AFTER TOUCH

THE OFFICIAL PUBLICATION OF THE YAMAHA USERS GROUP

TX7/TX816 VOICING SOFTWARE
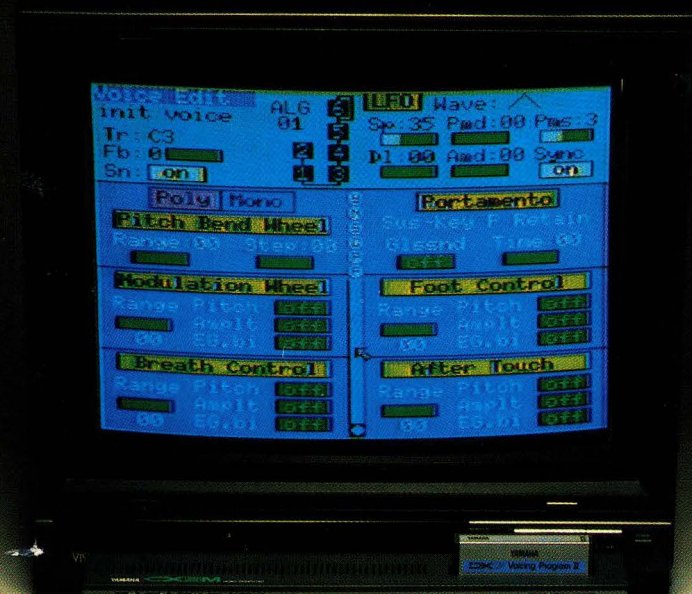
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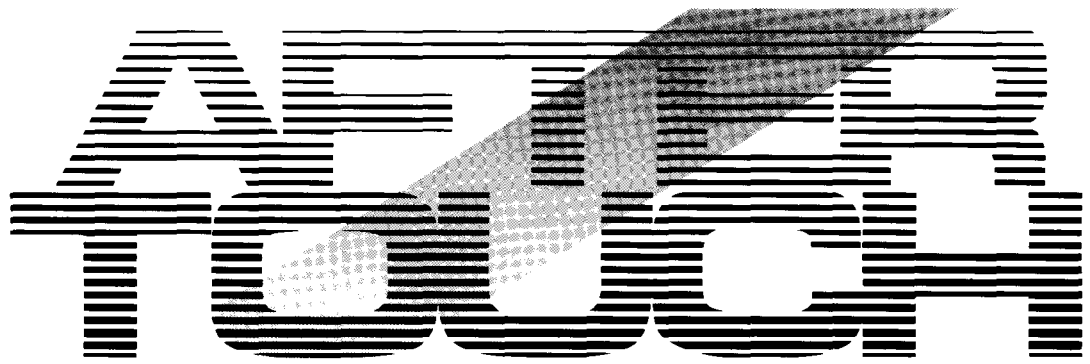
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From The Editor

AS PROMISED LAST MONTH, this issue of AFTERTOUCH contains our first Evatone Data Disk! You will find it bound between pages 6 and 7, along with complete instructions on how to use it with your Yamaha MIDI instruments. If you work with a DX100, DX27, DX27S, DX21, TX7, QX21, or QX7, this Data Disk will have material for you.

By the way, this is not a one-shot special, either—it is only the beginning. Next month, in issue #9, we will present a combination Sound-and-Data Disk that focuses on the CX5M music computer. And there will be more Data Disks in the future. Enjoy them, and let us know what you think.

For the remainder of this column, I would like to go over a few items that we get a lot of mail about. I've mentioned many of these before, but there still seems to be some confusion, so let's try to clarify everything. Here goes:

Back Issues: If a request for back issues is combined with a subscription request or other material, chances are it will not be fulfilled. All requests for AFTERTOUCH subscriptions must go to our Mailing List input service. After the addresses are entered, the letters are normally kept on file, in keeping with various postal regulations. To be absolutely sure that you receive any available back issues that you want, *make back issue requests separately,* and include the indication "ATTN: Back Issues" on the envelope.

Product Literature: All requests for specific product literature must go directly to Yamaha [Yamaha International Corp., P.O. Box 6600, Buena Park, CA 90622]. We at AFTERTOUCH are happy to receive specific questions concerning the *use* of Yamaha professional music products, and we will answer as many of them as we can in the Questions column; however, requests for general product information must be sent to Yamaha.

Warranty Cards & AFTERTOUCH: We have received a number of letters from Yamaha users complaining that they expected an AFTERTOUCH subscription because they recently purchased a product and sent in a warranty card, but still haven't received an issue. It is true that our initial mailing was developed from a warranty card list, but no subscriptions were sent to those names—just a sample mailing of the first three issues. In order to receive a free subscription, you need to send us your request on the attached postcard below. And remember, don't combine your subscription request with a request for back issues: Send the two requests separately.

We are very happy to offer AFTERTOUCH as a free informational service. In order to make sure that we can serve your needs (and continue to offer these various services *free*), we must ask you to help us by sending different requests in different envelopes. Thanks.

And remember to send us more than requests! Send us questions on how to use Yamaha professional music products; send us suggestions on how to improve AFTERTOUCH; send us information about User Groups; and send us articles, patches, and hot tips. We really want to hear from you.

—TD

Receive AFTERTOUCH *Free* Every Month!

YOU CAN RECEIVE AFTERTOUCH for an entire year, absolutely free, just by asking. Using the attached postcard, give us your name and address. Then sign the card (a postal regulation—it lets us know that you *really* want to receive AFTERTOUCH).

After you have filled in the relevant information, put a stamp on the postcard and mail it to us. When we receive the card, we'll put you on our permanent mailing list, and you will receive twelve issues of AFTERTOUCH absolutely free! There is absolutely no obligation, and no other strings are attached.

(By the way, if you received *this* issue in the mail, you are already on our permanent mailing list, so you don't need to send in another card.)

Also, don't limit yourself to just sending in your address. Let us know what kind of articles you want to read. The more input we receive, the more we will be able to tailor the information in AFTERTOUCH to suit your musical needs.

To receive AFTERTOUCH every month, absolutely free, just put your name and address on the enclosed card and mail it to us.

DX7

DEEP-PURPLE. A New DX7 Voice By Bob Lewin.

SINE	35	0	0	0	ON	1
WAVE	SPEED	DELAY	PMD	AMD	SYNC	PMS

LFO

R1	R2	R3	R4			C3
99	99	99	99			KEY TRANSPOSE
L1	L2	L3	L4			ON
50	50	50	50			OSC SYNC

PITCH ENVELOPE

FUNCTIONS

POLY	2	0	NA	OFF	0
POLY/MONO	RANGE	STEP	MODE	GLISSANDO	TIME
	PITCH BEND			PORTAMENTO	

(CONTROLLER)	RANGE	PITCH	AMPLITUDE	EG BIAS
MOD WHEEL	50	ON	OFF	OFF
FOOT CONTROL	99	OFF	OFF	ON
BREATH CONTROL	NA	OFF	OFF	OFF
AFTERTOUCH	25	ON	OFF	OFF

Notes:

Foot controller must be down for percussive effect!

These DX7 voices can also be loaded into all the other Yamaha 6-operator FM digital synthesizers and tone generators, including the DX1, DX5, TX7, TX216, TX816, and TF1.

