could trigger all of the synthesizers and drum machines, but could not get any MIDI data from the pads to record in the sequencer. I don't understand why we could trigger all of the MIDI devices (from a number of manufacturers) but could not record the information to the Atari's sequencer program. Can you help us?—Tracy L. Lord, Essex Junction, VT.

Well, since all of the synthesizers are recognizing the data from the drum pads, we know that they are sending MIDI data properly. It is quite possible that the gate time of the data from the drum pad/controller system is too short, so that the sequencer is not recognizing the drum hits as note data—most sequencers are set up to recognize data from keyboards.

Both the Yamaha PTX8 and PMC1 have controls that allow for a wide adjustment in gate time values. The PMC1 has a front panel Gate Time control, with a range of 1–255 ms; the default setting is 100 ms. The gate time on the PTX8 can be altered in Voice Edit mode, over a range of 100–6500 ms.

Will the Yamaha C1 music computer featured in the July 1988 issue of AfterTouch support a laser jet printer (such as the Hewlett Packard) for use with the business software (such as Word Perfect) mentioned in the article?—Danny Dickerson, Nashville, TN.

Yes, absolutely. The printer is software-driven; therefore, if the software in question is designed to work with a particular printer, the computer that runs the software will also work with that printer. Word Perfect does support the Hewlett Packard Laser Jet printer, and the C1 is compatible with Word Perfect; therefore, the C1 is compatible with the Hewlett Packard Laser Jet printer for that application.

I own a DX7 II FD synthesizer, a QX5 sequencer, and a Korg DDD5 drum machine. I have no difficulty transferring data from the QX5 to disk via the DX7's MDR feature and vice versa, but I cannot transfer the data from the DDD5 to disk successfully. Both units show "executing" and "completed" messages, and do not show any "error" messages; an MDR file is created, but transfer of this file back to its source results in an empty drum machine. How can I store data from my DDD5 without error?—Ralph Dornburg, Madison, WI.

The DX7 II FD has a buffer of only 20K. When the buffer is full, the unit automatically stores that data in the buffer to disk, even if it has not yet received all of the data being sent; and, when it sends the data to disk, the DX7 II gives a "completed" message. The Korg unit, on the other hand, continues to send its data, and gives a "completed" message when it is through. Now, when this incomplete data file is sent back to the DDD5, the Korg will report that it is receiving data; however, since it will not receive the complete Sys Ex message that it sent, it never receives the "end of message" code that tells it to assemble the data. In other words, the Korg unit never completes assembling the data, and the result is the empty drum machine you described.

The only way to solve this problem is to expand the buffer of the DX7 II, which (as far as we know) can only be done by having the E! kit for the DX7 II installed in your unit. E! is a product of GMR (Grey Matter Response). For more information on E! for the DX7 II, contact GMR at 1-408-427-3678.

I am currently using my QX1 to do some extensive sequencer work. Is there any way to save the output assignments into permanent song memory so they do not have to be changed manually from one song to the next?—R. Hood, Fresno, CA.

No. The QX1's output assignments must be set manually.

I recently purchased the Yamaha PF2000. It is a great keyboard and I enjoy it a lot. However, I am having difficulty finding sounds for it. It seems that most of the available sounds are on disk, for the DX7 II FD. How can I find sounds that are compatible with the PF2000?—**Dave Ascoli, Tempe AZ.**

All ROM and RAM cartridges for the DX7 II will work in your PF2000's cartridge port. In addition, all RAM and ROM cartridges created for the original DX7 can be used with the PF2000 in conjunction with an APD1 cartridge adaptor. Yamaha has also created a new ROM cartridge specifically for the PF2000, which contains voices not found on the original PF2000 ROM.

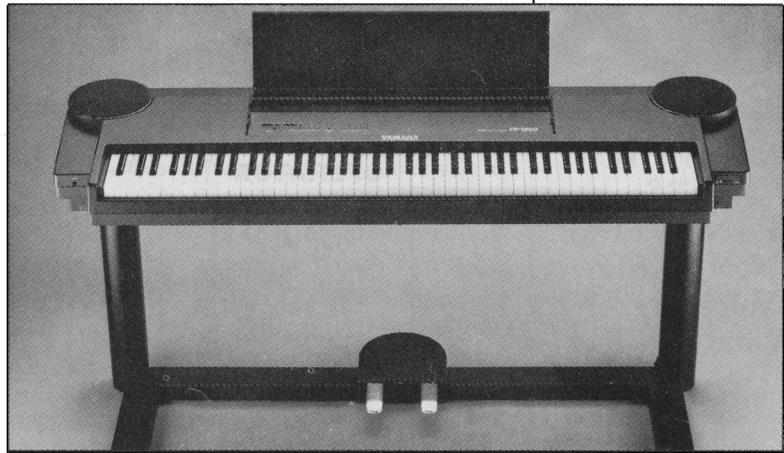
I have been trying for some time to locate a librarian or editor/librarian for the RX5. Do you know of any? Also, are there any books available on the RX5, to supplement the owners manual?—**David Daboll, Everett, WA.**

As far as we know, there are no editor/librarians available for the RX5. The System Exclusive implementation is sketchy, but not so limited that an editor/librarian is impossible. The RX5's Sys Ex implementation does not allow direct access to parameters, so any editor/librarian program would have to work using bulk dumps from RX5 to computer and from computer to RX5.

Alexander Publishing (3537 Old Conejo Rd., Newbury Park, CA 91320) publishes a book entitled *Yamaha RX5: How To Make Your Drum Machine Sound Like A Drummer*, by David Crigger. The 161-page book, with a list price of \$29.95, comes complete with a 52-minute audio cassette that contains recorded examples. For more information, contact Alexander Publishing: in California, call 805-499-6200; outside California, call 1-800-633-1123.

I am a solo guitarist who has recently, like so many others, gone MIDI. I use an SPX90, which I think is one of the greatest machines ever invented! But, I would like some advice on how to use it more effectively. Is there any kind of reference manual available with applications for the SPX90?—**Carl Keating, Winnie, TX.**

Shortly after the SPX90 first appeared, Yamaha created an SPX90 Programming Guide. This booklet is still available for free. For more information, write to: Yamaha Corporation of America, Pro Audio Division, Literature Dept., P.O. Box 6600, Buena Park, CA 90622.



PF2000 electronic piano.

I own a Yamaha CPV-7 Clavinova, an FB-01 tone generator, and a Casio hf4700 keyboard. I run the MIDI OUT from the Clavinova to the MIDI IN of the FB-01, and run the MIDI THRU from the FB-01 to the MIDI IN of the Casio. I have programmed 16 user configurations on the FB-01; however, when I change the program on the CPV-7, it automatically changes the FB-01's configuration—is there any way to prevent this?

Since the MID instructions in the CPV-7 owners manual are very sketchy, I have some more questions about the unit: How do I change its MIDI transmission channel? (I assume the default channel is 1). How do I change its MIDI mode setting? Finally, the ABC (auto-bass/chord) on the CPV-7 won't control the Casio via MIDI, but a similar feature on the Casio does control the CPV-7. Is there a way to get the CPV-7's ABC mode to control the Casio via MIDI?—**Harris Berman, Bowie, MD.**

Unfortunately, there is nothing that can be done about these MIDI problems using just the CPV-7. The instrument's MIDI implementation is very limited. The unit operates only on MIDI channel 1, and this cannot be changed internally. Also, the unit always sends out MIDI Program Change messages when a new sound is selected, and this also cannot be changed internally. Finally, the ABC (auto-bass/chord) feature on the CPV-7 does not output MIDI information to control other units.

It would be possible to use something like a Yamaha MEP4 MIDI event processor to change MIDI channels and filter out Program Change messages coming from the CPV-7, but this seems like an overkill solution to your problems. The CPV-7 Clavinova is a fine self-contained keyboard with some limited MIDI feature, but it is not a very effective MIDI master keyboard controller.

