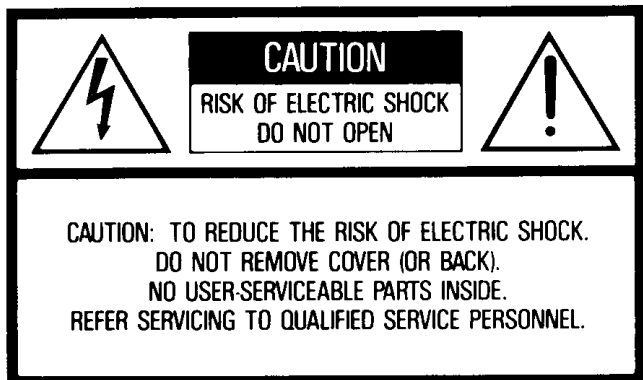# YAMAHA

PTX8

PERCUSSION TONE GENERATOR
**GENERATEUR DE SON POUR PERCUSSION**
PERCUSSION TONGENERATOR

OWNER'S MANUAL
MANUEL DE L'ACHETEUR
BEDIENUNGSANLEITUNG

SUPPLEMENTAL MARKING INFORMATION
SPECIAL MESSAGE SECTION

Yamaha Digital Musical Instrument Products will have either a label similar to the graphic shown below or a molded / stamped facsimile of the graphic on its enclosure. The explanation of these graphics appears on this page. Please observe all cautions indicated.

```
┌─────────────────────────────────┐
│  ⚡  │   CAUTION        │  !   │
│      │ RISK OF ELECTRIC SHOCK   │
│      │    DO NOT OPEN           │
├─────────────────────────────────┤
│ CAUTION: TO REDUCE THE RISK OF  │
│ ELECTRIC SHOCK.                 │
│   DO NOT REMOVE COVER (OR BACK).│
│   NO USER-SERVICEABLE PARTS     │
│   INSIDE.                       │
│ REFER SERVICING TO QUALIFIED    │
│ SERVICE PERSONNEL.              │
└─────────────────────────────────┘
```

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.
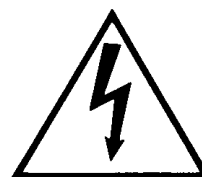
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

ELECTROMAGNETIC INTERFERENCE (RFI): Your Yamaha Digital Musical Instrument Product has been type tested and found to comply with all applicable regulations. However, if it is installed in the immediate proximity of other electronic devices, some form of interference may occur. For additional RFI information see FCC Information section located in this manual.

IMPORTANT NOTICE: This product has been tested and approved by independent safety testing laboratories in order that you may be sure that when it is properly installed and used in its normal and customary manner, all foreseeable risks have been eliminated. DO NOT modify this unit or commission others to do so unless specifically authorized by Yamaha. Product performance and/or safety standards may be diminished. Claims filed under the expressed warranty may be denied if the unit is / has been modified. Implied warranties may also be affected.

SPECIFICATIONS SUBJECT TO CHANGE: The information contained in this manual is believed to be correct at the time of printing. Yamaha reserves the right to change or modify specifications at any time without notice or obligation to update existing units.

NOTICE: Service charges incurred due to a lack of knowledge relating to how a function or effect works (when the unit is operating as designed), are not covered by the manufacturer's warranty. Please study this manual carefully before requesting service.

STATIC ELECTRICITY CAUTION: Some Yamaha Digital Musical Instrument products have modules that plug into the unit to perform various functions. The contents of a plug-in module can be altered/damaged by static electricity discharges. Static electricity build-ups are more likely to occur during cold winter months (or in areas with very dry climates) when the natural humidity is low. To avoid possible damage to the plug-in module, touch any metal object (a metal desk lamp, a door knob, etc.) before handling the module. If static electricity is a problem in your area, you may want to have your carpet treated with a substance that reduces static electricity build-up. See your local carpet retailer for professional advice that relates to your specific situation.

Model _____

Serial No. _____

Purchase Date _____

This information on safety is provided to comply with U.S.A. laws, but should be observed by users in all countries.

INTRODUCTION

Thank you for purchasing the Yamaha PTX8 Percussion Tone Generator. The PTX8 is an 8-instrument multi-timbral tone generator that can be played from percussion pads (PSD8, PTT8, PBD8) or via MIDI. To make full use of the PTX8's capabilities, please read this manual carefully.