FREQUENCY	DETUNE	AMS
0.50	+7	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	28	50	0
L1	L2	L3	L4	
99	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-E		R	0

OP#	OUTPUT LEVEL	VELOCITY
3	66	7

FREQUENCY	DETUNE	AMS
3.00	+7	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	72	25	50	1
L1	L2	L3	L4	
99	0	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-L	A3	L	50
R	+L		R	0

OP#	OUTPUT LEVEL	VELOCITY
6	94	3

FREQUENCY	DETUNE	AMS
0.50	-3	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	17	50	2
L1	L2	L3	L4	
99	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-L	A3	L	0
R	-L		R	14

OP#	OUTPUT LEVEL	VELOCITY
2	83	3

FREQUENCY	DETUNE	AMS
0.50	-7	0

ENVELOPE DATA

R1	R2	R3	R4	RS
89	99	25	50	2
L1	L2	L3	L4	
99	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-E	F3	L	99
R	-E		R	0

OP#	OUTPUT LEVEL	VELOCITY
5	87	3

⑦

FREQUENCY	DETUNE	AMS
0.50	+7	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	30	50	0
L1	L2	L3	L4	
99	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
1	99	3

FREQUENCY	DETUNE	AMS
0.50	0	3

ENVELOPE DATA

R1	R2	R3	R4	RS
89	99	25	50	0
L1	L2	L3	L4	
99	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-E		R	0

OP#	OUTPUT LEVEL	VELOCITY
4	99	3

ALGORITHM #4

SKY SYNC. A New DX7 Voice By Greg Lanz.

FUNCTIONS

POLY	2	0	FOLOW	OFF	0
POLY/MONO	RANGE	STEP	MODE	GLISSANDO	TIME
	PITCH BEND			PORTAMENTO	

(CONTROLLER)	RANGE	PITCH	AMPLITUDE	EG BIAS
MOD WHEEL	31	ON	OFF	OFF
FOOT CONTROL	17	ON	OFF	OFF
BREATH CONTROL	0	OFF	OFF	OFF
AFTERTOUCH	40	ON	OFF	OFF

TR1	37	0	18	0	OFF	3
WAVE	SPEED	DELAY	PMD	AMD	SYNC	PMS
			LFO			

PITCH ENVELOPE

R1	R2	R3	R4
99	99	99	99

L1	L2	L3	L4
46	50	50	50

C2 — KEY TRANSPOSE

ON — OSC SYNC

Operators

OP# 3

FREQUENCY	DETUNE	AMS
31.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	46	27	0

L1	L2	L3	L4
99	99	0	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	G3	L	0
R	-L		R	99

OUTPUT LEVEL 67 — VELOCITY 3

OP# 6

FREQUENCY	DETUNE	AMS
2.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
85	38	25	33	0

L1	L2	L3	L4
99	95	72	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	0

OUTPUT LEVEL 82 — VELOCITY 2

OP# 2

FREQUENCY	DETUNE	AMS
1.00	+4	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	76	99	32	0

L1	L2	L3	L4
99	99	96	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	0

OUTPUT LEVEL 86 — VELOCITY 1

OP# 5

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	39	25	25	0

L1	L2	L3	L4
64	64	64	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	6

OUTPUT LEVEL 99 — VELOCITY 4

OP# 1

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
85	76	99	45	0

L1	L2	L3	L4
99	99	96	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	0

OUTPUT LEVEL 99 — VELOCITY 1

OP# 4

FREQUENCY	DETUNE	AMS
1.00	-2	0

ENVELOPE DATA

R1	R2	R3	R4	RS
82	76	99	61	0

L1	L2	L3	L4
99	99	99	0

KEYBOARD SCALING

CURVE		BREAKPOINT		DEPTH
L	-L	A-1	L	0
R	-L		R	3

OUTPUT LEVEL 99 — VELOCITY 0

ALGORITHM #3

Notes:

This patch has a fairly warm sound with an interesting "squeaky" attack produced by Op #3 and the pitch envelope.

Data Disk

An Introduction To Our First Evatone Music Data-Disk. By Kevin Laubach.

WELCOME TO THE world of the Evatone Data Disk! What is a Data Disk? Well, it is one of those floppy squares of black plastic-like substance—you are looking at one right now, bound between pages 6 and 7 of this issue of AFTERTOUCH. Usually, these items contain recorded material, which can be played on your turntable simply by placing them on top of a record and dropping the needle. The Data Disk, however, is a different matter: It contains Yamaha music *data*—the kind that is usually stored on a cassette (after being loaded there from a DX100, QX21, or the like).

In order to use the Evatone Data Disk, you simply play it on your turntable *and record the data onto a cassette*. From there, it can be loaded directly into your Yamaha instrument.

This inaugural Evatone Data Disk contains new voices for the DX100 (or DX27), plus voices for the TX7. In addition, there are two sequences for the QX21 (or QX7) that make use of these two sets of voices.

To give you a proper introduction to this
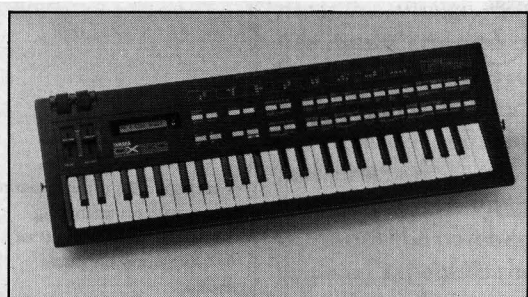
DX100 FM *digital 4-operator synthesizer.*

month's Data Disk, we will start by describing the data you will find on each track of the Disk. Then we will give you step-by-step instructions for loading these various types of data from cassette to your Yamaha instrument.

Side 1, Track 1

This track contains voice data for the Yamaha DX100, DX27, DX27S, and DX21 synthesizers. The data is loaded into the instrument through the CASSETTE interface jack. These voices have been created so that these various 4-operator synthesizers can be used as velocity sensitive tone modules. When using these voices in your synthesizer, you can hear volume and timbre changes when using a velocity-sensitive MIDI keyboard (such as the DX7, KX76, or KX5) as the controlling device.

The track contains a complete set of 24 velocity voices: 1) Deep Grd V, 2) Uprt Pno V,

3) Electro V, 4) Wood Pno V, 5) Easy Clv V, 6) Elec Bs V, 7) Fretless V, 8) Jazz Gtr V, 9) Solo Vln V, 10) BoxCello V, 11) Richstrg V, 12) Trumpet V, 13) Flutewd V, 14) Sax V, 15) Mono Ld V, 16) Soft Hrp V, 17) Celeste V, 18) Marimba V, 19) Bells V, 20) TublarBl V, 21) Whistle V, 22) Hvysynth V, 23) Xylosnr V, 24) Breath V.

Side 1, Track 2

This track contains sequence data for the Yamaha QX21 and QX7 sequencers. The sequence, called "disjoint Datjoint," is intended to showcase the DX100 velocity voices contained on Track 1 of Side 1. The data is loaded into the sequencer using the CASSETTE interface jack.

After successfully loading the sequence data into your sequencer and making the proper MIDI connections between your sequencer and your synthesizer, make sure that the synthesizer is set to receive MIDI information on MIDI channel 1. (You may also set OMNI mode ON instead.) Finally, set the TEMPO dial of the sequencer to approximately the 1 o'clock position, and press START to begin playback of the sequence. Adjust the tempo if desired.

Side 2, Track 1

This track contains voice data for the Yamaha TX7 tone module. The data is loaded into the instrument through the CASSETTE interface jack. By the way, these voices can be transferred from the TX7 to any of the other Yamaha 6-operater synthesizers, including the DX7, DX5, DX1, TX816, TX216, and TF1. The TX7 was used as the loading instrument for the Data Disk because it is the only 6-operator unit with a CASSETTE interface jack.