TX81Z

"POTS&PANS1" & "POTS&PANS2." Two New TX81Z Voices By Cindy McTee.

Notes:

Closely related, these two patches contain modulators in fixed frequency mode. Playing a series of different notes on the keyboard therefore produces different timbres per note.

A note on the diagrams:

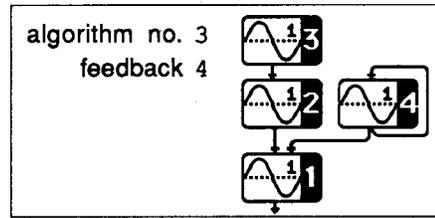
In these diagrams, the numbers listed for both Frequency Coarse and Frequency Fine do not represent the actual settings—instead, they represent a value level within the range of values available for both parameters. To set each operator's frequency value properly, start with the Frequency Coarse and Frequency Fine both at their lowest possible values; then, go to Frequency Coarse and Increment the value the number of times indicated by the number in the chart; finally, go to Frequency Fine and increment the value the number of times indicated by the number in the chart. The actual frequency values for each operator are shown within dotted boxes at the bottom of the Operator portion of the chart.

| OPERATOR | op1 | op2 | op3 | op4 |
|--------------|------|-------|------|-----|
| on/off | ON | ON | ON | ON |
| out level | 99 | 83 | 85 | 85 |
| freq. type | RTO | RTO | FIX | FIX |
| fix range | 255 | 255 | 4K | 1K |
| freq. coarse | 16 | 28 | 44 | 36 |
| freq. fine | 0 | 0 | 14 | 5 |
| detune | +0 | +0 | +0 | +0 |
| -1- | -2- | -3- | -4- | |
| 5.00 | 9.00 | 3040H | 596H | |

| ENVELOPE | op1 | op2 | op3 | op4 |
|---------------|-----|-----|-----|-----|
| attack rate | 24 | 31 | 31 | 31 |
| decay 1 rate | 14 | 31 | 24 | 28 |
| decay 1 level | 15 | 15 | 15 | 15 |
| decay 2 rate | 16 | 28 | 14 | 14 |
| release rate | 7 | 4 | 5 | 7 |
| eg shift | OFF | OFF | OFF | OFF |

| SCALING/SENS | op1 | op2 | op3 | op4 |
|--------------|-----|-----|-----|-----|
| rate | 0 | 0 | 0 | 0 |
| level | 0 | 0 | 0 | 0 |
| ams on/off | OFF | OFF | OFF | OFF |
| sens eg bias | 0 | 0 | 0 | 0 |
| key vel | 3 | 2 | 2 | 2 |

voice name: POTS&PANS1



| LFO | op1 | op2 | op3 | op4 |
|-----------------|-----|-----|-----|-----|
| waveform | | | | |
| speed | 0 | | | |
| amp mod depth | 0 | | | |
| pitch mod depth | 0 | | | |
| sync | OFF | | | |
| delay | 0 | | | |
| sens | 0 | | | |

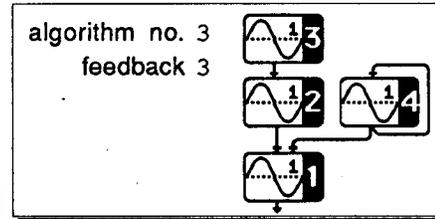
| FUNCTION | op1 | op2 | op3 | op4 |
|------------|------|-----|-----|-----|
| mode | POLY | | | |
| mid C = | C 3 | | | |
| portamento | FULL | | | |
| porta time | 0 | | | |
| pb range | 4 | | | |
| vol | 40 | | | |
| pitch | 0 | | | |
| amp | 0 | | | |
| pitch | 50 | | | |
| amp | 0 | | | |
| rev rate | 0 | | | |
| pitch | 0 | | | |
| amp | 0 | | | |
| eg bias | 0 | | | |
| p bias | +0 | | | |

| OPERATOR | op1 | op2 | op3 | op4 |
|--------------|------|-------|-------|-----|
| on/off | ON | ON | ON | ON |
| out level | 99 | 83 | 85 | 85 |
| freq. type | RTO | RTO | FIX | FIX |
| fix range | 255 | 255 | 4K | 4K |
| freq. coarse | 16 | 28 | 44 | 36 |
| freq. fine | 0 | 0 | 14 | 5 |
| detune | +0 | +0 | +0 | +0 |
| -1- | -2- | -3- | -4- | |
| 5.00 | 9.00 | 3040H | 2384H | |

| ENVELOPE | op1 | op2 | op3 | op4 |
|---------------|-----|-----|-----|-----|
| attack rate | 24 | 31 | 31 | 31 |
| decay 1 rate | 14 | 31 | 24 | 28 |
| decay 1 level | 15 | 15 | 15 | 15 |
| decay 2 rate | 16 | 28 | 14 | 14 |
| release rate | 7 | 4 | 5 | 7 |
| eg shift | OFF | OFF | OFF | OFF |

| SCALING/SENS | op1 | op2 | op3 | op4 |
|--------------|-----|-----|-----|-----|
| rate | 0 | 0 | 0 | 0 |
| level | 0 | 0 | 0 | 0 |
| ams on/off | OFF | OFF | OFF | OFF |
| sens eg bias | 0 | 0 | 0 | 0 |
| key vel | 3 | 2 | 2 | 3 |

voice name: POTS&PANS2



| LFO | op1 | op2 | op3 | op4 |
|-----------------|-----|-----|-----|-----|
| waveform | | | | |
| speed | 34 | | | |
| amp mod depth | 0 | | | |
| pitch mod depth | 0 | | | |
| sync | OFF | | | |
| delay | 33 | | | |
| sens | 0 | | | |

| FUNCTION | op1 | op2 | op3 | op4 |
|------------|------|-----|-----|-----|
| mode | POLY | | | |
| mid C = | C 3 | | | |
| portamento | FULL | | | |
| porta time | 0 | | | |
| pb range | 4 | | | |
| vol | 40 | | | |
| pitch | 0 | | | |
| amp | 0 | | | |
| pitch | 50 | | | |
| amp | 0 | | | |
| rev rate | 0 | | | |
| pitch | 0 | | | |
| amp | 0 | | | |
| eg bias | 0 | | | |
| p bias | +0 | | | |

TX81Z

"LEAD GTR" & "Elect. Bass 5." Two New TX81Z Voices By Jim Hegarty.

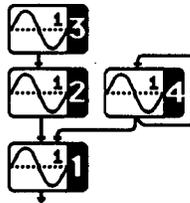
| OPERATOR | op1 | op2 | op3 | op4 |
|--------------|------|------|------|-----|
| on/off | ON | ON | ON | ON |
| out level | 99 | 85 | 69 | 98 |
| freq. type | RTO | RTO | RTO | RTO |
| fix range | 255 | 255 | 255 | 255 |
| freq. coarse | 4 | 4 | 4 | 0 |
| freq. fine | 0 | 0 | 0 | 0 |
| detune | +0 | +3 | -2 | -3 |
| -1- | -2- | -3- | -4- | |
| 1.00 | 1.00 | 1.00 | 0.50 | |

| ENVELOPE | op1 | op2 | op3 | op4 |
|---------------|-----|-----|-----|-----|
| attack rate | 19 | 12 | 12 | 22 |
| decay 1 rate | 31 | 31 | 9 | 9 |
| decay 1 level | 15 | 15 | 0 | 14 |
| decay 2 rate | 0 | 7 | 0 | 1 |
| release rate | 7 | 1 | 1 | 1 |
| eg shift | OFF | OFF | OFF | OFF |

| SCALING/SENS | op1 | op2 | op3 | op4 |
|--------------|-----|-----|-----|-----|
| rate | 1 | 1 | 2 | 2 |
| level | 0 | 92 | 0 | 4 |
| ams on/off | OFF | OFF | OFF | OFF |
| sens eg bias | 0 | 0 | 0 | 0 |
| key vel | 1 | 0 | 1 | 1 |

voice name: LEAD GTR

algorithm no. 3
feedback 5



LFO

waveform sync OFF
speed 26 delay 30
amp mod depth 0 sens 0
pitch mod depth 21 sens 5