CONTENTS

FEATURES

* Eight independent tone generators with eight pad inputs.

* 32 "kit" memories stored internally or in a cartridge.

* A sequence of memories can be programmed in a "Chain" and stepped through using a footswitch or pad.

* Percussive voices can be edited, and 64 different voices stored in internal memory.

* Control the PTX8 from another MIDI device (sequencer, rhythm machine or tone generator).

* Control another MIDI device (rhythm machine or tone generator) from pads connected to the PTX8.

* Cartridge interface for handy data storage and recall.

PRECAUTIONS

* Avoid placing the unit in direct sunlight or close to a source of heat. Also, avoid locations where the unit is likely to be subjected to vibration, excessive dust, cold or moisture.

* Avoid applying excessive force to the switches, dropping or rough handling. While the internal circuitry is of reliable integrated circuit design, the unit should be treated with care.

* Always grip the plug directly when removing it from an AC receptacle. Removing the plug from the AC receptacle by pulling the cord can result in damage to the cord and possibly a short circuit. It is also a good idea to disconnect the unit from the AC receptacle if you don't plan to use it for an extended period of time.

* If necessary, clean the unit using a slightly damp cloth, and dry with a soft cloth. Never use solvents (such as benzine or thinner) since they can melt or discolor the finish.

* All computer circuitry, including the circuitry found in this unit, is sensitive to voltage spikes. For this reason, the unit should be turned off and unplugged from the AC receptacle in the even of an electrical storm. This precaution will avoid the chance that a high voltage spike caused by lightning will damage the unit.

* Computer circuitry is also sensitive to electromagnetic radiation. Be careful not to set it too close to equipment (such as a television set) that generates electromagnetic fields. Proximity to such equipment could cause malfunctions in the PTX8's digital circuitry and interfere with the operation of the other unit.

* When inserting a cartridge in the cartridge slot, make sure it is facing the correct way, and do not use excessive force.

* This unit contains no user servicable parts. Opening it or tampering with it can lead to electrical shock as well as damage, and will void the product warranty. Refer all servicing to qualified Yamaha personnel.

FRONT/REAR PANEL

FRONT PANEL
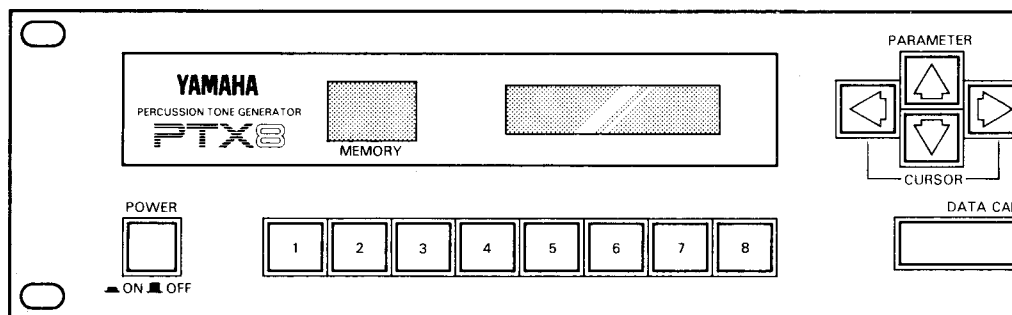
LED MEMORY NUMBER
The currently selected "kit memory" number is displayed here.

LCD
A two-line 16-character Liquid Crystal Display, illuminated for visibility.

PAD SELECT SWITCH 1-8
In VOICE EDIT mode, pressing a PAD SELECT switch will sound the tone generator for that pad.
In other modes, these select the pad to be edited.

CURSOR (◀ ▶)
Move the blinking cursor to the data you want to modify.

PARAMETER (up/down)
Select the data that you want to modify.

MEMORY / DATA (NO/YES)
Select memories, change data values, or answer No/Yes to prompts in the LCD.

