AFTER TOUCH™

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AFTERTOUCH

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From The Editor

THIS MONTH, we need to devote the entire column to information that is important for AfterTouch readers. Please read all of these items carefully, so that you will know how to get the information or service you need in the most efficient way.

Back Issues: Previous issues of AfterTouch are sent out free of charge—all you have to do is ask. However, if a request for back issues is combined with a subscription request or other material, chances are good that it will not be fulfilled. All requests for AfterTouch subscriptions go to our Mailing List input service. After the addresses are entered, the postcards and 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. Please do not send back issue requests on the attached subscription postcard.

Also, request back issues by issue number (issue #12) or date (September 1986) only. If you write and ask for "All issues that contain information on the DX27," it will be very difficult for us to fulfill your request. Don't worry, though: We plan to publish a complete index for the first three calendar years (issues 1–27) of AfterTouch in our January 1988 issue. If you are not sure what you want, wait and use the index to order back issues.

Address Changes: If you move, you need to let us know of your new address. In order to ensure the most efficient processing of your address change, send us an old address label (from the outside back cover) along with your new address. If you just send a new address (with no indication of your previous address), we will not be able to process your address change. Please send your address change in a separate envelope marked "ATTN: Address Change." Do not combine your address change information with other requests. Also, do not send address changes on the attached subscription postcard.

Foreign Correspondents: We have received many requests for AfterTouch from outside the United States. For a short time, Yamaha tried to support these requests. Unfortunately, the costs of these foreign subscribers have become prohibitive. AfterTouch is supported by Yamaha Music Corporation USA (DMI Division) as a free informational service to its users; therefore, AfterTouch subscriptions are available only to residents of the United States.

Product Literature: All requests for literature on individual products or entire product lines must be sent directly to Yamaha. (The address is: Yamaha Music Corporation USA, 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 directly to Yamaha.

–TD

AFTER-TOUCH is a monthly informational publication from Yamaha

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Receive AfterTouch *Free* Every Month!

YOU CAN RECEIVE AFTERTOUCH for an entire year, absolutely free, just by asking. If you are not already on our mailing list and would like to be, fill out the attached postcard. Be sure to 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.

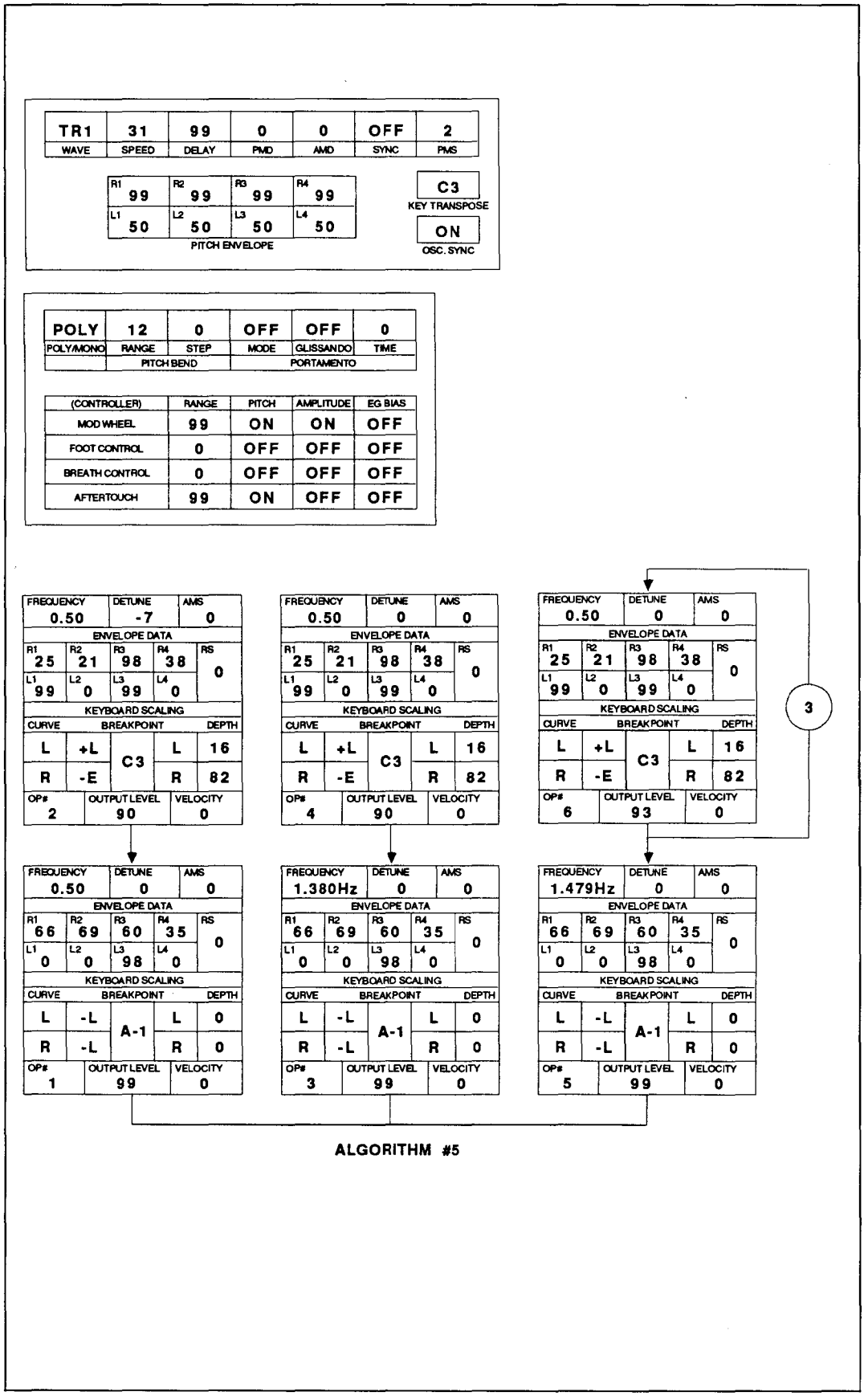
(By the way, if you received *this* issue in the mail, you are already on our permanent mailing list, so you don't need to send in another card.)

Also, don't limit yourself to just sending in your address: Let us know what you want to read, and what *you* have to offer (see page 19 for details). We look forward to your input.