FUNCTION

mode POLY mid C = C 3
portamento FULL rev rate 0
porta time 7 pb range 2
vol 99 pitch 99
pitch 0 amp 0
amp 0 eg bias 0
pitch 99 p bias +0
amp 0

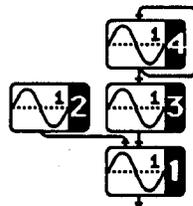
| OPERATOR | op1 | op2 | op3 | op4 |
|--------------|------|------|-------|-----|
| on/off | ON | ON | ON | ON |
| out level | 99 | 75 | 85 | 73 |
| freq. type | RTO | RTO | RTO | RTO |
| fix range | 255 | 255 | 255 | 255 |
| freq. coarse | 0 | 0 | 4 | 34 |
| freq. fine | 0 | 0 | 0 | 0 |
| detune | +0 | +0 | +0 | +0 |
| -1- | -2- | -3- | -4- | |
| 0.50 | 0.50 | 1.00 | 11.00 | |

| ENVELOPE | op1 | op2 | op3 | op4 |
|---------------|-----|-----|-----|-----|
| attack rate | 31 | 31 | 21 | 23 |
| decay 1 rate | 12 | 2 | 11 | 12 |
| decay 1 level | 14 | 15 | 13 | 5 |
| decay 2 rate | 9 | 3 | 0 | 12 |
| release rate | 8 | 1 | 1 | 10 |
| eg shift | OFF | OFF | OFF | OFF |

| SCALING/SENS | op1 | op2 | op3 | op4 |
|--------------|-----|-----|-----|-----|
| rate | 0 | 0 | 0 | 2 |
| level | 0 | 0 | 42 | 99 |
| ams on/off | OFF | OFF | OFF | OFF |
| sens eg bias | 0 | 0 | 0 | 0 |
| key vel | 1 | 0 | 2 | 3 |

voice name: ElectBass5

algorithm no. 4
feedback 0



LFO

waveform sync ON
speed 0 delay 0
amp mod depth 0 sens 0
pitch mod depth 0 sens 0

FUNCTION

mode POLY mid C = C 2
portamento FULL rev rate 0
porta time 0 pb range 2
vol 40 pitch 0
pitch 0 amp 0
amp 0 eg bias 0
pitch 50 p bias +0
amp 0

Notes:

Set Mode to Mono and use Fingered Portamento for trills.

A note on the diagrams:

In these diagrams, the numbers listed for both Frequency Coarse and Frequency Fine do not represent the actual settings—instead, they represent a value level within the range of values available for both parameters. To set each operator's frequency value properly, start with the Frequency Coarse and Frequency Fine both at their lowest possible values; then, go to Frequency Coarse and Increment the value the number of times indicated by the number in the chart; finally, go to Frequency Fine and increment the value the number of times indicated by the number in the chart. The actual frequency values for each operator are shown within dotted boxes at the bottom of the Operator portion of the chart.

Notes:

Try using Effect #1 Delay with these settings:
Time = .05s; Pitch Shift = 0;
Feedback = 1; Effect Level = 99. For a great ambient bass sound, vary the time setting according to the tempo of the song.

V50 Synthesizer

**An Introduction To
Yamaha's New
Multi-Timbral
Digital
Synthesizer.
By Tom Darter.**

THE YAMAHA V50 digital synthesizer has been designed to act as an all-in-one production system. In addition to its powerful dual FM tone generators, the multi-timbral V50 features a built-in PCM drum machine, an 8-track sequencer, and 32 digital effects. In addition, programs, sequences, and patterns may be saved using the built-in 3.5" disk drive.

Tone Generation

The V50's synthesizer section consists of two 4-operator, 8-waveform FM tone generators, for full 16-note polyphony and 8-timbre capability. At any time, you can access up to 300 voices instantly: 100 preset, 100 internal, and 100 card voices. The V50 can also use voice data from the Yamaha DX11, TX81Z, YS100, YS200, or B200.

In Performance mode, up to eight different voices can be played simultaneously. At any time, you can access up to 300 performances instantly: 100 preset, 100 internal, and 100 card performances.

A Quick Edit option has been added to the V50, allowing rapid changes to a voice's brilliance, volume, attack, or release time. Of course, full voice editing is also available.

Sequencer

The Sequencer section is of professional quality. This is a full 8-track sequencer, controlled from tape recorder-style buttons on the front panel. The sequencer has a capacity of 64K, which is enough for approximately 16,000 notes. The V50's memory can remember eight songs, with each song containing up to eight tracks. Each track can have its own independent MIDI transmit and receive channels. Other features include real and step time recording, overdub, mix, quantize, copy, and erase.

To enhance the sequencer's performance, sophisticated dynamic voice allocation (DVA) is employed to make full use of the 16 available voices of polyphony.

Rhythm Machine

The Rhythm Machine section contains all of the features of a professional drum machine. 100 patterns can be created and stored in memory to go along with the 100 preset patterns. These patterns can be combined to create up to eight rhythm songs. Each pattern can be from one to four measures long, and can use any of the following time signatures: $\frac{1}{4}$ through $\frac{3}{4}$, $\frac{1}{8}$ through $\frac{16}{8}$, and $\frac{1}{16}$ through $\frac{32}{16}$. Rhythm songs can contain up to 1000 steps; each step consists of a pattern number or a function command (such as repeat, volume change, or tempo change).

The rhythm machine's tone generator is completely independent of the synthesizer tone generator, and is not affected by the number of notes being played by the synthesizer. Up to eight notes can be produced simultaneously by the rhythm machine tone generator.

The tone generator of the rhythm machine provides 61 different percussion sounds, as follows: BD 1, BD2, BD 3, H. BD, GateBD, E. BD, SD 1, SD 2, Pic1SD, H. SD 1, H. SD 2, GateSD, E. SD, Rim 1, Rim 2, Tom 1, Tom 2, Tom 3, Tom 4, F. Tom 1, F. Tom 2, F. Tom 3, F. Tom 4, E. Tom 1, E. Tom 2, E. Tom 3, E. Tom 4, HHclos, HHopen, HH1/4o, HHpd1, Ride, Edge, Crash, FMprc1, FMprc2, FMprc3, ClsCsh, BellTr, TimpnH, TimpnL, Claps, Shaker, Cowbel, Timb1H, Timb1L, Whst1S, Whst1L, CgaHMT, CgaHOP, Cgo LO, Bgo HI, Bgo LO, CuicaH, CuicaL, Ago HI, Ago LO, Tambrn, Claves, Cstnt, and VbrSlp. Each percussion instrument has its own setting for pan, volume, and MIDI note number.

The Front Panel

The V50's front panel has been designed with a lot of useful controls, making it very easy to operate. In addition to the liquid-crystal display (LCD), volume slider, and data entry slider, the unit offers eight function keys, located directly underneath the LCD (these keys have various functions depending on the mode the unit is in;



V50 digital synthesizer.

the current function of each key is indicated by the LCD). In addition, there are tape-recorder-like controls for the sequencer, a numeric/note-value keypad, edit and sequencer/track buttons, utility buttons, and more

Signal Processing

The built-in digital signal processor offers 32 different programmable effects, as follows: Reverb Hall, Reverb Room, Reverb Plate, Delay, Delay L/R, Stereo Echo, Distortion Rev., Distortion Echo, Gate Reverb, Reverse Gate, Early Ref., Tone Control, Delay & Reverb, Delay L/R & Rev., Dist. & Delay, Church, Club, Stage, Bath Room, Metal, Tunnel, Doubler 1, Doubler 2, Feed Back Gate, F. Back Reverse, Feed Back E/R, Delay & Tone 1, Dly. L/R & Tone1, Tone Control 2, Delay & Tone2, Dly L/R & Tone 2, and Distortion.