DATA CARTRIDGE
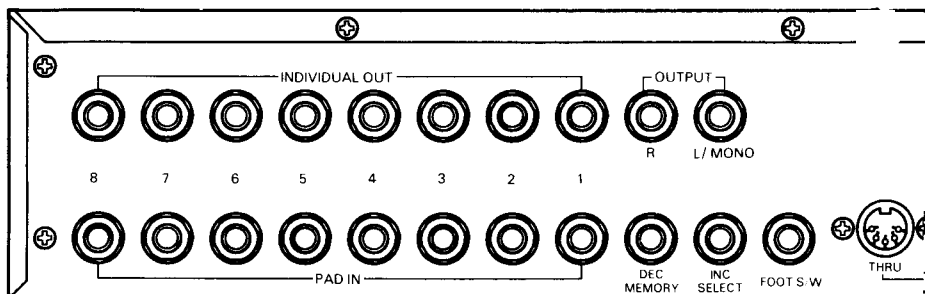A RAM4 data cartridge inserted here can store the internal memory of the PTX8.

MEMORY (INTERNAL / CARTRIDGE)
Select Internal or Cartridge memories.

CHAIN
In CHAIN mode, you can use a footswitch or pad to cycle through a programmed "chain" of memories.

REAR PANEL

INDIVIDUAL OUT 1-8
The audio signal from each pad is always sent from these outputs.

R / L MONO
The combined signals from each pad are sent in stereo from these outputs. For a mono mix, use only the L jack. If a pad's INDIVIDUAL OUT is being used, it will not appear in this Mixed Output.

PAD IN 1-8
Connect Yamaha PSD8, PTT8 or PBD8 Percussion Pads to these inputs. A FC4/5 footswitch can also be used to trigger a pad.

MEMORY SELECT (DEC/INC)
Footswitches (eg. FC4/5) or percussion pads connected here can be used to select memory numbers or chain steps (down or up).

-4-
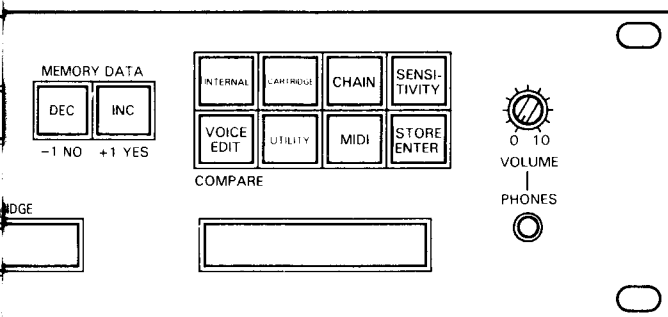
SENSITIVITY
Adjust the sensitivity of each pad, and select a touch-response curve.

VOICE EDIT/COMPARE
Create your own sounds.
While editing, you can Compare the edited data with the original data.

UTILITY
Here are the functions dealing with memory (save, load, format and protect) and footswitch presets. You can also copy settings from one pad to another, or recall the Edit Buffer.

MIDI
Settings here determine how the PTX8 sends and receives MIDI data.

STORE/ENTER
This key is used to STORE a Voice or Memory, and also to ENTER a number.
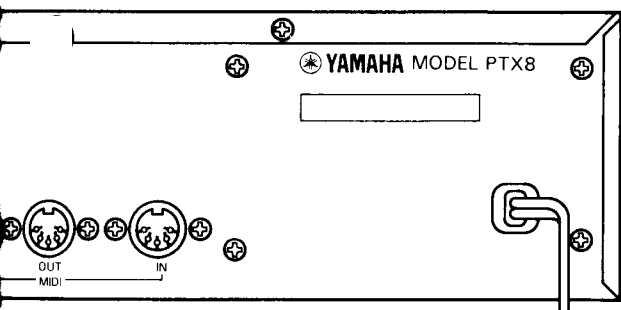
WAVEFORM DATA CARTRIDGE
A cartridge of waveform data can be inserted here to provide additional waveforms in addition to the 26 inside the PTX8.

VOLUME
PHONES
A stereo headphone jack with volume control lets you hear the rear panel stereo output.

FOOT SW
A footswitch (eg. FC4/5) connected here can be used to cycle through the steps in a Chain of Memories, or momentarily modify voices.

MIDI THRU
All messages received at MIDI IN are re-transmitted unchanged from this terminal.

MIDI OUT
Hitting a pad can send a Note On message from this terminal. PTX8 bulk data can also be transmitted from here.