The voices on this track have all appeared (as DX7 voices) in previous issues of AFTERTOUCH.

Side 2, Track 2

This track contains sequence data for the Yamaha QX7 and QX21 sequencers. The sequence, called "For The Heart That Cries," is intended to showcase the TX7 voices contained on Track 1 of Side 2. The data is loaded into the sequencer using the CASSETTE interface jack.

After successfully loading the sequence data

into your sequencer and making the proper MIDI connections between your sequencer and your synthesizer, make sure that the synthesizer is set to receive MIDI information on MIDI channel 1. (You may also set OMNI mode ON instead.) Finally, set the TEMPO dial of the sequencer to approximately the 1 o'clock position, and press START to begin playback of the sequence. Adjust the tempo if desired.

The following AFTERTOUCH voices were used in this sequence: PickGuitar, Slap-Conga, AcouGuit.A, ElecGrand, SpaceMusic, Bass-StrVib, and FluteMrmba.

QX21 digital sequence recorder.
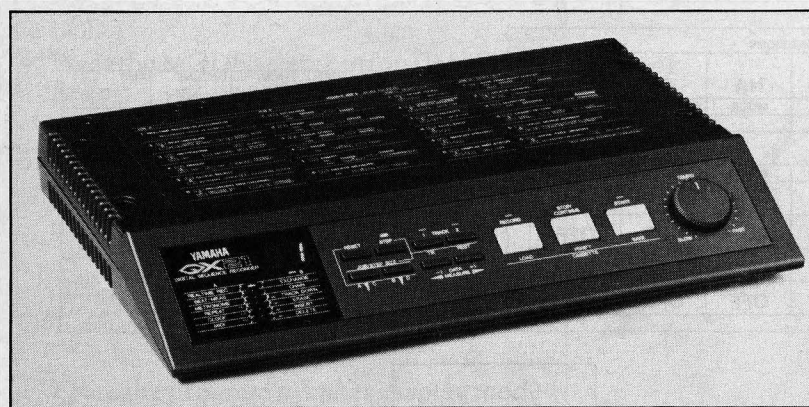
Very little "auto-correcting" (quantizing) was done to this piece, since the bulk of the sequence had no specific tempo. You may want to disable the metronome click of the sequencer, since the sequence data is not related to a specific tempo on the QX sequencer.

Loading Data Into The DX100-Type Synthesizers

To load data from Side 1, Track 1 of the Data Disk into your DX100-type synthesizer, you will need the following equipment:

● DX100, DX27, DX27S, or DX21 synthesizer

● Data cassette recorder (with Yamaha interface cable)

● Cassette tape with voice data (copied from the Evatone Data Disk)

Basic connections for loading cassette data into a DX100-type synthesizer.

After making the proper connections (see the accompanying diagram), make sure that the cassette tape is wound to the start of the voice data. Then, follow these steps to load data into your synthesizer:

1. Press FUNCTION.
2. Press MEMORY PROTECT. The DX100 display will read:

    "F M.Protect:on"

3. Press the -1/NO button. The display will read:

    "F M. Protect:off"

4. Press FUNCTION.
5. Press CASSETTE LOAD. The DX100 display will read:
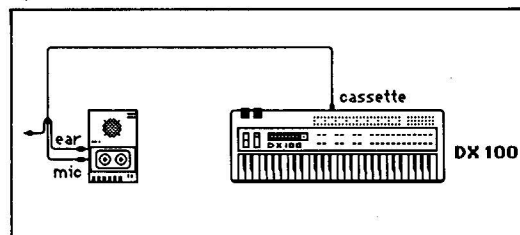
    "F Load Tape?"

6. Press the +1/YES button. The display will read:

    "Load all ready?"

7. Press the +1/YES button. The display will read:

    "Tape to INT 1"

8. Now press PLAY on your cassette recorder. The DX100 will show the progress of the load by incrementing the number in the dis-

play. The load should take about 30 seconds.

If the data has loaded correctly, the DX100 display will read:

    "Load Completed"

If there is a problem, the display will read:

    "Tape to INT ERR"

If you get this message, adjust the volume of the cassette recorder up or down and try again.

DX PIANO 2. A Prize-winning DX7 Voice From A Contest In Japan.

TR1	30	0	0	0	OFF	2
WAVE	SPEED	DELAY	PMD	AMD	SYNC	PMS

LFO

R1	R2	R3	R4
99	99	99	99
L1	L2	L3	L4
50	50	50	50

PITCH ENVELOPE

KEY TRANSPOSE: **C3**

OSC SYNC: **OFF**

FUNCTIONS

POLY	0	0	NA	0	0
POLY/MONO	RANGE	STEP	MODE	GLISSANDO	TIME
	PITCH BEND			PORTAMENTO	

(CONTROLLER)	RANGE	PITCH	AMPLITUDE	EG BIAS
MOD WHEEL	NA	OFF	OFF	OFF
FOOT CONTROL	NA	OFF	OFF	OFF
BREATH CONTROL	NA	OFF	OFF	OFF
AFTERTOUCH	NA	OFF	OFF	OFF

Operator 3

FREQUENCY	DETUNE	AMS
4.00	+5	0

R1	R2	R3	R4	R5
90	20	20	30	6
L1	L2	L3	L4	
99	85	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L +L	C#3	L 3
R -L		R 40

OP#	OUTPUT LEVEL	VELOCITY
3	76	3

Operator 5

FREQUENCY	DETUNE	AMS
1.00	-0	0

R1	R2	R3	R4	R5
95	0	25	0	2
L1	L2	L3	L4	
99	75	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L -L	A-1	L 0
R -L		R 10

OP#	OUTPUT LEVEL	VELOCITY
5	83	1

Operator 6

FREQUENCY	DETUNE	AMS
4.00	-5	0

R1	R2	R3	R4	R5
90	20	20	30	6
L1	L2	L3	L4	
99	85	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L +L	C#3	L 7
R -L		R 40

OP#	OUTPUT LEVEL	VELOCITY
6	76	3

Operator 2

FREQUENCY	DETUNE	AMS
1.00	+5	0

R1	R2	R3	R4	R5
95	0	25	0	2
L1	L2	L3	L4	
99	75	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L -L	A-1	L 0
R -L		R 10

OP#	OUTPUT LEVEL	VELOCITY
2	86	1

7

Operator 4

FREQUENCY	DETUNE	AMS
1.00	+5	0

R1	R2	R3	R4	R5
80	19	10	46	5
L1	L2	L3	L4	
99	62	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L -L	A-1	L 0
R -L		R 0

OP#	OUTPUT LEVEL	VELOCITY
4	96	4

Operator 1

FREQUENCY	DETUNE	AMS
1.00	-5	0

R1	R2	R3	R4	R5
80	19	10	46	5
L1	L2	L3	L4	
99	62	0	0	

ENVELOPE DATA

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L -L	A-1	L 0
R -L		R 0

OP#	OUTPUT LEVEL	VELOCITY
1	96	4

ALGORITHM #11

Notes:

This patch was the first-prize winner of a recent DX Voicing Contest held by the DX User Group in Japan. The theme of the contest was "a distinctly DX backing voice." The winner's name was not given to us. The comments below were provided by the User Group.