Disk Storage System

The V50 comes equipped with an onboard 3.5" disk drive. The following types of data can be stored to and recalled from disk:

- ALL: saves synthesizer data (internal voices, internal performances, setup), sequencer data (all songs, setup) and rhythm machine data (all patterns, all songs, setup) to disk.
- SYN: saves only synthesizer data (internal voice, internal performance, setup) data to disk.

SEQ: saves only sequencer data (a single song) to disk.

R.SEQ: saves only rhythm machine data (all patterns, all songs, setup) to disk.

The drive can also be used as a MIDI Data Recorder (MDR) to save MIDI bulk data from other MIDI instruments.

Connections

In addition to the standard MIDI IN, MIDI THRU, and MIDI OUT connectors, the V50 features stereo audio output jacks, and a headphone jack. There are also jacks for two foot controllers (FC7 or FC9 type), a breath controller (BC1 or BC2), and two foot switches (FC4 or FC5 type); the second foot switch connector is designated as a PLAY/STOP switch for the V50's internal sequencer.

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The V50 is available now at authorized Yamaha Digital Musical Instrument (DMI) retailers, for a suggested retail price of \$1895.00. Dealers will also be supplied with a demonstration video that provides an over-the-shoulder view of a musician preparing a complete song demo using the many capabilities of the V50. For more information, see your authorized Yamaha dealer, or write to: Yamaha Corporation of America, Digital Musical Instruments Division, P.O. Box 6600, Buena Park, CA 90622.

Rory Kaplan

RORY KAPLAN HAS TAKEN A VERY uncommon path within the music business. The status and respect he has achieved from his musical peers is well earned and widespread; however, his story is unique. Unlike many keyboardists today, Rory's strength and recognition in the music business grew (at least in the beginning) from the technical knowledge he possessed, rather than from his keyboard chops.

A native of Los Angeles who became intent on entering the music business after hearing the Beatles at age nine, Rory has never tried to follow other people's life script. He didn't allow his early childhood piano lessons (which he disliked at the time and says didn't evolve into much of anything) to discourage the love of music he felt so deeply.

He also tried his musical talents on guitar, and though his abilities expanded during his high school years, fellow high-school band member Steve Lukather (who eventually joined the band Toto) proved to be so awesome that Rory dismissed the notion of competing with such extraordinary talents as Steve's (as well as those of another young guitar talent in the area at the time, Eddie Van Halen). Instead, he decided to concentrate on the newly developing area of musical electronics. This decision eventually led Rory into the center of one of the most interesting careers in music today.

. . . .

How did you first hook up with Chick Corea?

While I was working for SIR (Studio Instrument Rentals)—tearing Fender Rhodes and Minimoog keyboards apart and putting them back together again—I noticed that Chick was going to be in one of the studios. I would look in on his sessions from time to time, feeling a little like a lost puppy, and thinking, "This is so great!"

A few months later, Chick needed someone to take care of his keyboards because he was moving from New York to Los Angeles, and Chick's manager, Ron Moss, contacted me for the job. I couldn't believe it! Chick was getting ready to do a solo album, *My Spanish Heart*. So, that was my first record project. I programmed

From Chick Corea To Michael Jackson To Rob Lowe. By Sibyl Darter.

synthesizers and was there as a technical support person.

After being around Chick, watching over his shoulder as he played, I decided, "This is it! I want to play keyboards!" Every now and then I'd ask him a question, and so it went. Then one day during the Herbie Hancock/Chick Corea Duet tour, Chick asked me if I knew anything about harmony. He asked me, "What's the minor third of C?" I had no idea what he was talking about. I blanked, but he encouraged me to think the question through. After that experience, I bought little books that would help me understand the formal ideas of music. I watched him, and would ask him or Herbie why they had voiced a certain chord the way they had. That was a huge learning experience for me.

What did you do after working with Chick?

I went off with Randy Crawford, playing background keyboards: string stuff and horns. She was the opening act for Joe Sample and the Crusaders. Joe and I hit it off real well, and he asked me to work on the new Crusaders album. This was still pre-MIDI time, and I had about 18 keyboards, almost all Moog—A Moog 3-C, four Polymoogs, two Minimoogs, a Multimoog, and more. An album was recorded, but RSO Records filed Chapter 11, and the record was never released.

I eventually had to work as a sales person in a Los Angeles music store. Salesmanship, it turned out, was not something I was good at doing. Fortunately, it was at this time that a friend of mine, Will Alexander, introduced me to the Fairlight Synthesizer. He spent a lot of time with me, educating me on the instrument. Suddenly, I felt very competent and comfortable with the Fairlight system.

A few months later, Shelley Duvall asked the Fairlight people to help create some original sounds for *Fairy Tale Theater*. She was looking for the right sound for the nightingale bird and, happily, I came up with the sound that she and her Musical Director really liked. I ended up programming the sounds for several other episodes of *Fairy Tale Theater*.

How did you get to be a keyboardist on the Victory tour?

Jermaine Jackson had bought a Fairlight in October '83. He had heard that I was not only

able to use the Fairlight with competency, but that I knew a lot of other technical stuff that might be useful for the tour. Professionally and personally, it was a time of competitive egos and talent, previous commitments for some invited musicians, and certainly a time of insecurity for me. I followed Jermaine's instructions and called the rehearsal studio, but the person I talked to hadn't heard from Jermaine, so he told me not to come down. I figured, "Oh, well, it's just one of those things," but when Jermaine heard about the mix-up, he called me and the people at the studio who had already started rehearsing and told them I *would* be playing on the tour. So, when I did show up at the studio, the guys who had been playing the keyboard parts up until then were less than friendly to me. Apparently the two keyboard players had already been practicing for two weeks when, out of the blue, Jermaine announces, "We're adding another keyboard player."

I knew the other keyboard players were more than competent—they were phenomenal! I thought, "What am I going to do?" At first it was kind of like, "Well, Rory, since we're *already* doing these parts, you can cover this one little line." It was Randy Jackson who first started giving me more parts to play. I knew I'd have a lot to prove since I was coming up from the technical, not musical, side of things. The other keyboardists hadn't come up from the technical side like me. I felt I had to prove my musicianship over and above what the other keyboardists had already proven. The Victory tour was definitely a learning experience on several different levels for me.

What did you do between the Victory tour in '84 and the Bad tour, which started in '87?

I went back to work for Chick. After the Victory tour I found myself sitting in the background, observing what was going on. Finally, I contacted Ron Moss, who encouraged me to come to terms with myself, be honest with myself, about what my strengths and weaknesses were. That's when I became aware of what I was really capable of doing. I didn't try to conquer the world. Instead, I looked at what I *was* capable of doing, and committed myself to practicing or improving my weaker points at the time. I started working for Chick again—with his Elektric Band. Once again, I started learning anything and everything that Chick was doing, musically.

I have to mention that my wife, Thora, was so encouraging. I was used to people keeping me down if I failed even slightly. Her support meant the world to me. It helped me try and work harder on my musical ability.

Next, Michael Jackson's secretary called me



Rory Kaplan (L) with Greg Phillinganes.

while I was on the road with The Elektric Band, and told me I was wanted for his upcoming tour to Japan and Australia. The *Bad* album had not yet been released, and he wanted to go on the road with music that had been on the Victory tour. I had to make a choice of going to Europe with Chick, or taking a chance that this Jackson tour would really happen. I chose to be a part of the Jackson tour, and that was a choice that was the best for me, professionally.