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

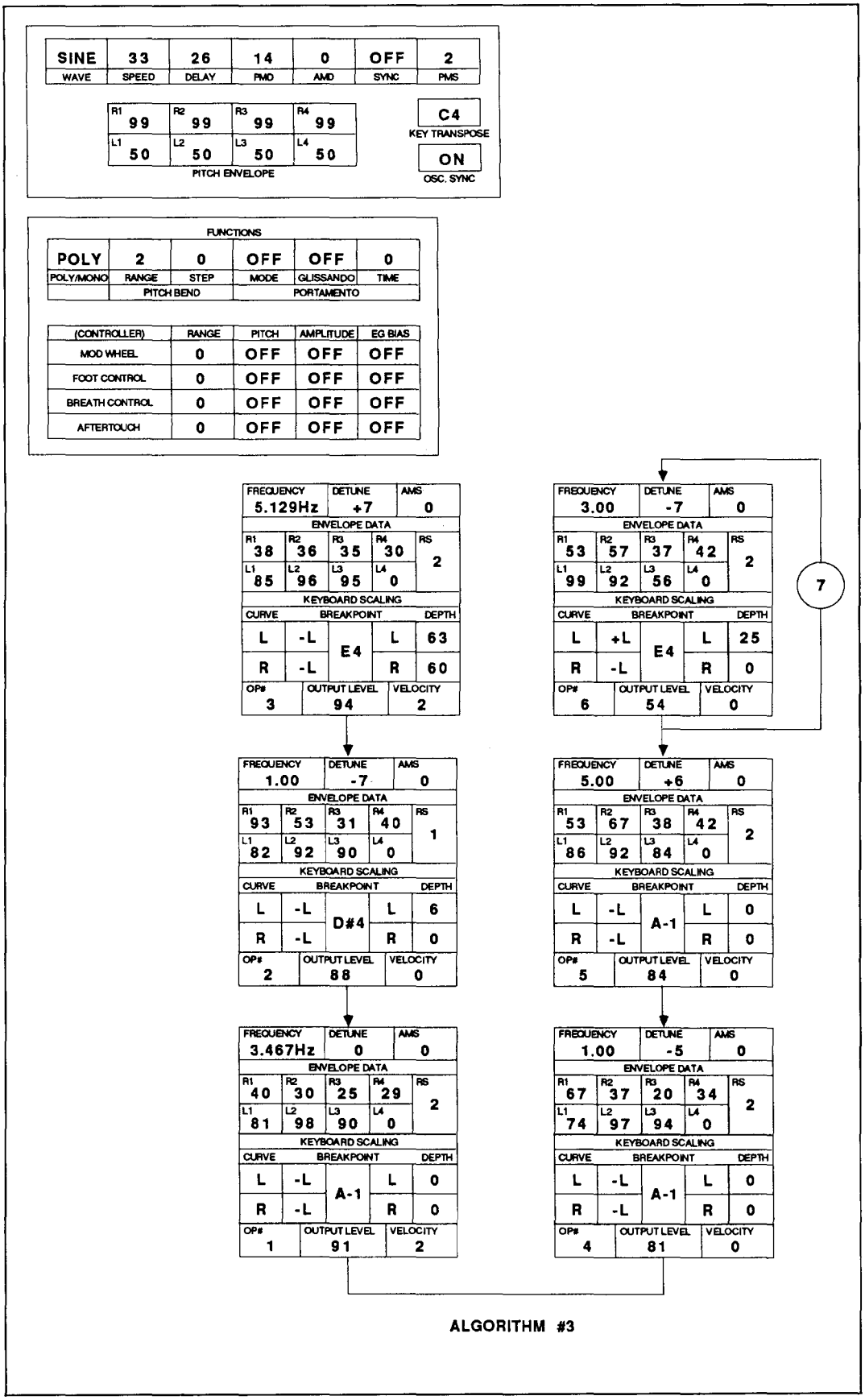
DX7

HORNSWEEP. A New DX7 Voice By Kevin Snowden.



These DX7 voices can also be loaded into all the other Yamaha 6-operator FM digital synthesizers and tone generators, including the DX5, TX7, TX216, TX816, TF1, DX1, DX7s, TX802, and DX7 II FD/D.

HIGH SYNTH. A New DX7 Voice By Bob Harper.



ALGORITHM #3

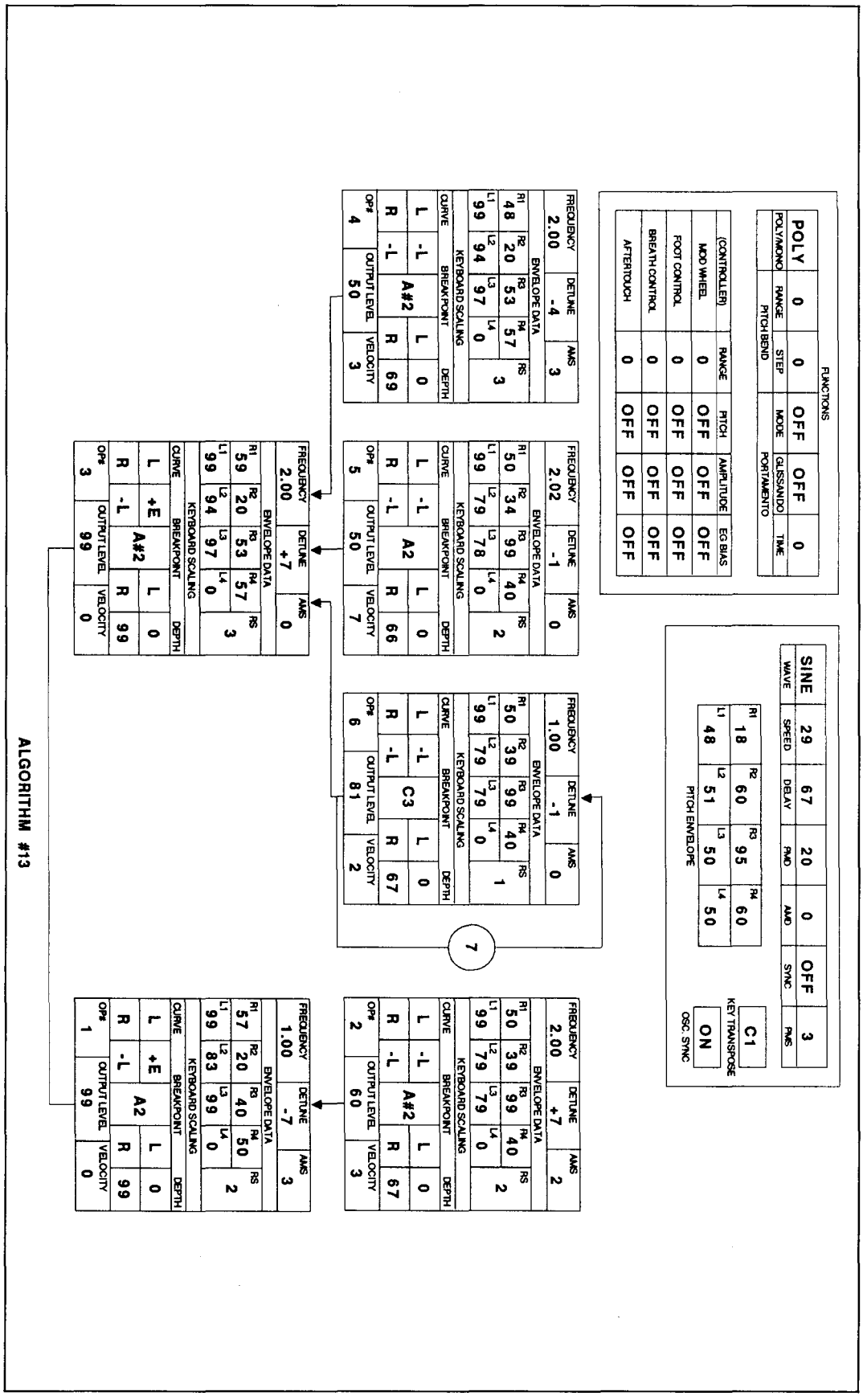
Notes:

This patch was designed to emulate the sound of the old Elka Rhapsody string synthesizer–high and thin, with a strange oscillation in the overall voice. It sounds great when expanded with a stereo digital reverb.

To control brightness, alter the output level of Op #5.

DX7

TUBA BROMP. A New DX7 Voice By Bob Harper.