This is a really useful piano voice, not at all obtrusive. Rate 4 is held down, so the sound won't sustain too long. It's not at all harsh or pretentious—excellent for backing play.

HORROR. A Prize-winning DX7 Voice From A Contest In Japan.

S/H	21	0	44	0	ON	2
WAVE	SPEED	DELAY	PMD	AMD	SYNC	PMS

LFO

R1	R2	R3	R4
99	99	99	99
L1	L2	L3	L4
50	50	50	50

PITCH ENVELOPE

KEY TRANSPOSE: C2
OSC SYNC: ON

FUNCTIONS

POLY	0	0	NA	0	0
POLY/MONO	RANGE	STEP	MODE	GLISSANDO	TIME
	PITCH BEND			PORTAMENTO	

(CONTROLLER)	RANGE	PITCH	AMPLITUDE	EG BIAS
MOD WHEEL	NA	OFF	OFF	OFF
FOOT CONTROL	NA	OFF	OFF	OFF
BREATH CONTROL	NA	OFF	OFF	OFF
AFTERTOUCH	NA	OFF	OFF	OFF

OP 4

FREQUENCY	DETUNE	AMS
4.266Hz	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
4	13	15	99	0
L1	L2	L3	L4	
48	60	79	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
4	99	0

OP 6

FREQUENCY	DETUNE	AMS
46.77Hz	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
0	99	35	99	0
L1	L2	L3	L4	
76	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
6	75	0

7

OP 2

FREQUENCY	DETUNE	AMS
549.5Hz	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
11	30	29	99	0
L1	L2	L3	L4	
78	93	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
2	85	0

OP 3

FREQUENCY	DETUNE	AMS
0.56	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
2	5	18	99	0
L1	L2	L3	L4	
70	89	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
3	99	0

OP 5

FREQUENCY	DETUNE	AMS
3.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
0	99	30	99	0
L1	L2	L3	L4	
76	99	0	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
5	99	0

OP 1

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
0	99	31	50	0
L1	L2	L3	L4	
76	99	70	0	

KEYBOARD SCALING

CURVE	BREAKPOINT	DEPTH
L	-L	A-1	L	0
R	-L		R	0

OP#	OUTPUT LEVEL	VELOCITY
1	99	0

ALGORITHM #16

Notes:

This patch was the first-prize winner of a recent DX Voicing Contest held by the DX User Group in Japan. The theme of the contest was "a ghost." The winner's name was not given to us. The comments below were provided by the User Group.

This one is a real shocker. At first you think it's going to fade out gradually, but suddenly . . . ! Press and hold several notes in a dissonant chord. The surprise value is unavoidably lost the second time.

Voicing Software

THE NEW YRM304 DX7 Voicing Program II for the CX5M computer offers a number of important improvements over its predecessor (YRM104 DX7 Voicing Program). First of all, the new program is completely compatible with the new Yamaha FD05 and FD03 disk drives, so that storage of your DX7 voices is now much more convenient using the CX5M. In addition, the new program is Mouse-compatible, making it much easier to use.

Most importantly, this new voicing program is capable of editing and storing function memories for each voice, making it fully compatible with the TX series of FM digital tone generators For purposes of this general introduction to the program, let's focus on its use with the TX7, TX216, and TX816.

Equipment Requirements

To use the YRM304 Voicing Program to create or edit voices for the TX series of FM tone generators, the following equipment is required:

● CX5M Computer (with SFG01 or SFG05 MIDI/tone generator module)

● DX7 Voicing Program II Cartridge (YRM304)

● Video Monitor (with video/sound cable)

● Two MIDI Cables

● TX7, TX216, or TX816 tone module

The following equipment is optional:

● Yamaha MSX Mouse

● Storage Device: a cassette recorder (with appropriate interface cable), an FD05 disk drive (with FD051 disk drive controller and CA01 single cartridge adapter), or an FD03 disk drive (which includes disk drive controller) with CA01

● MIDI Keyboard or Controller (DX7, KX5, KX88, or KX76)

● Two additional MIDI Cables

● Compatible Parallel Printer (Yamaha PN101,

Use The New DX7 Voicing II Program (YRM304) To Voice Your TX Series Tone Modules. By Kevin Laubach.

Epson, or NEC)

Connections

Before beginning, make sure that your CX5M system is properly connected. Also, be sure that the power is turned OFF for all devices while setting up the system. Follow these steps:

1. Make sure the SFG01 or SFG05 unit is properly installed in the left side of the CX5M.
2. Plug the DX7 Voicing Program II (YRM304) cartridge in the top slot of the CX5M.
3. Plug the 8-pin DIN plug for the monitor into the MONITOR port.
4. Connect the RCA plugs between the CX5M and the monitor as required (video and audio).
5. Connect the TX audio out to your mixer or amplifier input.

If you are using any of the optional equipment listed above, make sure that it is also connected properly. Follow these steps for the optional equipment you are using:

1. *Mouse:* Plug the mouse into JOYSTICK port number 1 on the right side of the CX5M.
2. *Printer:* Plug the printer cable from the PRINTER port on the back of the CX5M into your printer.
3. *Cassette Recorder:* Plug the 8-pin DIN plug for the cassette into the CASSETTE; then connect the red plug of the interface cable to MIC, the black plug to REMote, and the white plug to EAR.
4. *Disk Drive:* First, plug CA01 single cartridge slot adapter into the rear slot of the CX5M; then, plug the disk drive interface into the CA01.

MIDI Connections

System 1: This system is for use with any MIDI keyboard without MIDI merge capability. Using the YME8 MIDI switch box, this system allows you to play your TX and make parameter changes at the same time. The YME8 must be switched in order to save voices from the TX module. Make the following MIDI connections (see the accompanying diagram):
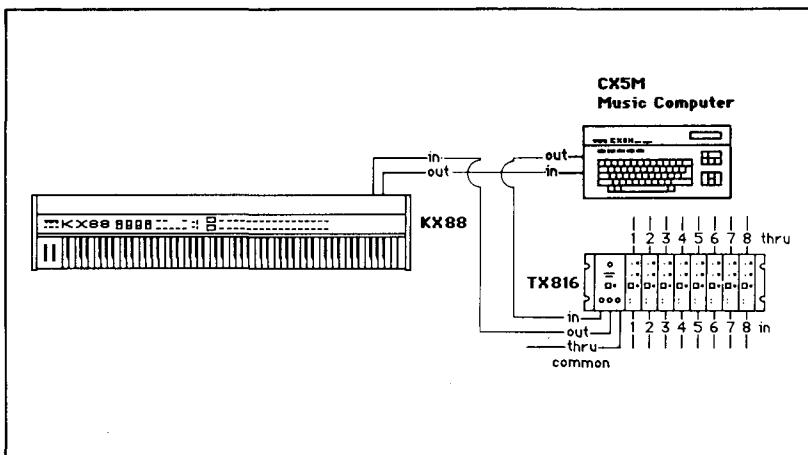
1. Keyboard MIDI OUT port to YME8 MIDI

Basic MIDI connections for System 1, using a keyboard controller that does not have MIDI merge capability.
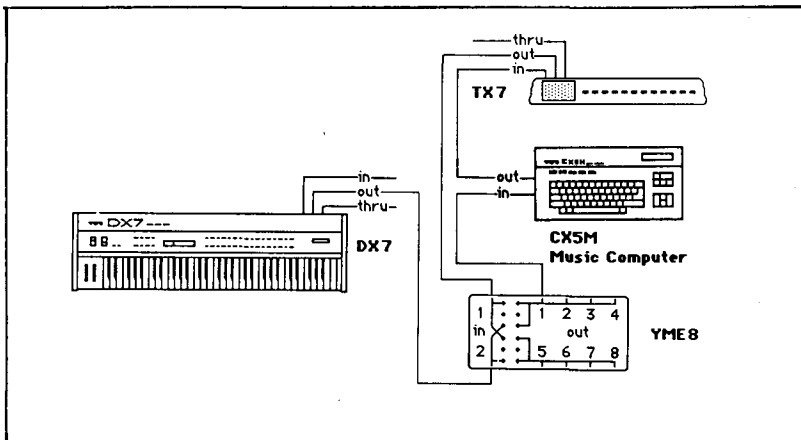
IN port #2.