I got to run the auditions for the next two weeks. I was the Musical Director; a lot of the organizational things that Chick had taught me became so useful. The responsibility was on my shoulders, and even though it was new and therefore a little scary, it was the most exhilarating time I had ever had. I was in the hot seat, and I liked it!

Then, when I realized that the production staff for the tour was talking about going into full-production rehearsals in the next two weeks and on to Japan after three weeks of rehearsal, I realized that I had been practicing on rented equipment, for the most part. I thought uneasily, "We have no equipment!" So, I started putting the system together in earnest.

What was the final set-up for the Japan/Australia leg of the tour?

I had one double-bay rack, real simple, which consisted originally of two Akai 900s, TX1P, Roland Super JX, Roland Super Jupiter with

Rory Kaplan

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programmer, a TX816 rack, a TX802, an MV802 for the effects, REV5, two SPX90s, a Lexicon PCM-70, RX5 drum machine, and two PsychoLogic MIDI mappers.

What did you add after going to Japan and Australia?

When we came back, Michael said, "Look: I want to do everything new. Maybe 'Heartbreak Hotel' we'll keep in, plus 'Startin' Something,' 'Billy Jean,' and 'Beat It,' but I want to add 'Smooth Criminal,' 'Man In The Mirror,' and even 'Thriller.'" All these were new songs for the tour. So I went to Michael's studio in his home and I took all his 24-tracks, made mixes—all the keyboard parts, all the guitar parts, all the drum parts. I made different cassettes to give to all the band members.

It was at this point, after I'd been doing this for about three weeks, that Greg Phillinganes showed back up. Greg and I had a talk: He took over musical direction, and I took over the technical direction. It was an obvious choice, since he'd worked on all Michael's albums; Greg's musicianship is to R&B what Chick's is to jazz.

So, I designed Greg's racks and my racks. The techs and I built everything, and did the programming and MIDI mapping and so on. Then Eddy Reynolds came on. Eddy has always been one of the best technicians in Los Angeles. He and I spent about a month over at Leeds programming every song from scratch. We had his Compaq computer up; I had my Macintosh. I had all my OpCode software; he had all his Sidekick and Dr. T software. We sat there every day from ten in the morning until probably eight or nine in the evening, sometimes even later. *Every day, programming.*

We'd listen to "Human Nature" and ask ourselves: "What are all the elements of this song? Then we'd work until we found them. So I'd do all of Greg's programming, get a disk for Greg for when he came in, and then do all of my stuff. It was fun and it was educational, wearing all these hats, thinking with the whole band in mind. Some sounds that I set up sounded great with just Greg and me playing; but, when you add guitar and bass, and then drums, it might be overwhelming, or not strong enough. We had to try and just get in the ballpark, and adjust it later.

My dad passed away about this time, and I was so upset; I figured, "If I just keep working, it'll help me through it." So, I went back to

work the next day. And I worked straight through until we left for Pensacola, Florida, to do production rehearsals. That's the only place we could find in the States where we could get an indoor stadium and rehearse full production. Michael wasn't there for the first two weeks of rehearsals, it was just mainly getting the music together, as well as working with the lighting guys, the sound guys, and anyone else who worked on the production aspect of the show.

During the first two weeks or rehearsal, I took down lots of notes and paid particular attention to all of my horn sounds, because there were a lot of horn parts for this music, and I worked hard to make them be very realistic. Even Quincy Jones said, "The horns are slammin'." It was nice to hear that kind of compliment from Quincy. I did my homework, and I had something to prove, you know; I felt I'd been sort of looked down on for years as a player. Now being a player, and passing the hat of technical over to other people, I felt I could really concentrate on playing.

Greg took me under his wing on this tour, and taught me weekly. In exchange, I would show him how to program the disk, how to get sounds. It worked out real well. During the course of the tour we had hotel recording systems made, because Michael knew we were going to be gone for a year (actually it turned out to be more like a year and a half) and since we'd only do three shows a week, we would have at least four days off in hotel rooms. So Michael's manager was very gracious, and got us our hotel systems. Yamaha really supported us there. I had a TX816 rack in my room, an MV802, a DX7, and an SPX90. I wanted to get a Studiomaster mixer, but there isn't a small enough Studiomaster to fit in my hotel room, so I used a Hill 16 by 4 by 2. I had a little patch bay, and a Diditech DS2-128 effects unit. Greg and I made some demos in our rooms that were *unbelievable*.

It was at this time that I started considering possibilities for after the tour. I thought of all the albums I've been involved with, where I'd programmed sounds, or had given some ideas like, "If you take this sound and do this, you can get this!" So then I started thinking, "After this tour, I really want to produce." I feel most at home behind the equipment. As far as my musical abilities, I know enough now: who I have to hire to do things I can't do, and the things that I am capable of. Obviously I'd always hire someone like Greg or Chick to do all the

"wonderwork." I feel I'm capable of doing a lot but, it's like I said earlier, you just have to be honest: Know what your shortcomings and what your strong points are. That was one of the best realizations for me on the tour. I knew I was more musically capable than ever because Greg and I were splitting the keyboard work 50/50. It was a big difference from the earlier tour when I'd played only four notes in a whole hour.

How did your current project, producing an album for Rob Lowe, come about?

I ran into Rob in Paris, when he was backstage at the show, and we started hanging out. He had an assistant with him, Justin, and they were promoting his latest film, *Masquerade*. He told me that he loved to sing and that a dream of his had been to do a project involving him singing. I put that in the back of my head. He had seen Michael's show and had flipped over it. He couldn't believe all the technical things involved. He gave me his secretary's phone number, to get in touch with him. Everything started coming together right after the *Bad* tour.

Rob is taking this thing very seriously, as am I. I've wanted to produce an album for a long time. And now, it's happening. I have all the resources in the world to work with: Greg Phillinganes, Richy Lawson, Dave Weckl, Chick Corea—the list goes on. I started working on demo's, and working with him, working on demo's with Greg, and I was convinced, "This is it." So Rob and I got together; started working, got him a vocal coach—his voice started really blossoming, like we wanted it to. Then, we got serious about it, and said, "Look, let's do an album." Now it's at the point where all the attorneys are getting it together. They're going to get the deals going, and we're going to work on the material here in the house for a few months.

Tell our readers something about how you relate to MIDI. It seems to be the most misunderstood aspect of today's electronic music.

Like anything else, understanding MIDI means you first have to understand the fundamentals of MIDI, beginning with what the acronym "MIDI" stands for. When I explain to people what MIDI stands for—Musical Instrument Digital Interface—it's surprising how much knowing just *that* helps them. They're suddenly saying, "Okay, that opens up a door. Now, what can I do with that?"

Once you've gone through that door, then you need to talk about the little micro-processing units that are able to talk from one machine to another machine. And, in that chain of command, there are 16 MIDI channels to work with—to address, to turn something on and off, or whatever. Yamaha makes a book, *What is MIDI?* It's a little pocked dictionary that

is very useful. I keep that book in my workcase, because I still have situations with the basic, the operations, which are just MIDI Transmit and MIDI Receive. That's the first name of the game: just learning basic MIDI. In and Out, Transmit and Receive. Then you have to assign the different instruments in your setup.

What instrument are you using as your master keyboard?

I'm using the KX88 as my master, and I have about 32-40 keyboards to address. I run everything through MIDI channel 1, and I use a Psychologic MIDI Mapper. It allows me to have 16 master inputs and 32 outputs. I have a second Mapper because I ran out of outputs.

How do you sort out all of the different instruments and sounds?

When assigning channels you go basic things—for example, I always keep my drum machines on MIDI channel 16. I'll put my bass part on MIDI channel 1. I'll put my basic pads on MIDI channel 2. This means that my Minimoog will receive on MIDI channel 1, for the bass part, and I might have a rack of TX816s receive on MIDI channel 2 to do the pads, and all that. I might have a TX802 play a melody line on MIDI channel 3. This way, you have automatically premixed and pre-set-up what instruments you want to receive on a certain channel. You can always change them later, if you don't like that instrument. You can change it to another channel. But that's like a basic MIDI idea.