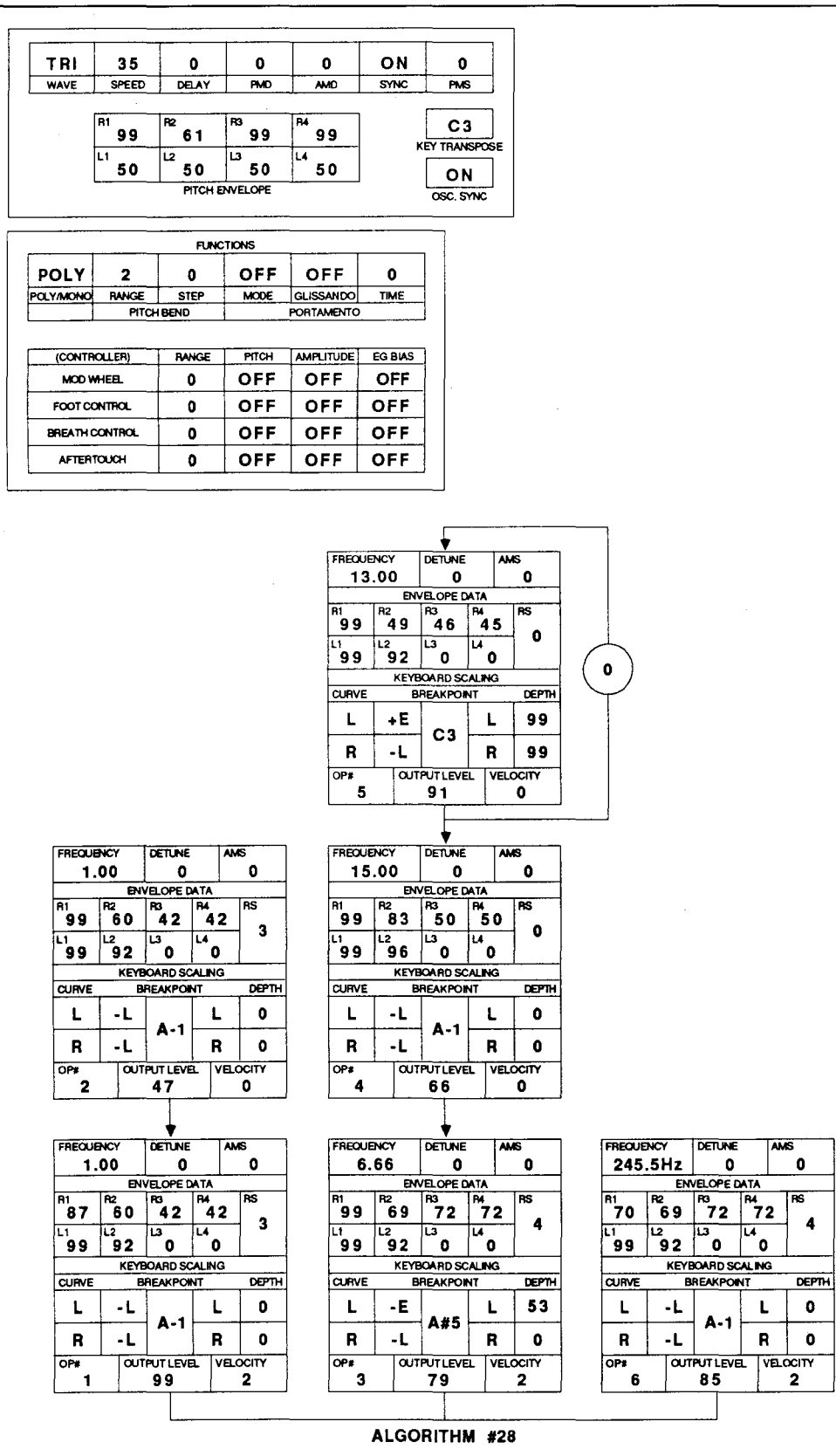
Notes:

Being a fan of quirky marches, I developed this patch because none of the preset "tubas" I could find cut through enough on recordings.

This particular version of the patch is fairly heavy-handed, meaning that not much pressure is required on the keyboard to produce a healthy "bromp" effect.

For a more subtle sound, try experimenting with the velocity sensitivity of Op #2, Op #4, and especially Op #6.

KALIMBA. A New DX7 Voice By C. Woodson Hall.



ALGORITHM #28

Notes:

Play as you would a real kalimba—touch the keys lightly. The best range is from C4 through C6. (A4 = 440Hz).

DX7

TEMPLEBELL. A New DX7 Voice By C. Woodson Hall.

Notes:

This patch is a high-pitched bell sound with sustaining partials. The best range is the top 1–2 octaves of the keyboard.

WAVE	SPEED	DELAY	PMD	AMD	SYNC	PMS
SINE	35	0	0	0	OFF	3

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

PITCH ENVELOPE

A4 — KEY TRANSPOSE

ON — OSC. SYNC

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

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

OP6

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	99	99	0
L1	**L2**	**L3**	**L4**	
99	99	99	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
6	0	0

OP5

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	99	99	99	0
L1	**L2**	**L3**	**L4**	
99	99	99	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
5	0	0

OP2

FREQUENCY	DETUNE	AMS
1.10	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	82	99	37	0
L1	**L2**	**L3**	**L4**	
99	0	0	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
2	78	1

OP3

FREQUENCY	DETUNE	AMS
1.20	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	70	99	37	0
L1	**L2**	**L3**	**L4**	
99	0	0	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
3	73	1

0

OP4

FREQUENCY	DETUNE	AMS
1.30	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	57	31	31	0
L1	**L2**	**L3**	**L4**	
99	93	0	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
4	83	2

OP1

FREQUENCY	DETUNE	AMS
1.00	0	0

ENVELOPE DATA

R1	R2	R3	R4	RS
99	57	31	31	0
L1	**L2**	**L3**	**L4**	
99	95	0	0	

KEYBOARD SCALING

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

OP#	OUTPUT LEVEL	VELOCITY
1	99	2

ALGORITHM #18

An Ear Training Program For The CX5M Music Computer. By Bob Fergusson.

THE PROGRAM BELOW is an ear training routine written for the CX5M music computer. It operates with either the SFG01 or SFG05 tone module, using either of the Music Macro Program cartridges (YRM104 or YRM504).

The program plays a series of random notes over a 1.5 octave range. The user selects the number of notes in each problem (from 2 to 20), chooses the number of problems (up to 50), and sets the tempo. When the computer plays back each series of notes, only the first note is shown on the screen, to give the user a starting point for trying to match the notes. After each series of notes is finished, the screen asks if the user wants to hear them again. If the answer is "no," the next series of notes is played.

I have found it very beneficial to try to duplicate the randomly generated notes on my synthesizer or guitar.