2. YME8 MIDI OUT port #1 to CX5M MIDI IN port.
3. CX5M MIDI OUT port to TX MIDI IN port.
4. TX MIDI OUT port to YME8 MIDI IN port #1.

System 2: This system is for use with any MIDI keyboard *with* MIDI merge capability. This system allows you to play your TX and make parameter changes at the same time. Make the following MIDI connections (see the accompanying diagram):

Basic MIDI connections for System 2, using a keyboard controller that does have MIDI merge capability.

1. Keyboard MIDI OUT port to CX5M MIDI IN port.
2. CX5M MIDI OUT port to TX MIDI IN port.
3. TX MIDI OUT port to keyboard MIDI IN port.

Getting Started

Now that you have connected all of your devices, you are almost ready to begin voicing.

Once you have verified that the proper connections have been made, turn ON the power to the equipment in the following order:

1. Power ON the CX5M computer peripherals (disk drive, printer, monitor).
2. Power ON the tone modules (TX7 or TX816) and audio equipment.
3. Power ON the CX5M computer.

When you turn your CX5M ON, the screen will display the Directory screen (with the voices that are in your tone module). This screen lets you choose the voices you wish to edit. There are two other screens that you may access: the Filer (used for saving and loading your voice data files) and the Editor (used for creating or editing voices).

Program Description

Using this program you will be able to edit, save, and load voice and function data for the TX7, TX216, and TX816. You may also display and even print the parameters that make up a voice. You can even create your own voice completely from scratch.

The Screens

Directory: The Directory is the first screen you see when you run the program. It displays the 32 voices that have been sent from your TX7 or TX816 plus an additional 16 voices (voices 33 through 48) to use as temporary storage. When in this mode, you can select which voice you wish to edit. At the bottom of the screen there is a list of functions that correspond to the function keys. To access any of these functions, press the mouse button on the function you want, or press the corresponding function key.

Filer: The Filer is the part of the program that allows you to load data from and save data to your storage device, view the list of files on your disk, and delete files. It also handles the MIDI transmit and receive functions. Consult your Owners Manual for details on each operation.

Editor: The Editor is the main part of the program. This is where you may change the actual voice and function parameters of your tone module. Using the mouse or the keyboard, you are able to change things such as algorithms,

Voicing Software Continued

envelopes, and frequencies.

Special Considerations When Using TX Synthesizers

When using the YRM304 program with a TX tone module, you have access to a number of operations that are not necessary when voicing the DX7. Let's take a look at some of the most important of these operations:

MIDI Merge Enable

If you intend to use a keyboard to send notes to your TX7 or TX816, as illustrated in Systems 1 and 2, you must make sure that the CX5M's MIDI merge is ON. When MIDI merge is on, data that is sent to the MIDI in jack will be sent to the MIDI out jack along with the "real" output of the CX5M (voice data, parameter changes, and so on). In other words the notes played from the keyboard are sent through the CX5M, and then to your TX7. If you have a DX7 plugged directly into your CX5M, turn MIDI merge OFF to avoid getting duplicate notes.

To turn MIDI merge ON, follow these steps:

1. Press F7 in any mode until "Midi Ch =" is displayed in the top left corner of the screen.
2. Press SELECT until "Midi Merge? " is displayed.
3. Press DEL.

MIDI Channels

In order to load, save, or edit voices it is necessary for the CX5M to be on the same MIDI channel as the TX7 or TX816 module. This allows you to address multiple Yamaha tone modules independently. You may do this one of two ways. You can set your tone module to the same MIDI channel as is displayed at the top of the Directory and Filer pages on the CX5M, or you can set the MIDI channel on the CX5M to the same MIDI channel as the tone module you wish to change.

To change the MIDI channel of the CX5M, use the following steps:

1. Press F7 in any mode until "Midi Ch =" is displayed in the top left corner of the screen.
2. Enter a number from 1 to 16 followed by a return.

3. The new midi channel will be displayed after "Midi Ch=" in the top right corner of the screen.

To change the MIDI channel of the TX7, use this procedure:

1. Press the MODE select button (it is labeled in white) until "=SHIFT MODE !=" appears on the LCD.
2. Now press the MIDI: MODE button (labeled in purple) until "MIDI RCV.CH." is displayed.
3. Press the DATA: YES/+1 or DATA: NO/-1 button until the desired MIDI channel is reached.
4. Press the MODE select button (labeled in white) until "=NORMAL MODE !=" appears on the LCD.
5. Then press the PROGRAM CHANGE: COMBINED button to return to the normal mode.

To change the channel on a particular TF1 module of a TX816, use this procedure:

1. From the program number display mode (this is the default power-up mode), press the SELECT button quickly 1 time, "CH" and the currently set MIDI channel number will be alternate on the LED display.
2. Now press the YES/+1 or NO/+1 button until the desired MIDI channel is reached.
3. Press the SELECT button quickly until the program number display mode appears.
4. Repeat this process on all of the desired TX slots.

Memory Protection

In order to transfer a bank of 32 voices to a tone module the memory protection must be OFF. When you power-up a Yamaha tone module, it defaults to memory protect ON. Memory protection prevents you from accidentally overwriting important voices you may have in your tone module.

To turn the TX7 memory protection OFF, follow these steps:

1. Press the MODE select button (labeled in white) until "=SHIFT MODE !=" appears on the LCD.
2. Now press the CASSETTE: LOAD/PROT

CX5M *music computer.*

button until "MEM. PROTECT ON" is displayed.

3. Press the DATA:NO/-1 button and "MEM. PROTECT OFF" will be displayed on the LCD.

4. Press the MODE select button (labeled in white) until "=NORMAL MODE !=" appears on the LCD.

5. Then press the PROGRAM CHANGE: COMBINED button to return to the normal mode.

To turn the TX816 memory protection OFF, follow these steps:

1. From the program number display mode (this is the default power-up mode), press the MEMORY PROTECT button (this is also the NO/-1 button). The LED next to the button will turn OFF indicating that the slot's memory is no longer protected.

2. Repeat this process on all of the desired TX slots.

Special Function Data: Key Limits And Attenuation

On the TX tone modules, the YRM304 program lets you change the Split Low, Split High, and the Attenuation output level. These parameters are accessible only if the YRM304 program senses that a TX tone module is connected to the CX5M.

To change the Split Low, Split High, and Attenuation parameters, use this procedure:

1. Select the function mode in the Voice Edit page by pressing the TAB key or by clicking the left mouse button in the empty area between the 6 operator blocks (below the mouse icons).

2. These 3 parameters will appear in the top right section of the screen and are edited in the normal fashion (described earlier).