Any other MIDI tips?

There are also Controller Code messages and System Exclusive messages; every instrument has its own parameters in MIDI to deal with. So they're all basics, but you have to learn from scratch, and you have to look at every single word, and make sure you understand every word, because, I mean—well, it would be like driving a car: if you never understood what an accelerator was, or you never understood what a steering wheel was, and you went to take a lesson... Yeah, you could still pick up a keyboard and play it, and you might be able to, by accident, plug in two cables and all of a sudden say, "Wow, these two play together." But, if you want to get creative with it, and totally understand what you're doing with sequencing and film score work and syncing things, you have to work at it, and learn it.

I mean, years ago we had Chick onstage with 20-something keyboards, and Gayle Moran was playing Mellotrons and Polymoogs and Minimoogs and all this stuff. And now, Chick goes onstage with just a Yamaha MIDI grand piano and a KX88. Everything else is backstage.

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WX7 Wind Controller

Getting Acquainted With Your WX7.
By Gregory W. Yasinitsky.

YAMAHA'S WX7 MIDI wind controller is creating quite a stir. The instrument is an ideal controller for woodwind players anxious to join the MIDI revolution, because a WX7 can be set to respond to virtually any playing style. WX7 flexibility, though, has a down side. The instrument has so many programmable features that it can be baffling to a new owner.

After ten months of WX7 playing and programming, I humbly offer the following observations and suggestions with the hopes that they may help to ease the transition from analog to digital for new WX7 owners.

About The Dipswitches

Perhaps the best WX7 feature is its ability to enable performers to play expressive, breath-controlled phases with a wide variety of subtle dynamics. When Dipswitch #1 (Aftertouch) is off, the fluctuating intensity of a performer's air stream is converted by the WX7 into breath control data, and when this data is used to play voices that have been programmed to respond to breath control, the results can be striking.

Many Yamaha synthesizers and tone generators (such as the TX81Z and DX7 II) can be set to respond to breath control, but numerous synthesizers made by other companies cannot. Dipswitch #1 enables the WX7 to play a wide variety of synthesizers of many makes expressively, because when Dipswitch #1 is on, breath control data is converted to aftertouch data. Many synthesizers of various brands can respond to aftertouch, so the position of Dipswitch #1 is largely determined by the particular unit you want to play. Remember, to get the most from your WX7, your controller and synthesizer *must* be set to respond to the same type of data (breath control or aftertouch) and you *must* play voices that have been programmed to respond to that data.

My WX7 is MIDled to the Yamaha TX81Z, which responds well to breath control. As an experiment, though, I switched both my WX7 and TX81Z to aftertouch. To my ears, voices played with the aftertouch setting were richer and had more body than these same sounds when played with my WX7 and TX81Z set for breath control. I have only tried this one tone

generator—the TX81Z—but I suggest that, if you are using a Yamaha synthesizer or tone generator with your WX7, you should be sure to try both settings: breath control and aftertouch. If you are using your WX7 with a TX81Z, I recommend the aftertouch setting.

Dipswitch #2 (Volume) is for synthesizers or individual voices that cannot be programmed for breath control or aftertouch. When Dipswitch #2 is on, these voices will respond somewhat to changes in breath pressure, but the response can be erratic, especially for those voices that have been set to respond to key velocity. Still, some breath expression is better than none, and for those voices (and synthesizers) that cannot accept breath control or aftertouch data, Dipswitch #2 on is the only breath expressive option.

I do not recommend leaving Dipswitch #2 on, though, when playing voices that *have* been set for breath control or aftertouch data. To my ears, the result is a kind of dynamic overkill. My advice is to leave Dipswitch #2 off, and to avoid playing those sounds that have not been set to respond to breath control or aftertouch. In my view, it makes little sense to play synthesizers or voices that are not equipped to accept the wealth of expressive information being sent by your WX7.

Dipswitches #3 and #4 enable a performer to set his or her WX7 to play in a specific transposition. When both #3 and #4 are off, the WX7 plays like a non-transposing, concert instrument: fingered C equals C. When #3 is on and #4 is off, the WX7 plays in Eb, like an alto saxophone: fingered C equals Eb. When #3 is off and #4 is on, the WX7 plays in Bb, like a soprano or tenor saxophone: fingered C equals Bb. And, with both #3 and #4 on, the controller plays in C, up one octave.

Dipswitches #5 and #6 control the WX7's sustain button. There are four possible settings: Normal Mode (one channel), Follow Mode (one channel), Dual Play Mode—No Breath (two channels), and Dual Play Mode—Use Breath (two channels). It is important to remember that mono voices *will not* sustain in Normal or Follow Modes, but it is possible to get them to sustain in the Dual Play Modes. It is best to sustain wind, brass, or string voices that

have been programmed for little or no key velocity. Piano, guitar, and percussion voices, however, do not sustain well. Personally, I find that Dual Play Mode—No Breath (#5 off, #6 on) works best for me.

Dipswitch #7 (Curve) sets one of two breath response options: When #7 is off, the WX7 interprets breath pressure with a linear (straight line) response; when #7 is on, the WX7 reads breath pressure with an exponential (curved line) response. After experimenting with both settings, my feeling is that there is a slight but important difference between the two. With the linear response, it is a bit easier to play at extreme dynamics—very softly or very loudly. With the exponential response, there is more room for shading in the middle dynamic range.

About Dipswitch #8 (Loose): The WX7 manual implies that Tight Lip Mode (#8 off) is for saxophonists, and that Loose Lip Mode (#8 on) is for players who have not yet developed saxophone embouchures. Well, in spite of my 24 years of saxophone playing, I prefer Loose Lip Mode. To me, Loose Lip Mode provides excellent flexibility for pitch bending and vibrato, and has greater pitch stability than does Tight Lip Mode.

It is important to remember, however, that in Loose Lip Modes notes *cannot* be lipped down—they can only be lipped up. In contrast, notes played in Tight Lip Mode can be lipped in both directions from a “dead zone” set by the Lip Gain and Lip Zero pots. Tighten the embouchure above the dead zone and the pitch rises; loosen the embouchure below the dead zone and the pitch falls. This dead zone concept looks good on paper, but my experience was that playing in Tight Lip Mode was awkward, and that the dead zone was difficult to control. My vote, therefore, is for Loose Lip Mode.

Setting The Pots

While setting the pots, it is essential to play a voice that is sensitive to pitch bending (pitch bend should be set between 3 and 7 half-steps), and set to respond to aftertouch or breath control. An ideal TX81Z voice is #31 INIT EBS from Sal Gallina's book *Expressive FM Applications*.

Each pot can complete about one half turn. Let's call the left, counterclockwise position 9:00 AM, and the right, clockwise position 3:00 PM. Follow these steps:

- 1) Set all pots counterclockwise to 9:00 AM.
- 2) Turn the Wind Gain pot (second pot down) clockwise all the way to 3:00 PM.

The voice should now be playing without breath pressure.

- 3) Turn the Wind Zero pot (top pot) clockwise a bit past the point at which the sound stops. This should be about 11:30 AM.
- 4) Turn the Wind Gain pot clockwise to about 2:00 PM. These settings of Wind Gain and Wind Zero should be responsive to a wide variety of breath controlled dynamics.
- 5) Turn the Lip Gain pot (bottom pot) clockwise all the way to 3:00 PM.
- 6) Blow and turn the Lip Zero pot (third pot down) clockwise from 9:00 AM to 3:00 PM. You should hear the pitch drop and stabilize.
- 7) Blow with lip vibrato and *gradually* turn the Lip Zero pot counterclockwise until you hear some vibrato. This will be around 1:30 PM. Don't go too far: this is a critical and delicate adjustment.
- 8) Your vibrato is now probably too wide. To adjust vibrato width, play with vibrato and gradually turn the Lip Gain pot counterclockwise until your vibrato narrows to your liking, probably around 1:00 PM.
- 9) Now, while playing, push the pitch bend wheel up and release it. The pitch should rise and then return to its starting point. If the pitch remains higher than its starting point, then your Lip Zero pot is set too far to the left (counterclockwise). You will need to repeat steps 5 through 8.