Program listing for use with the YRM104 or YRM504 Program cartridge and the CX5M music computer.

```
10 _TRACK(4)
20 CLEAR
30 COLOR15,5:CLS:KEY OFF
40 R=RND(-TIME)
50  DIMA$(29):DIMB$(29)
60 DIMPL$(20)
70 PRINT"            EAR TRAINING 101"
80 PRINT: PRINT"             BY BOB FERGUSSON"
90 PRINT: PRINT"                 (C) 1987"
100  FOR I=1 TO 29
110  READA$(I):NEXTI
120  FOR I=1TO 29:READB$(I):NEXT I
130 DATAo2c,o2c#,o2d,o2d#,o2e,o2f,o2f#,o2g,o2g#,o2a,o2a#,o2b,o3c,o3c#,o3d,o3d#,o
3e,o3f,o3f#,o3g,o3g#,o3a,o3a#,o3b,o4c,o4c#,o4d,o4d#,o4e
140 DATA C,C#-Db,D,D#-Eb,E,F,F#-Gb,G,G#-Ab,A,A#-Bb,B,C,C#-Db,D,D#-Eb,E,F,F#-Gb,G
,G#-Ab,A,A#-Bb,B,C,C#-Db,D,D#-Eb,E
150 PRINT:PRINT:PRINT
160 _INST(1,4)
170 _MODI(1,39)
180 CLS:LOCATE5,10:PRINT"NUMBER OF NOTES (1-20)";:INPUT NN
190 LOCATE 5,12:PRINT"NUMBER OF PROBLEMS (1-50)";:INPUT NP
200 LOCATE 5,14:PRINT"TEMPO (30 THRU 200)";:INPUT TE
210 _TEMPO(TE)
220 TQ=NP
230 GG=1
240 LOCATE 15,20:PRINT"        ": LL=1
250 GG=GG+1:IF GG >TQ+1 THENCLS: GOTO160
260 FOR I =1 TO NN
270 R=INT(RND(1)*18)+1
280 PL$(I)=A$(R)
290 LOCATE15,20:IF LL=1THEN PRINT B$(R)
300 LL=2
310 _PHRASE(1,PL$(I))
320 _PLAY(1,1)
330 IF OC=1 THEN OO=12:IF OC=2 THEN OO=18
340 _WAIT(1)
350 _ERASE(1)
360 NEXTI
370 GOSUB410
380 FOR X=1 TO 400:NEXT X
390 LOCATE30,12:NP=NP-1:PRINTNP
400 GOTO240
410 LOCATE 10,18:PRINT"AGAIN ? (Y/N)";:AG$=INPUT$(1)
420 LOCATE 10,18:PRINT"                    "
430 IF AG$="Y" OR  AG$="y" THENGOTO440 ELSE RETURN
440 FORX=1 TO 400:NEXT X
450 FOR I=1 TO NN
460 _PHRASE(1,PL$(I))
470 _PLAY(1,1)
480 _WAIT(1)
490 _ERASE(1)
500 NEXT I
510 GOTO410
520 RETURN
```

pf85

An Introduction To Yamaha's Newest Electronic Piano.

WITH THE INTRODUCTION of the pf70 and pf80 digital pianos, Yamaha brought portability and reliability to the self-contained electronic piano market. Now, with the introduction of the new pf85, Yamaha brings a new dimension to this genre of instrument, complete with the true sound and feel of an acoustic grand piano.

AWM Voice Technology: To capture the ambiance and nuance of acoustic instruments, the pf85 uses AWM (Advanced Waveform Memory) technology. Using this latest advancement in digital recording, the pf85 offers five true-to-life voices: Grand Piano, Upright Piano, Electric Piano, Harpsichord, and Vibraphone. All of these voices have full 16-note polyphony.

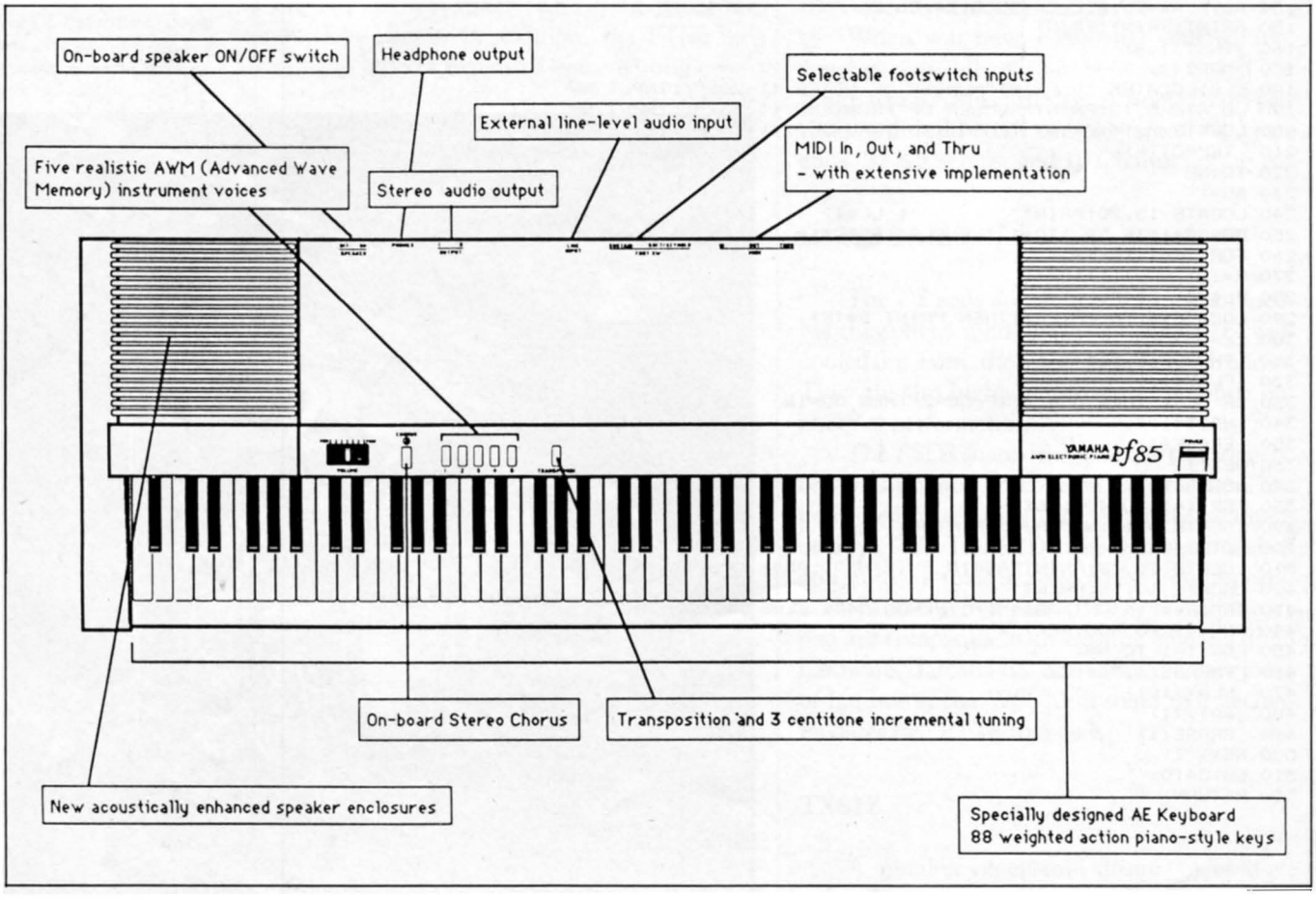
Keyboard: A new keyboard has been developed to complement the pf85's new voices. This new 88-note keyboard features a weighted piano-like action that responds to the needs of acoustic pianists and synthesists alike.

MIDI: Like its older brothers, the pf85 comes complete with extensive MIDI implementation. It can transmit or receive on any of the 16 MIDI channels. Transmission and reception of MIDI Control Change data can be enabled or disabled, for added flexibility. New for the pf85 is Local On/Off. This function allows the musician to control external MIDI devices from the pf85's keyboard without engaging the instrument's internal tone generator; this leaves the internal tone generator free to be controlled by another MIDI device, such as a sequencer. The pf85 is equipped with the full MIDI velocity range (0–127), which makes it a perfect master keyboard in a MIDI system.