By the way, the DX7 Voicing Program II (YRM304) does not transmit the split information (key limits) when loading a single voice or 32 voices from the CX5M. The program only allows you to change them. In order to save the key limit information in your tone module, you must change the information via the CX5M, and then store the voice manually. Consult your TX7 or TX816 Owners Manual for more information.

Internal And External Function Data On The TX7

On the TX7 tone module there is an external function memory that allows you to store function memory for DX7 voices (refer to the TX7 Owner's Manual for more information). When you are sending 32 voices from the CX5M, the YRM304 program lets you send the function data to either the internal function memory (for the TX7) or to the external function memory (for the DX7).

To change the TX7's Internal or External Function Transmit, follow these steps:

1. When in the Filer page, select "Midi" as the Device.

2. Select "Save" as the Operation. The CX5M will display "Midi transmit int func ?".

3. Use the SELECT key to toggle "int" and "ext".

4. Select yes to transmit the 32 voices and functions to the TX7.

Editing Specific Slots on the TX816

On the TX816 tone rack you may want to edit voices on a single slot without having to put each slot on its own separate MIDI channel. One easy way of doing this is to put the slot you wish to edit in COMMON mode while the other slots are in INDIVIDUAL mode.

To change Individual and Common Mode on the TX816, follow this procedure:

1. From the program number display mode (this is the default power-up mode), press the INDIVIDUAL/COMMON button (this is also the YES/+1 button). The yellow LED next to the button will toggle between individual and common mode.

2. To edit a single slot, set that slot in Common mode and the other slots in Individual mode.

DX7 & TWE01

I N THE LAST ISSUE OF AFTERTOUCH [April '86], we outlined all of the basic procedures for using the TWE01 Word Processor/TeleWord Enhancer cartridge to load and save MIDI system exclusive data with the CX5M music computer. Since the most common X series product is the DX7 digital FM synthesizer, we thought it would be a good idea to offer some *specific* guidelines for using the TWE01/CX5M to store and load DX7 voice data.

You will need the following equipment:

● CX5M Music Computer (with SFG01 or SFG05 MIDI/tone generator module).

● Video Monitor (with video/sound cable).

● Storage Device: a cassette recorder (with appropriate interface cable), an FD05 disk drive (with FD051 disk drive controller and CA01 single cartridge adapter for correct connections), an FD03 disk drive (which includes disk drive controller) with CA01, or a UDC01 data cartridge (with CA01 single cartridge adapter).

● Two MIDI Cables. (A single cable can also be used if you remember to switch it when loading and saving).

● TWE01 Word Processor/TeleWord Enhancer Cartridge. [*Note: The TeleWord module may not be used for these direct applications with the DX7, since an SFG module is required to make MIDI connections; however, once the MIDI data has been stored using the CX5M, the TeleWord module can be used in conjunction with the TWE01 cartridge to send MIDI data to another musician via phone modem.*]

Step-By-Step Instructions For Using The TWE01 Module To Save DX7 Voices With The CX5M Music Computer. By Kevin Laubach.

Basic MIDI connections for using the CX5M and the TWE01 cartridge with the DX7.
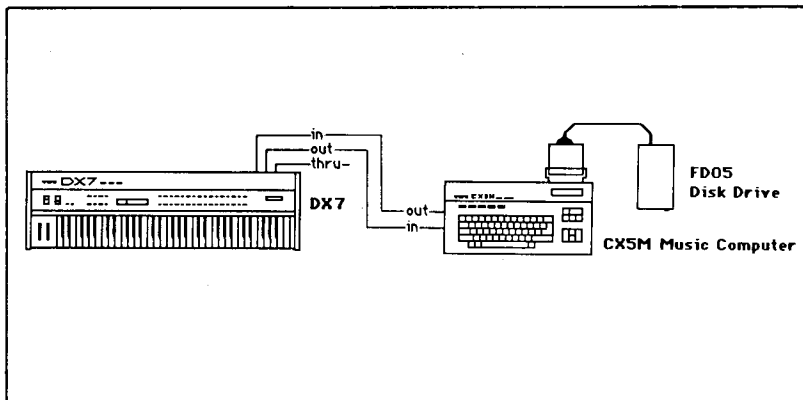
Once you have all of the elements of this CX5M/DX7 system together, the first step is to make all of the proper computer connections (as outlined in last month's AFTERTOUCH article). Then, make the necessary MIDI connections, as follows: Connect the CX5M's MIDI OUT port to the MIDI IN of the DX7, and connect the CX5M's MIDI IN port to the MIDI OUT of the DX7 (see the accompanying diagram). Finally, start up the TWE01 cartridge program (using the procedures outlined in the TWE01 owners manual and in last month's article).

Now you are all ready to begin. Here is a complete, step-by-step description of the procedures to follow for either saving DX7 patches to the CX5M or loading DX7 patches from the CX5M:

Saving DX7 MIDI System Exclusive Data

To save patches from your DX7 to the CX5M's memory, follow these steps on the indicated instruments:

1. CX5M: Select the file menu by pressing the F2 Function key.
2. CX5M: Use the left and right cursor keys to set "function" to "Load." [*Note: The load function will erase everything that is currently in the CX5M's memory.*]
3. CX5M: Press the down cursor key to go to "device."
4. CX5M: Use the left and right cursor keys to set "device" to "MIDI (Sys Ex)."
5. CX5M: Press the down cursor key to go to "named."
6. DX7: FUNCTION.
7. DX7: Press button 8 until the DX7 displays "MIDI CH=??" (?? can be any number from 1 to 16). Move the DATA ENTRY slider until the DX7 displays MIDI CH= 1.
8. DX7: Press button 8 until the DX7 displays "SYS INFO UNAVAIL." Press +1/YES button so the DX7 displays "SYS INFO-AVAIL. "
9. DX7: Press button 8 until the DX7 displays "MIDI TRANSMIT?". The DX7 is now ready to transmit the MIDI data.
10. CX5M: Press RETURN, since the name is not used. The CX5M will now display this:

Receiving . . . .

11. DX7: Now press the +1/YES button, and the DX7 will transmit the voice data.
12. CX5M: After the CX5M receives the entire system exclusive message, it will display this:

Packet 1 received. More (Y/N)?

13. CX5M: Press "N" and you will be returned to the main word processor mode.

Now that you have the DX7 voice data in the memory of the CX5M, it's time to save the data to your computer's storage device. Use these steps (all performed on the CX5M):

1. Select the file menu by pressing the F2 Function key.
2. Use the left and right cursor keys to set "function" to "Save."
3. Press the down cursor key to go to "device."
4. Use the left and right cursor keys to set "device" to "Cassette," "Disk," or "Data Cartridge," depending on which device you wish to use.
5. Press the down cursor key to go to "named."
6. Type in the name you wish to use for the MIDI data and press RETURN.
7. The CX5M will momentarily display "Writing . . . " on the screen.
8. The CX5M will return to the main word processor mode.
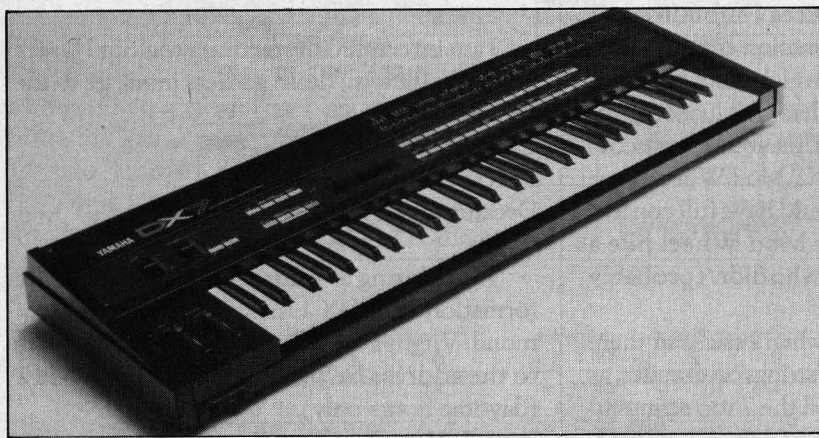
Loading DX7 MIDI System Exclusive Data

DX7 FM digital synthesizer.