Try your settings on different voices. If a voice plays without blowing, or if some voices do not activate consistently, you may need to adjust the Wind Zero pot slightly to the right (clockwise). Also, on each new sound, you should be sure to move the pitch wheel up and release it. If the pitch does not return to its starting point, repeat steps 5 through 8. You should now be set up to play. But, first:

WX7 Articulation

A saxophonist will typically articulate within a phrase by lightly tonguing his or her reed, thereby stopping the reed's vibration. Since the reed on a WX7 does not vibrate, this light tonguing technique will not work on a WX7. A WX7 is breath-activated; to stop a note, then, you must stop the *air*. Try tonguing on the roof of your mouth—say “tah” like a flutist. You will find that this flute-style tonguing provides light, clean attacks. I use this technique for practically all of my WX7 articulation.

Hot Tips

Readers Tips For The KX88 And More.

Saving KX88/76 Presets Via MIDI

By Craig Wilson

With the large number of MIDI data storage devices available, it is easy to store files from many instruments to one system. The KX88/76 has a hidden ability to transmit its setup via MIDI; this same data can be transmitted back to the KX88/76 to reload the setups.

The trick to getting the KX88/76 to unload its memory is to send it a MIDI "dump request" message. One way to do this is to use the CX5M's MIDI Macro Program cartridge (YRM303) to assemble the necessary string of MIDI bytes. This isn't as complicated as it may sound. All you have to do is send a string of five bytes of data to the KX88/76.

The "dump request" string is as follows (in hexadecimal): F0, 43, 20, 7E, F7. The Bank A channel number will determine what MIDI channel the KX88/76 will transmit and receive on. This particular string is for MIDI channel 1.

To save data from the KX88/76, you need to connect the MIDI OUT of the device sending the dump request to the MIDI IN of the KX88/76, and connect the MIDI OUT of the KX88/76 to the MIDI IN of the MIDI data recorder you are using. Set Bank A of the keyboard to MIDI channel 1, and transmit the dump request. This will send the file to your MIDI data recorder for storage.

To load data into the KX88/76, connect the MIDI OUT of the MIDI data recorder to the MIDI IN of the KX88/76. Set Bank A of the keyboard to MIDI channel 1, and transmit the file to the KX88/76. The KX's LED responds with "AF" (all files).

Now for a brief explanation. The dump request string is a MIDI System Exclusive message. The first byte (F0) announces this. Byte two (43) is Yamaha's ID number. Byte three (20) is the substatus and channel number, meaning "dump request on MIDI channel 1." The fourth byte (7E) indicates the type of dump, in this case a "universal dump." The last

byte (F7) signifies the end of the System Exclusive message. One final note: to change the MIDI channel of this request, change the right half of byte three: values 0-F (hexadecimal) indicate MIDI channels 1-16.

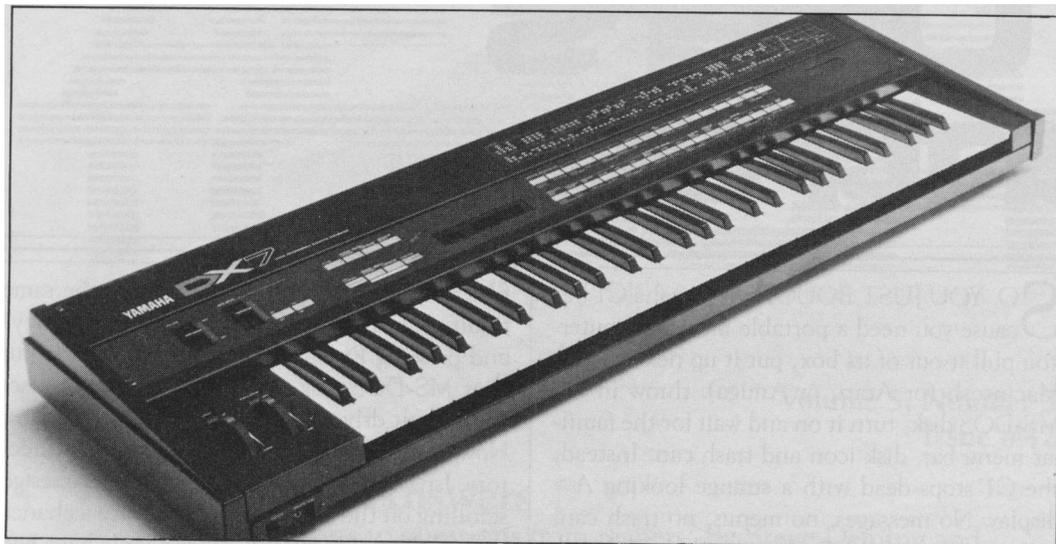
Those of you familiar with the MIDI Macro Program cartridge can assemble this string to initiate the dump (see the YRM303 manual for more information). To use CX5M and the MIDI Macro cartridge to assemble and transmit the string, follow these steps.

- 1) Enter Macro Assembler (using the F7 key).
- 2) Enter block text edit (<E>, <RET>)
- 3) Enter the MIDI string (in hexadecimal: F0, 43, 20, 7E, F7).
- 4) Press ESC
- 5) Enter <A> (<A>, <RET>).
- 6) Set up the connections as described above.
- 7) Enter OU 1 (<OU>, <1>, <RET>).

To use the DX7 II FD to store the KX88/76 data to disk, follow these steps:

- 1) Enter the Edit mode.
- 2) Using the DISK button (#16), scroll through to reach the MDR display.
- 3) Move the cursor to "IN" on the display; then, while holding the Character key, enter the file name and press "Yes" two times. The display should read "***Now waiting MIDI bulk data!".
- 4) Initiate the dump from the KX88/76 to the DX.
- 5) For a moment, the DX will read "***Busy now executing!".
- 6) After the data has been received by the DX, press the "No/-1" key to store the data to disk.

Placing the cursor over OUT in the display will allow you to transmit the data back to the KX.



DX7 FM digital synthesizer.

Creating A Rotating Speaker Effect On The DX7 Using The Data Entry Slider

By Anthony Sobus

Starting with any voice that uses algorithm #32 for organ sounds (for example, PORTA-B, by Lance Armstrong, in the February 1986 issue of *AfterTouch*), make the following settings:

LFO Wave: TRI
 LFO Speed: about 50 for fast and about 27 for slow
 PMD: 7
 AMD: 67
 Sync: off
 PMS: 2
 AMS: 2 for all six operators

By playing in the Edit mode and selecting LFO Speed, you can use the data entry slider to adjust the vibrato/tremolo speed manually for some very good effects. However, faster speeds sound better with more AMD, and slower speeds sound better with less AMD. By experimenting with different AMS and PMS settings, you can achieve a wide variety of vibrato and tremolo effects.

Another variation is to set the Mod Wheel at 99 with Amplitude ON and AMD at 0. Use the Mod Wheel to bring in the tremolo, and the data entry slider to adjust the speed. This is an easy way to get more AM depth with a higher speed and vice-versa. Try these settings with different algorithm #32 organ voices and varied AMS settings to taste.

Loading Voices 25–32 From A DX21 Cassette Into Your DX100

By Emmett Brown

After I purchased some DX21/27/100 sounds on tape for my DX100, I figured that, since the load compatibility included the DX21 (with a 32-location RAM), there might be some sounds on the tape I wasn't getting (because the DX100 has only a 24-location RAM). To get around this, there is a procedure outlined in the DX100 manual on page 22.