Transposition & Tuning: The pf85 provides instant semitone transposition over a 1-octave range. In addition, the unit can be fine-tuned in 3-cent increments (over a total range of 51 cents), so that you can match exactly the pitch of another, non-adjustable instrument.

Pedals: The pf85 comes with an FC4 footswitch, which can be used as a sustain pedal. A second (optional) pedal can be used as either a Soft pedal or a Sostenuto pedal.

Continued on page 20



This diagram shows the major controls and connection ports of the pf85 electronic piano.

RX5

Yamaha Announces Three New ROM Voice Cartridges For The RX5 Digital Rhythm Programmer.

YAMAHA MUSIC Corporation USA announces the creation of three new Waveform Data ROM cartridges for use with the RX5 digital rhythm programmer–the WRCO2 Jazz/Fusion cartridge, the WRCO3 Hard Rock/Heavy Metal cartridge, and the WRCO4 Effects cartridge. Like the original RX5 ROM cartridge (WRCO1), each of these new cartridges can be plugged into the Waveform Data Cartridge port on the RX5's back panel to expand the instrument's on-board vocabulary of voices.

All of the voice samples on these cartridges were created in Los Angeles studios, using the best instruments, the highest-quality sampling and recording techniques, and the talented hands and discerning ears of a multitude of LA-based musicians and technicians.

These three new voice ROM cartridges will soon be available at your authorized Yamaha DMI dealer, for a retail price of $75.00 each.

Here is a list of the voices contained in each cartridge.

WRCO2 Jazz/Fusion Cartridge

1) JAZZ BASS DRUM 1
2) JAZZ BASS DRUM 2
3) FUSION BASS DRUM 1
4) FUSION BASS DRUM 2
5) ELECTRIC BASS DRUM
6) JAZZ SNARE DRUM 1
7) JAZZ SNARE DRUM 2
8) PICCOLO SNARE DRUM
9) FUSION SNARE DRUM
10) ELECTRIC SNARE DRUM
11) FLAT RIDE CYMBAL
12) CYMBAL BRUSH HIT
13) GUITAR DOWNSTROKE
14) GUITAR UPSTROKE
15) JAZZ TOM 1
16) JAZZ TOM 2
17) JAZZ TOM 3
18) FUSION TOM 1
19) FUSION TOM 2
20) FUSION TOM 3
21) OPEN HI HAT
22) CLOSED HI HAT
23) PEDAL HI HAT
24) COWBELL
25) FINGER BASS

WRCO3 Hard Rock/Heavy Metal Cartridge

1) HEAVY BD 1
2) HEAVY BD 2
3) HEAVY BD 3
4) HEAVY SD 1
5) HEAVY SD 2
6) HEAVY SD 3
7) HEAVY SD 4
8) MALLET CRASH
9) HEAVY TOM 1
10) HEAVY TOM 2
11) HEAVY TOM 3
12) HEAVY TOM 4
13) PICKED BASS
14) GUITAR SINGLE NOTE (DISTORTED)
15) GUITAR FIFTH (DISTORTED)

RX5 digital rhythm programmer.

WRCO4 Effects Cartridge

1) PROCESSED BD 1
2) PROCESSED BD 2
3) PROCESSED BD 3
4) PROCESSED SD 1
5) PROCESSED SD 2
6) PROCESSED SD 3
7) PROCESSED SD 4
8) PROCESSED SD 5
9) PROCESSED SD 6
10) HEAVY FM SNARE DRUM
11) PROCESSED TOM 1
12) PROCESSED TOM 2
13) PROCESSED TOM 3
14) PROCESSED FM TOM
15) PROCESSED ROTO TOM
16) PROCESSED HYBRID TOM
17) SPLASH CYMBAL
18) SYNTH BASS
19) DOOR SLAM

Electronic Percussion

Yamaha Unveils The PTX8 MIDI Percussion Controller And D8 Pad System.

YAMAHA'S NEW Electronic Percussion System is a fully-integrated MIDI percussion setup. It consists of the PTX8 MIDI percussion controller/tone generator, the PSD8 snare pad, the PTT8 tom pad, and the PBD8 bass drum pad. In addition, a new set of FM percussion voices has been created for the TX81Z FM digital tone generator, specifically for use with this new System.

PTX8

The PTX8 is a combination MIDI percussion controller and tone generator, with MIDI IN, OUT, and THRU terminals. It has 8 pad inputs on its rear panel, which accept any combination of pads you choose. There are 32 Kit memories, each of which contains a complete "drum kit" setup. The unit comes with 26 Internal ROM voices, all of which are PCM samples (some are sampled FM percussion voices).

The PTX8 is completely compatible with the Voice ROM Data Waveform cartridges created for the RX5 digital rhythm programmer; these can be inserted in the Waveform Data Cartridge slot on the PTX8's front panel for immediate access. In addition, the PTX8 has the same kind of extensive voice editing capabilities as those found on the RX5. Certain voice features, such as Pitch, Reverse, Attack, and Decay, can be set to respond (in either a positive or negative direction) to differences in touch applied to the drum pads. These and other performance-oriented edit parameters can be stored as part of each Kit memory. More extensive Voice edits can be stored in one of 64 Internal Voice locations.

In the Voice Edit mode, you can play all of the selected Drumset's voices from the front panel, as well as compare your edits to the original voice. There is also a Pad Copy feature for copying all of the edit parameters of one pad to another. If you accidently change Drumsets before saving your edits, there is an Edit recall feature.

If you plug an FC4 or FC5 footswitch into the Footswitch input on the PTX8's back panel, you can access the Chain function, which allows you to step through any one of 10 preprogrammed Chains of up to 32 steps each—each step calls up one of the PTX8's Kit memories. The same footswitch allows you to alter (momentarily) the parameters of any voice in the currently selected Kit.

When you have completed your editing, you can save all of your Voice edits and Kit setups to a RAM4 cartridge. A single RAM cartridge will hold a full complement of 64 Voice edits, 32 Kit setups, and 10 Chains.

The D8 Pad System, shown here as part of an integrated acoustic/electronic drum kit.

D8 Pad System

The D8 pads are all light and streamlined, but they offer a solid, lively feel that will be welcomed by even the most experienced player. They are also highly sensitive to the subtle nuances of performance.

The PSD8 snare drum pad has two triggers, one in the center and one on the rim; these can be routed to separate tone-generator channels of the PTX8. The PBD8 bass drum pad is small and sturdy; it folds in half for ease in transportation. Both the tom pads (PTT8) and the snare pad are compatible with existing Yamaha drum hardware. Yamaha has also created a new piece of hardware, the WS820, a stand that accommodates two PTT8 tom pads.

TX81Z

A number of custom drum voices have

been created for the TX81Z tone generator, making it the perfect FM digital companion to the new Electronic Percussion system. There are 32 Drumsets available: 24 Internal Performance memories, and 8 more Performances, each of which uses single voices for the entire Kit (with appropriate tuning and gate changes).

The newly-created sounds for the TX81Z include the following: "acoustic" drum voices, electronic drum voices, effects voices, percussion voices, melodic voices, and analog-type voices.

Creating drumsets for the TX81Z required different techniques than those you might use to produce traditional keyboard voices. The drums are "component voiced." Each Kit Performance contains 8 instruments (usually with one note assigned to each), but any one drum requires at least two instruments to sound right. (The exceptions, of course, are the single voice drumsets).