To load the MIDI data from your CX5M storage device to the CX5M's memory, follow these steps (all performed on the CX5M):

1. Select the file menu by pressing the F2 Function key.
2. Use the left and right cursor keys to set "function" to "Load." [Note: The load function will erase everything that is currently in the CX5M's memory.]
3. Press the down cursor key to go to "device."
4. Use the left and right cursor keys to set "device" to "Cassette," "Disk," or "Data Cartridge," depending on which device you wish to use.
5. Press the down cursor key to go to "named."
6. Type in the name of the data you wish to load back into your MIDI instrument device and press RETURN.
7. If you are using disk or data cartridge, the CX5M will momentarily display "Reading . . . " on the screen. If you are using cassette, the CX5M will display "Searching. . . " and when it finds a file is will ask if you wish to load it.
8. After the file is loaded, the CX5M will return to the main word processor mode.

Now that you have loaded the MIDI data into the memory of the CX5M, it's time to load it into your DX7. Follow these steps on the indicated instruments:

1. CX5M: Select the file menu by pressing the F2 Function key.
2. CX5M: Use the left and right cursor keys to set "function" to "Save." (Note: This operation may change valuable data in your DX7. Be sure that you have saved anything that you wish to save.)
3. CX5M: Press the down cursor key to go to "device."
4. CX5M: Use the left and right cursor keys to set "device" to "MIDI (Sys Ex)."
5. CX5M: Press the down cursor key to go to "named."
6. DX7: Verify that any memory protection is OFF.
7. CX5M: Press RETURN, since the "name" is not used at this point. The CX5M will now display "Sending . . . " on the screen.
8. CX5M: After the CX5M sends the entire system exclusive message, it will display this:

Packet 1 sent. More (Y/N)?

10. CX5M: Press "N" and you will be returned to the main word processor mode.

The DX7 will now contain the newly loaded voices.

Touch Response

H ERE ARE SOME MORE letters from fellow AFTERTOUCH readers. The first is from one of our DX7 patch authors, who wants to clarify a few things about his patches. All of the other letters are about Users Groups. Some are about groups that already exist, others are writing to get a Users Group off the ground, and still others want to know if a group already exists in their area. If you are interested, contact them and offer your help. Also, for more information on Users Groups, look in the AFTER-TOUCH Questions column in the November '85 and January '86 issues, and in the Touch Response column in the January '86 issue.

* * * *

I can't begin to tell you how shocked I was to see my SITAR VIII and SYNPATHY patches included in the January '86 issue of AFTER-TOUCH. I guess I wasn't completely shocked, since I did send them to you. Thanks for the honor!

I would like to explain something about the programs, though. With my "TX316" system, I use modulation to control volumes on the modules (as described in my Final Touch "hot tip" published in your February '86 issue). This is the reason for full modulation sensitivity on each program.

Also, the DX Voicing Program that I used to print out the patches for you added another unusual aspect to the voices I submitted: It printed exactly how my Function controls happened to be set at the time, which is not necessarily going to be useful to readers who loaded them into their DX7s. Then again, maybe a few discovered that by setting their DX7 Mod Wheel range to maximum level, they could have full control of volume by using their Mod Wheel like a volume controller. Those who didn't probably thought I was nuts.

Finally, I made a typo when I said that there are 18 sympathetic (lower) strings on the sitar, as mine has 11. I guess I added the 7 top strings to the 11 in my mind when I typed the cover letter. I really can count!
Charlie Foege
St. Louis, MO

I have a Yamaha CX5M computer, and have had great success composing music with it. I would like to find out if there are others in my area who have Yamaha MIDI-compatible equipment and are interested in trading ideas, infor-mation, or software. If anyone has information concerning a Users Group in this area, please send it to the address below.
P.J. Otto
330 Countryview
Wichita, KS 67235

I am interested in becoming involved in a DX7 Users Group in the Atlanta area. I am specifically interested in MIDI software for the IBM PC. If anyone has applicable information, please send it to the address below.
Mike Childers
6795 Wendy Jean Dr.
Morrow, GA 30260

I am interested in getting involved in a CX5M Users Group in the Albany, New York area. If anyone has information on such a group, please contact me at the address below.
Ken Kittredge
102F Covent Gardens
Guiderland, NY 12084

I am interested in starting a DX Users Group in the Boston area. Interested parties should write to me at the address below, or call 617-876-3958.
Steven Katz
2028 Mass. Ave., #2
Cambridge, MA 02140

I am interested in starting a regional Users Group in Illinois. Please address inquiries to the address below.
Chuck Bisbee
3510 Betzer Ave.
Decatur, IL 62526

I am writing to inform your readers of the formation of a DX Users Group in the Richmond, Virginia area. To contact the group, write to the address below, or call 804-257-6312 (daytime hours only).
Barry J. Hayes
P.O. Box 5361
Richmond, VA 23220-5361

I want to know if there are any Users Groups in the Washington, D.C. area. Send any information to the address below.
Phillip M. Daniel
5329 Randolph Rd., #6
Rockville, MD 20852

Data Disk Continued from page 7

Loading Data Into The TX7

To load data from Side 2, Track 1 of the Data Disk into your TX7 tone module, you will need the following equipment:

- TX7 tone module

- Data cassette recorder (with Yamaha interface cable)

- Cassette tape with voice data (copied from the Evatone Data Disk)

After making the proper connections (see the accompanying diagram), make sure that the cassette tape is wound to the start of the voice
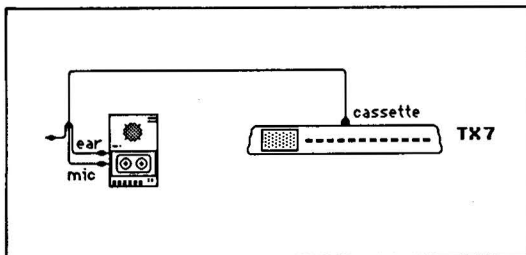
Basic connections for loading cassette data into a TX7 tone module.

data. Then, follow these steps to load data into your synthesizer:

1. Press MODE:SHIFT. The TX& display will read:

    "=SHIFT MODE!="

2. Press CASSETTE: LOAD/PROT. The display will read:

    "MEM. PROTECT ON"

3. Press the NO/-1 button. The display will read:

Basic connectsions for loading cassette data into a QX21 or QX7 sequencer.