To load voices 25–32 from a tape, use the Load Single function, and select the voice number (tape position) using the STORE, FUNCTION, EDIT, INTERNAL PLAY, BANK A, BANK B, BANK C, or BANK D buttons. Make a pass from the beginning of the tape. Since this only loads the patch to the Edit/Play buffer, you must then save the patch to a RAM location. Do this for each "extra" voice on the tape. Be sure to save them to different RAM locations, and be sure to save each one as you go! When you have them all, make your own 24-voice tape file, which will include these new patches.

DX100 FM digital synthesizer.



C1 Users Central

From The Finder To DOS. By Scott Plunkett.

SO, YOU JUST BOUGHT a Yamaha C1 because you need a portable music computer. You pull it out of its box, put it up next to your Macintosh (or Atari, or Amiga), throw in the MS-DOS disk, turn it on and wait for the familiar menu bar, disk icon and trash can. Instead, the C1 stops dead with a strange looking A> display. No messages, no menus, no trash can, no icons, just a funny looking symbol. Welcome to DOS.

MS-DOS is the abbreviation for Microsoft's Disk Operating System. This is the C1's version of the Mac Finder, although you probably never would have guessed it. Fortunately, DOS isn't as difficult as it first appears. When you think about it, you can actually narrow down the kind of work you do in the Finder to a small number of jobs—checking disk contents, moving files among folders, copying files between disks, and throwing old files in the trash. By learning about a half dozen DOS commands you'll be able to accomplish these same tasks on the C1.

Looking At Disks

All of the action in DOS takes place beside the peculiar little A symbol known as the A prompt. In order to make sense of what the A prompt stands for, you need to understand how DOS identifies disk drives. On the dual floppy disk C1, the upper disk drive is called the A drive and the lower disk drive is the B drive. On the C1/20 the upper drive is the A drive and the hard disk is the C drive. If you want to select a different default drive you type its letter followed by a colon and press Enter. For instance, to select drive B, insert a disk in the lower disk drive, type **b:** (or **B:** if you prefer: you can type any of the commands in upper or lower case—DOS doesn't care) and press Enter. The prompt will now show a B to let you know that the B drive is the new default drive. This action is equivalent to highlighting a disk icon in the Mac Finder by clicking on it with the mouse.

Generally, once you select a disk icon on the Mac, you double click on it to see a directory of

files and folders on the disk. You get the same results out of DOS by typing **dir** (for Directory) and pressing Enter. To see how this works, put your MS-DOS disk in the upper drive and set the default drive to A by typing **a:**, then Enter. Now, type **dir** and Enter to see the disk directory. Isn't it nice to watch the disk filenames go scrolling off the screen before you have a chance to read them? Obviously, other people have had this problem, so the **dir** command has some extra options, called switches, that you can add to control the display.

To see a directory one page at a time, type **dir/p** and press Enter. Now all scrolling will stop after the screen fills with directory information. After you've looked at the first page, you can press any key to see the next screen full of information. Another useful trick is to use the wide directory switch to make use of the entire screen. To see this, type **dir/w**. Some of the information, such as file size, will be omitted, but the advantage is that you can usually see all of the filenames at the same time.

One thing that will be apparent when you look at the directories of a DOS disk is that the filenames are quite a bit different looking than Mac filenames. That's because DOS allows no more than eight characters in a filename and they're always displayed in uppercase. You can also add an optional three letter extension at the end of the name, but this is often taken care of by the program that you're using to create the file. For instance, a sequencer program would probably take a file that you named NEWSONG and change it to NEWSONG.SEQ so that you would know which program created it.

When you're looking at directories, always be on the lookout for filenames that have the three letter extensions EXE or COM. These are the equivalent of Mac applications. If you see one of these files in the directory and want to run it, type the eight letter filename that precedes the extension and press Enter. So, if you have a DX patch librarian disk, look for a filename like DXLIB.EXE. Type **dxlib** at the prompt and you'll be working in your new application.

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C1 Users *Continued*

DOS Folders

When you looked at the directory of the MS-DOS disk, you looked at what is called the root directory. You can confirm this by typing `dir/w` again and checking the message at the top of the directory that reads Directory of A: . (The backslash [] is how DOS identifies the root directory on a disk.) This is like looking at the directory of a Mac disk that has no folders on it or has no folders open. Chances are, though, you haven't seen a Mac disk lately that didn't have folders on it. That's because folders allow you to organize your work. For instance, you could put all of your sequences for one project in a separate folder from your sequences for other

projects to make them easier to find. You can avoid using folders if you like, but sooner or later you'll have such a huge mess in your root directory that you'll wish you hadn't.

In DOS, folders are called subdirectories. To make a new subdirectory, you use the Make Directory command by typing `md` and the subdirectory name. If you just started working with some new sequence ideas for a project, you could create a new subdirectory for them by typing `md newideas`. The next time you typed `dir` you'd see `NEWIDEAS DIR` added to your directory.

Next month we'll look at ways to copy and move files between disks and directories on the C1.

Rory Kaplan

Continued from page 13

That's why, for live performance, I need to have everything on MIDI channel 1 for speed, for the way I have the show programmed. Chick had all of his instruments on different MIDI channels, because of his Synclavier work; he used the Synclavier as his master sequencer. And when he wanted to send a sequence out, it can't be done all on one channel, because all of the instruments would take off.

Is there an industry standard for channel selection, such as always putting drums on channel 16?

It's subjective. I know that most people seem to use 16 as the drums, so it's the last thing. Then you can use up all the keyboard up to that point. It's the experiences that other people have that get passed down. People pass down what has been working best for them. MIDI is still real new. Once people understand what MIDI enables us to do, it becomes more desirable. For instance, without MIDI I would have to have eight DX7s on stage with me. Then when you start adding all the rest of the equipment I would end up with 32 physical keyboards on stage with me. And no way in the world can even three people play all the stuff. This way I can play it all. And manipulate it. That's the beauty of it.

You have to know and to decide on what's really important to you. If you're a songwriter, and you're happy just using the DX7, there's nothing wrong with that. I mean, no one is wrong for not wanting to deal with it. If you're like me you're *aching* to go over new barriers and find new things that have been done, then you have to do your homework. I mean, sometimes these things happen by accident, an incredible idea or a new combination of instruments.

With all these advancements has there been a time when the complications involving MIDI or other new technology has been more of a problem than a blessing?

Well, on the *Bad* tour, Greg couldn't make the last five shows. While I rehearsed with the replacement keyboardist, John Barnes, he went to play his keyboards and got "MIDI lock." What had happened was, he changed a program with his sustain pedal down, and when he changed it, he couldn't get rid of the lock. He got this panicky look on his face like, "What do I DO?" What I've learned professionally is, if you keep your cool, think things through clearly—something doesn't just happen by itself; you'll make a move and something physical happens, and you've got to sort it through.

What happened to me at the beginning of this tour, I would go from program to program, and I'd hit a horn stab, and the horn would just keep *going!* And, it was *embarrassing*, you know, because it was like, here's my big thing in "Bad." I'd go to hit it and it was sort of like [sings] "duh-d u h - d u h - d u h - D U H - d u h - d u h , DAAAAAAAH."

Things like that make you a better professional because instead of yelling at your technician and saying something like, "What's going on?" I realized I created it: I'm the responsible party. So what I learned to do is "preventative" MIDI lock, which is to check every cable before each performance. Check everything physically. That way, nothing happens. Then after I change every program, I always step on the sustain pedal, to make sure nothing was engaged or disengaged. That stopped all my problems.

Even while working with Chick, I can't think of MIDI horror happening that was not a human error in operating the equipment. We'd all be wondering, "Why does this sound softer?", and then we'd find that when the programming of a sequence was done, there might have been a piece of data, like a velocity level that wasn't set right, which is for a volume thing. But that's human error, not the machines.