During the voicing process, certain techniques were found useful. Here are a couple of examples: 1) Use single-carrier algorithms, namely algorithms #1–4, each of which has one carrier and three modulators. These algorithms show stronger signal levels, and the use of three modulators plus the feedback loop allow for more interesting harmonic density. This is very much like real drum sounds, which have many transients at the instant of impact. 2) Use the LFO to mimic a pitch envelope. The TX81Z voice architecture does not include any implementation for a pitch envelope. In order to achieve a pitch change over the duration of a note, use a slow sine wave to modulate pitch. The subtle use of the LFO can add movement and realism to a voice.

All of the Voice and Performance data for the PTX8/TX81Z combination is available from Yamaha on a DX7 II FD 3.5" disk, as is the documentation for the entire system.

• • • •

The list prices for the components of Yamaha's new Electronic Percussion System are as follows: PTX8–$895.00; PBD8–$140.00; PTT8–$95.00; PSD8–$115.00; WS820–$155.00.

RX5

A New RX5 Voice Edit By Bill Montella, Jr.

Voice Name: **Sub Dive Horn** Origin: **Int-BD 1**

JOB #	PARAMETER	RANGE	NEW VALUE
02	**Pitch**	-3600 ~ 2400	**+1800 cent**
03/1	**Attack Rate**	1 ~ 99	**99**
03/2	**Decay 1 Rate**	1 ~ 99	**01**
03/3	**Decay 1 Level**	1 ~ 60	**59**
03/4	**Decay 2 Rate**	1 ~ 99	**68**
03/5	**Release Rate**	1 ~ 99	**56**
03/6	**Gate Time**	100 ~ 6500	**1800 ms**
04/1	**Bend Rate**	-60 ~ 60	**02**
04/2	**Bend Range**	1 ~ 60	**+06**
05	**Inst Level**	0 ~ 31	**31**
06	**Sound Loop**	OFF / ON	**ON**

RX5

A New RX5 Voice Edit By Tom Darter.

Voice Name: **Rim Snare**		Origin: **Int-Rim 1**	
JOB #	**PARAMETER**	**RANGE**	**NEW VALUE**
02	**Pitch**	-3600 ~ 2400	**-2400 cent**
03/1	**Attack Rate**	1 ~ 99	**99**
03/2	**Decay 1 Rate**	1 ~ 99	**44**
03/3	**Decay 1 Level**	1 ~ 60	**55**
03/4	**Decay 2 Rate**	1 ~ 99	**99**
03/5	**Release Rate**	1 ~ 99	**77**
03/6	**Gate Time**	100 ~ 6500	**0400 ms**
04/1	**Bend Rate**	-60 ~ 60	**01**
04/2	**Bend Range**	1 ~ 60	**-24**
05	**Inst Level**	0 ~ 31	**31**
06	**Sound Loop**	OFF / ON	**ON**

RX5

A New RX5 Voice Edit By Tom Darter.

Voice Name: **Warble**		Origin: **Crt-Whstl**	
JOB #	**PARAMETER**	**RANGE**	**NEW VALUE**
02	**Pitch**	-3600 ~ 2400	**-2400 cent**
03/1	**Attack Rate**	1 ~ 99	**99**
03/2	**Decay 1 Rate**	1 ~ 99	**22**
03/3	**Decay 1 Level**	1 ~ 60	**59**
03/4	**Decay 2 Rate**	1 ~ 99	**80**
03/5	**Release Rate**	1 ~ 99	**60**
03/6	**Gate Time**	100 ~ 6500	**6500 ms**
04/1	**Bend Rate**	-60 ~ 60	**01**
04/2	**Bend Range**	1 ~ 60	**-24**
05	**Inst Level**	0 ~ 31	**22**
06	**Sound Loop**	OFF / ON	**ON**

RX5

Voice Name: **Glass Snare**		Origin: **Crt-GlsCsh**	
JOB #	**PARAMETER**	**RANGE**	**NEW VALUE**
02	**Pitch**	-3600 ~ 2400	**-1000 cent**
03/1	**Attack Rate**	1 ~ 99	**99**
03/2	**Decay 1 Rate**	1 ~ 99	**99**
03/3	**Decay 1 Level**	1 ~ 60	**60**
03/4	**Decay 2 Rate**	1 ~ 99	**65**
03/5	**Release Rate**	1 ~ 99	**90**
03/6	**Gate Time**	100 ~ 6500	**0300 ms**
04/1	**Bend Rate**	-60 ~ 60	**00**
04/2	**Bend Range**	1 ~ 60	**00**
05	**Inst Level**	0 ~ 31	**28**
06	**Sound Loop**	OFF / ON	**ON**

A New RX5 Voice Edit By Tom Darter.

Notes:

This voice edit is the result of an attempt to create an electronic, snare-like sound from the Glass Crash (GlsCsh) voice.

For a drier, more clipped sound, change the Decay 2 Rate to 70 and the Release Rate to 80.

RX5

Voice Name: **Gun Drum**		Origin: **Crt-Gun**	
JOB #	**PARAMETER**	**RANGE**	**NEW VALUE**
02	**Pitch**	-3600 ~ 2400	**-2400 cent**
03/1	**Attack Rate**	1 ~ 99	**99**
03/2	**Decay 1 Rate**	1 ~ 99	**99**
03/3	**Decay 1 Level**	1 ~ 60	**59**
03/4	**Decay 2 Rate**	1 ~ 99	**60**
03/5	**Release Rate**	1 ~ 99	**80**
03/6	**Gate Time**	100 ~ 6500	**0200 ms**
04/1	**Bend Rate**	-60 ~ 60	**00**
04/2	**Bend Range**	1 ~ 60	**00**
05	**Inst Level**	0 ~ 31	**30**
06	**Sound Loop**	OFF / ON	**ON**

A New RX5 Voice Edit By Tom Darter.

Hot Tips

Reader Tips For The YMC10, QX21, RX11, And More.

Using the YMC10 To Assist In Reduced-Speed Recording

By John J. Volanski

Have you ever had problems trying to record a particularly fast or complex line of music to tape and have it be in sync with material already recorded? Of course, the obvious solution is to turn down the tape deck's pitch control when you are recording, so you can take your time and play the part coherently. The drawback of this method is that the dynamics of the line will be altered: The attack, decay, and release parameters will all be changed (shortened) when the tape speed is returned to normal. How can the tempo be slowed down to record a synchronized performance that maintains the proper envelope dynamics on playback? The answer is to use a sequencer along with an FSK-to-MIDI converter and a MIDI merger.