DX21 FM digital synthesizer.
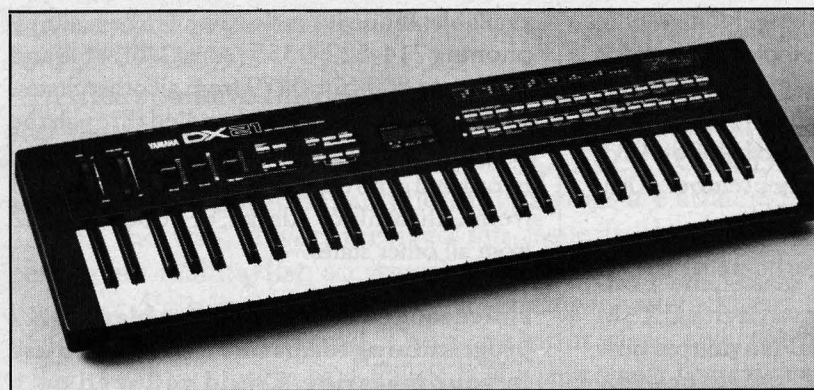
    "MEM.PROTECT OFF"

4. Press CASSETTE: LOAD/PROT until the display reads:

    "LOAD CASSETTE?"

5. Press the YES/+1 button. The display will read:

    "NOW WORKING!!

6. Now press PLAY on your cassette recorder. The load will take about 45 seconds.

If the data loaded correctly, the TX7 display will read:
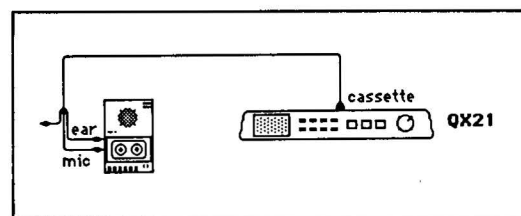
    "FINISHED!!!"

If there is a problem, the display will read:

    "TAPE ERROR!!"

If you get this message, adjust the volume of the tape recorder up or down and try again.

Loading Data Into The QX21 And QX7

To load data from Side 1, Track 2 and Side 2, Track 2 of the Data Disk into your QX21 or

QX7 sequencer, you will need the following equipment:

- QX21 or QX7 sequencer

- Data cassette recorder (with Yamaha interface cable)

- Cassette tape with voice data (copied from the Evatone Data Disk)

After making the proper connections (see the accompanying diagram), make sure that the cassette tape is wound to the start of the voice

Questions

In your article on the TWE01 Word Processor/TeleWord Enhancer Module for the CX5M [in the April '86 issue], you stated that "The TeleWord module may not be used for these applications, since an SFG module is required." I'm very confused by this. If the TWE01 is indeed a "TeleWord Enhancer," why can't you use it with the TeleWord module?

The application described in the April '86 article are specific MIDI operations that involve the loading of MIDI data from various Yamaha MIDI-compatible units. In order to make MIDI connections directly to the CX5M, you must use the MIDI ports on the SFG01 or SFG05 MIDI/tone generator module. Therefore, the SFG module is needed when you are loading or saving MIDI data directly to or from your MIDI instrument.

However, once this MIDI data is stored, the TWE01 cartridge and the TeleWord module can be used together to send that data to another similarly-equipped user via the phone modem connections on the TeleWord module. The TWE01 cartridge also offers a number of other enhancements (beyond MIDI compatibility) to the basic TeleWord module package. For a list of some of these enhancements, see the TeleWord article in the February '86 issue of AFTER-TOUCH.

My CX5M music computer is an early model, and therefore has the original SFG01 tone generator module—the one that *cannot* be used as a MIDI expander. Do I have to buy the SFG05 module to get this capability, or is there some way to modify the unit I already own?

Eddy Reynolds Keyboard Service has been authorized by Yamaha to update or exchange SFG01 units from existing CX5M customers, so that they can have the SFG05 functions without having to purchase the unit outright. This service will cost $55.00, including shipping and owner's manual. For further information, write to: Eddy Reynolds Keyboard Service, 4247 Kraft Ave., Studio City, CA 91604; or call 818-508-7983. This offer is good through September 30th, 1986.

What is the secret that makes the FERMATA Command work with the CX5M Music Composer Program? No matter how I try to INSERT it, COMMAND it, or what-ever, It never seems to position itself about the actual note. Therefor, I always get un un-voiced fermata. What am I missing?

Yes, there is a trick to the FERMATA Command in the Music Composer Program (YRM101). The "FERMATA" applies not only to the note that it appears above but also to the note immediately following.

To make this clearer, let's look at a concrete example. Let's say that you want a quarter-note with a fermata. Musically, you would write it like this:

The way the CX5M needs it written is like this:

The first eighth-note marks the start of the "FERMATA," and the second eighth-note marks the end of the "FERMATA." The one exception to this rule is the last note of a piece, which should be written like this:

Hope that clears up the mystery for you!

How do I go about getting a service manual or an owner's manual for non-current Yamaha products?

Service manuals can be *purchased* by the consumer through the Yamaha Electronic Service Division Parts Department if available. Some of the older module service manuals may not be available. Inquiries and orders can be made by phoning 714-522-9355 from California and Alaska, or 800-521-9479 from all other States.

Owner's manuals are handled through the Digital Musical Instruments Division, and may be ordered at no charge by calling 714-522-9493 from California or Alaska, or 800-443-2232 from all other states.

I have looked everywhere for blank DX7 programming forms like the ones you use in your magazine. Could you send me a

few? I have several voices I would like to submit to your magazine.

Blank programming charts for the DX7 in "AFTERTOUCH format" were printed on pages 6 and 7 of our December '85 issue. If you don't have that particular issue, write to us and request a back issue. You are perfectly welcome to make as many Xeroxes as you need.

I have a DX7, a TX216, and a QX1. I would like to set up this system so that I can play two different parts (one with each hand), with the sequencer controlling the voice changes. I want to be able to have changes in sounds while I'm playing without having to take my hands off the keyboard. How can I do this?

To begin with, you can set the system up to play different sounds simultaneously by setting the Key Limit functions on the TX216 so that each module will only respond to a certain part of the DX7's keyboard.

In order to set the QX1 to make program changes for you, create a sequence filled with nothing but blank measures; they should match the measures of the piece you plan to play, but should contain no note data. Next, INSERT program changes where you desire them.

At this point, however, you will run into a problem. In order to send *separate* program changes to the two TX816 modules, you need to use two tracks (and two OUT slots) on the QX1. In order to do that, the TX216 modules will need to be set to INDIVIDUAL mode, in which case it will be impossible for them to receive the note information from the DX7 (unless you want to add one MIDI splitter and *two* MIDI merge units to your system).

If you can set the two modules up with parallel programs (so that calling up the same voice numbers on both will give you the bass/lead combinations your want), then you can accomplish your goal as follows: Record all program changes on Track One (using MIDI channel 1), and send them out from the QX1's MIDI OUT slot 1; then mix that data with the DX7's note data using a MIDI merge unit (such as the Yamaha MCS2), and send the merged data to the COMMON MIDI IN slot of the TX216. Set both TX216 modules to COMMON mode, and set both to receive on MIDI channel 1.

If you've accomplished all this, you are ready to go. Start the QX1 and play along with the sequencer's timing.

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data. Then, follow these steps to load data into your sequencer:

1. Press and hold down RESET.
2. Select the Tape mode by pressing button "D" until "tP" is displayed. This is Job Command D-3.
3. Release the RESET button.
4. Press the LOAD button on the QX21 or QX7.
5. Now press the PLAY button on your cassette recorder.

The QX21 or QX7 should display "L-" while loading. The load time will vary depending on the length and amount of MIDI data in the sequence.

If the data loaded correctly, the sequencer will display "OK." If there is a problem, the sequencer will display "nG." If you get this message, adjust the volume of the cassette recorder up or down and try again.