In my setup, I use a DX21 synthesizer, a

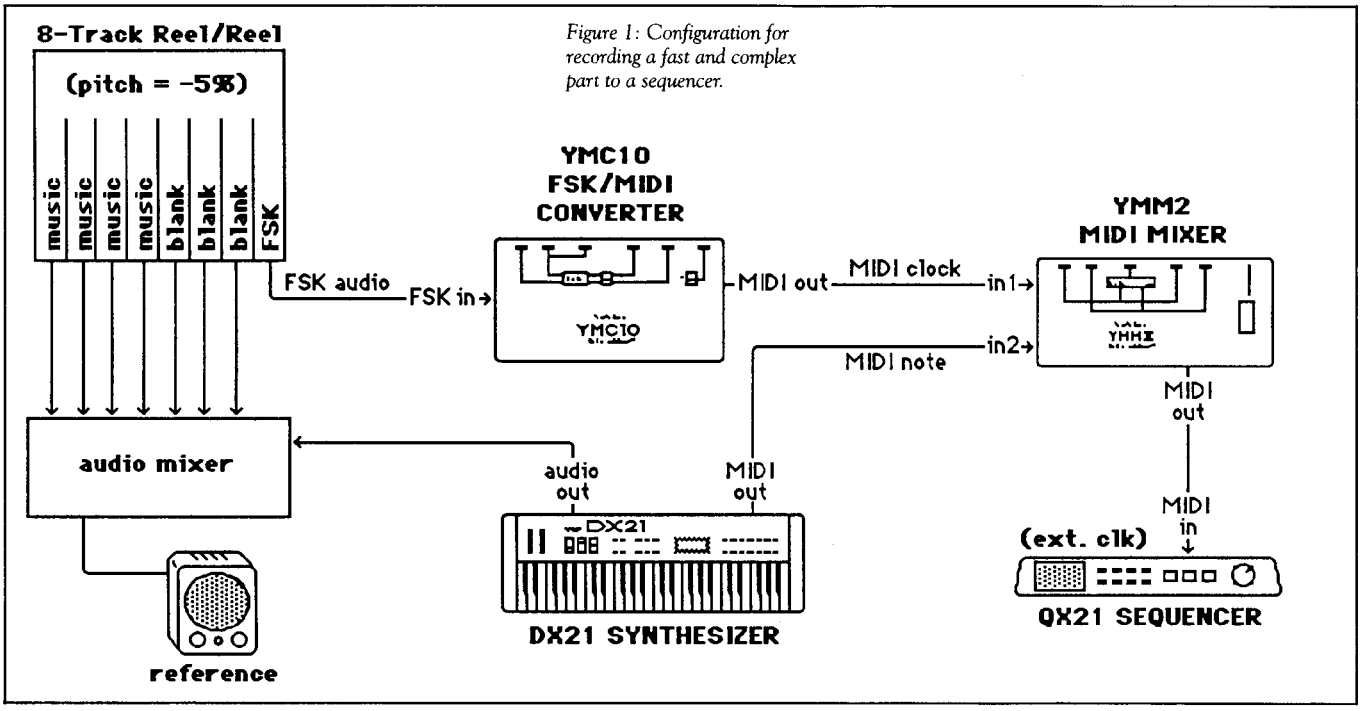


Figure 1: Configuration for recording a fast and complex part to a sequencer.

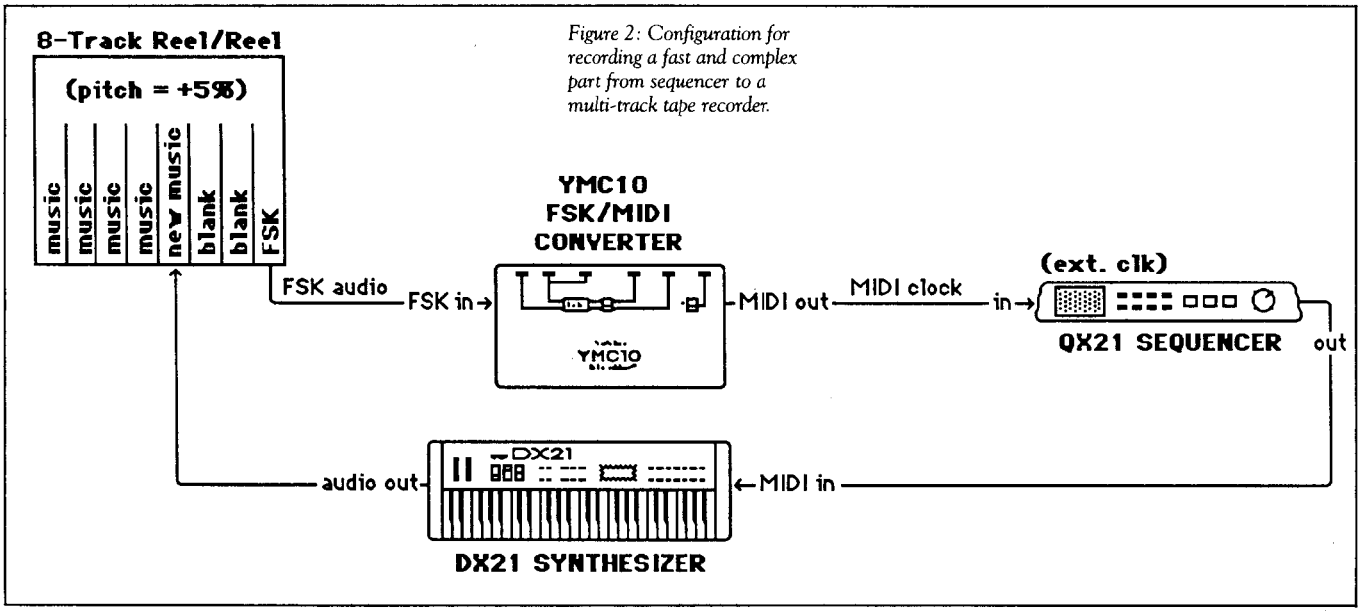


Figure 2: Configuration for recording a fast and complex part from sequencer to a multi-track tape recorder.

QX21 sequencer, a YMC10 FSK-to-MIDI converter, and a YMM2 MIDI merger, along with a Fostex A8 multitrack reel-to-reel tape deck. When I get to the point where I need to lay down the fast or complex line, I reduce the tape speed by approximately 5% and lay down an FSK sync track on one of the spare A8 channels. I then connect the equipment as shown in Figure 1.

Before recording to the sequencer, I reduce the tape speed by another 5%. Note that the phase-locked loop in the YMC10 will fail to work properly if you change the speed of the tape deck (and therefore change the frequency of the FSK timing signal) too much. Therefore, I record all of the original tracks at +5% on the A8. I then record the FSK signal at 0%, and record the slowed-down complex lines at −5%. (The A8 has a ±10% pitch control.) This way, I'm never off by more than 5% with respect to the FSK sync signals.

The connections shown in Figure 1 are for recording the fast, complex line from the DX21 synthesizer to the QX21 sequencer. The QX21 is being externally clocked from the FSK sync signal on the A8: The YMC10 changes the FSK sync into a MIDI clock, and the YMM2 mixes this clock with the DX21 MIDI note data for input to the QX21. (MIDI mixing is required because the QX21 sequencer only has one MIDI IN port.)

Play the tape, listen to it for audio reference, and record the complex line into the sequencer. The sequencer should begin recording automatically when it receives the MIDI start signal via the YMC10. You will need to shift the synthesizer by two semitones to be at the same pitch as the tape; some fine tuning may also be necessary.

In order to record the complex line onto tape from the sequencer, reconnect the equipment as shown in Figure 2. Change the speed on the A8 back to the speed at which the original material was recorded (+5%), and shift the key on the synthesizer back to normal pitch (A = 440). Now, record the sequencer line onto tape using the synthesizer. The performance will be in sync with the original material, and the envelope dynamics will be correct. When you are finished, the FSK sync track can be erased, as it is no longer needed.

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RX11 digital rhythm programmer.

Overdubbing With The RX11

By Ivan A. Rodriguez

Even though the RX11 has 29 great drum and percussion sounds, a number of them cannot be used simultaneously. For example, if you play a rimshot over a snare drum, one of the two sounds will cancel the other; the same goes for the open and closed hi-hat. One of the great things about the RX11 is that it does have 29 sounds, so why not find a way to use all of them?

If you have a multi-track tape recorder, try the following: Get a YMC10 MIDI-to-FSK (tape sync) converter, and use it to lay down a sync (FSK) track onto tape. Now, program your RX11 patterns minus all of those extra sounds–the ones that you enjoy but can't use since they cancel out other basic sounds.

Next, use the YMC10 to synchronize the RX11's playback with the sync track as you record the basic RX11 sounds onto an audio track. Then go back to your RX11 patterns, and substitute those extra sounds in place of those basic sounds that would normally cancel them out.

Using the YMC10 again to synchronize the RX11's playback with the sync track, you can record this extra RX11 material onto another audio track–it will be synced perfectly with the basic RX11 audio track. Later, if you desire, you can mix the two RX11 tracks down to a single audio track, which will free up a track for further recording. Once the sync track is no longer needed for synchronization purposes, it can also be erased.

Questions

Answers To Questions From Readers. By Tom Darter.

I own an RX17 drum machine, which is shipped with a number of preset patterns and songs. These can be edited, erased, or written over; however, the owners manual states that these presets can be recalled by holding down both the +1/YES and STOP/CONTINUE buttons while turning the unit on. This does not work; in fact, this procedure initializes all of the pattern and song memory locations. What is the problem?

The problem is that the owners manual is in error. In order to recall the preset patterns and songs, you must hold down the ACCENT and STOP/CONTINUE keys while turning the RX17 on. Yamaha apologizes for the error in its RX17 owners manual.

When programming patterns on my RX21, I quite often get a "ptn memory full" message. Is the machine capable of storing 100 patterns only if they are short, or is something wrong with my unit?

In all probability, there is nothing wrong with your unit. The memory of the RX21 is of course limited; it is, in fact, an "event memory"–it keeps track of (and stores) musical events. The division of the memory into patterns is for the benefit of the user (since it makes musical material easier to catalog and recall). Theoretically, it would be possible to use up the entire event memory of the RX21 with just a few patterns–although they would be exceedingly complex patterns.

The 100 pattern capability of the RX21 is provided for musicians who want to be able to call up a large number of short patterns (in any order) for use in a larger song structure. It is also possible to use up the pattern memory by creating a smaller number of longer, more complex patterns. The choice is yours.

Are the "Breath-Controller" patches on units like the TX81Z and DX100 capable of producing sound without the use of a Yamaha Breath Controller? Many of these sounds are permanent (ROM) patches; it seems like a real waste of memory to create these permanent patches that can only be used by those who are interested in exploring the use of a Breath Controller. What's the story?

Both the TX81Z and the DX100 contain a number of permanent (ROM) preset patches–192 in the DX100, and 128 in the TX81Z. These voices cannot be changed in their ROM locations; however, it is possible to call up a permanent (ROM) voice, edit it, and store the result in one of the instrument's Internal Voice (RAM) memory locations. The DX100 has 24 of these, while the TX81Z had 32.

The "Breath-Controller" patches you refer to are all identified as such by the presence of the letters "BC" in the voice name. The TX81Z's ROM preset collection contains exactly three of these voices: "SpitBoneBC" (B7), "Horns BC" (B8), and "BCSexyPhon" (C19). Like many of the voices in this and the DX100's permanent voice set, these patches were intended as educational material. They were created to show how to program a voice for use with the Breath Controller for maximum effect.

Like many of the other "educational" voices, these BC patches have limited use for those musicians who are not interested in the particular effect being demonstrated. In that sense, they are a "waste" of memory; but there are still 125 permanent voices left for those not interested in this particular technique.

This was the intent of the BC voices; unfortunately, the owners manuals for the TX81Z and DX100 did not make these intentions clear. As a result, the BC voices are a source of confusion for many musicians.

If you want to use TX81Z BC voices without a Breath Controller, simply enter the Single (Voice) Edit mode, access the "Function" section, and set the "BC EG Bias" parameter value to zero.

If you want to use DX100 BC voices without a Breath Controller, enter the Function mode and (once again) set the "Breath Range EG Bias" parameter value to zero.

In both cases you are, in effect, turning the involvement of Breath Control OFF. Once control of the voice's volume and timbre has returned to the instrument's keyboard and envelope generators, you may want to make other edits. Then, if you are satisfied with the result, store the new (non-BC) voice to one of the Internal Voice memory locations in your instrument.

Does the WX7 work with the DX100, or will it work just with my DX7 II?

Both the DX7 II and the DX100 are MIDI-equipped synthesizers; therefore, either can be used as a tone generator in conjunction with the WX7 MIDI wind controller.

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In its basic operating mode, many of the important MIDI messages from the WX7 are sent as Breath Controller data. Any MIDI tone generator that accepts and reacts to Breath Controller information can be part of a MIDI system that uses the WX7.

Also, as mentioned in the article on the WX7 in the previous (September 1987) issue of AfterTouch, the WX7 has MIDI flexibility that transcends the Breath Controller arena: If you want to use the WX7 with an instrument that does not recognize MIDI Breath Controller data, you can set the WX7 so that its Breath Controller output is converted to MIDI AfterTouch data. With proper programming, the receiving tone module will respond to this AfterTouch data exactly as if Breath Controller data were being transmitted.

We have a KX88, a TX816, and a QX1, and use this combination as our church organ. We receive AfterTouch, and keep seeing all kinds of interesting-looking voices for the DX7. The footnotes keep saying that these patches can be loaded into (among other units) a TX816. We want to check these sounds out. How do we load them into our TX816 without a DX7? Unfortunately, it is impossible to program voices directly into a TX816 module. In order to do so, you need either a DX7, a computer equipped with MIDI plus DX7 Voice-Editing software, or a hardware programming unit. The KX88 can be programmed to alter all DX/TX Voice parameters, but the system you describe contains no element that would allow you to see the value of each voice parameter as you change it using the KX88.

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

Have you created an incredible patch for the DX7 II, the DX100, or any of the other members of the Yamaha FM digital synthesizer family? How about a program for the CX5M II music computer or a great pattern or voice for the RX5? Send in your patches, programs, and patterns. If we use your material, we'll give you full credit plus $25.00 for each item used.

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

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

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

Finally, if you just want to get something off your chest, or if you'd like to establish direct contact with other Yamaha AfterTouch product users, send in something to our "Letters" column. We'll do our best to print names, addresses, and phone numbers of all those who are interested in starting up regional users groups.

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pf85

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Stereo Audio: Although the pf85's basic output is a mono signal, an on-board Stereo Chorus is available at all times to help create the stereo "room sound" of an acoustic piano in live performance. The pf85 on-board stereo speakers, which are powered by their own stereo amplifiers, have specially-created enclosures to enhance and maximize fidelity. A selectable On/Off switch allows the on-board speakers to be turned off when the pf85's stereo outputs are routed to larger audio systems.

Stereo Headphone Output: When the pf85 is used in an academic setting (such as a college piano lab), the headphone output allows a completely private setting within which the student can improve his or her skills. The headphone output also allows you to use the pf85 for musical explorations at all hours without disturbing your family or the neighbors.

External In Jack: The pf85 has a jack that makes it possible to mix a line-level input from an external source with its internal tone generator, which allows the musician to play along with his or her favorite tape, record, or CD.

The pf85 electronic piano weighs about 71 pounds. Its suggested retail price is $1995.00.