MIDI IN
Incoming Note On messages can play the PTX8, and Program Change messages can select PTX8 Kit Memories. Bulk data from another PTX8 can also be received here.
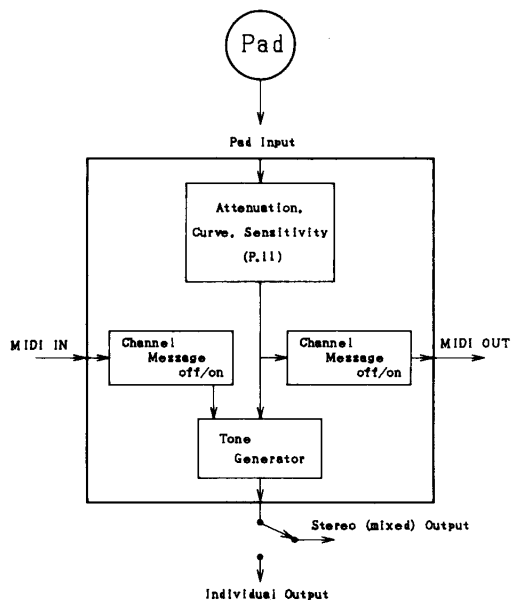
-5-

HOW DOES THE PTX8 WORK?

The PTX8 contains 8 independent "tone generators". Each pad input is connected to its own tone generator. As the diagram below shows, you can play the PTX8 from a MIDI keyboard instead of using the pads. Or you can use pads connected to the PTX8 to play another MIDI instrument (eg. RX rhythm programmer, DX synthesizer or TX tone generator).

32 Kit Memories

Each tone generator can play one of the 64 internal Voice Memories (see below) and have its own Pitch, Volume, and Touch Sensitivity settings. A combination of settings for the 8 tone generators is called a "Kit Memory"; a way to set up a drum kit. The PTX8 has 32 of these memories, and 32 more can be stored in a RAM4 data cartridge (sold separately).

64 Voice Memories

Starting from 26 basic preset waveforms, you can create your own voices and store them in the 64 internal voice memories. (See VOICE EDIT, p.12.)

Outputs

The PTX8 has mixed stereo L/R outputs and 8 individual outputs. When none of the individual outputs are being used, pads are panned across the stereo output as follows.

Left		Center		Right
3	4	1, 2, 7, 8	5	6

When an individual output is plugged in, its signal is removed from the stereo mix.
The headphone jack always has the same mix as the stereo outputs.

Pads

Yamaha Percussion Pads PSD8 (snare), PTT8 (tom-tom) and PBD8 (bass drum) are separately available. The PSD8 has two outputs; rimshot and pad, and the PBD8 has a "kick" type pedal action. A footswitch FC4/5 also be connected to a Pad Input, but of course will have no touch sensitivity.

KIT MEMORY (INTERNAL / CARTRIDGE)

This is the mode in which you will normally play the PTX8. Here you can select "Kit Memories" or set up your own. Press INT or CRT to select Internal or Cartridge memory and use the −1/+1 keys to select a memory 1−32. The PTX8 holds 32 of these 8-pad settings, and a RAM4 cartridge can be inserted in the DATA CARTRIDGE slot to hold 32 more.

Each memory contains the following data. (There is a blank chart on page 20 for your own settings.)

PAD	1	2	3	4	5	6	7	8
Voice	Internal voice 1 − 64							
Level	0 − 31 (−31 − +31)							
Pitch	−360 − +240 (−600 − +600)							
Touch Pitch	−60 − +60							
Touch Attack	−99 − +99							
Touch Decay	−99 − +99							
Touch Reverse	−15 − +15							
MIDI Transmit Channel	1 − 16							
MIDI Note No.	0 − 127 (C −2 − G8)							
MIDI Program Change	off, 1-128							
MIDI Gate Time	1 − 255							

Press CURSOR ◄ ► to switch between Memory Select and Memory Edit.

Memory Select   ◄ = CURSOR = ►   Memory Edit

```
 INT 5 Pad2:V=19
 Select memory
```
or
```
 INT 5 Pad2:V=19
 Touch Rev  =  0
```

The lower line of the LCD shows "Select memory". The upper line shows the memory number (1-32) and each pad's voice number (V-1 to V-64). Press the Pad Select switches to see the Voice number each pad.

The lower line of the LCD shows a memory parameter (eg. Pitch, Level, Voice). Use PARAMETER UP/DOWN to cycle through the parameters and use −1/+1 to change the data. Press the Pad Select switches to see the data for each pad. Memory Edit parameters are listed below.

Memory Select

Press INTERNAL or CARTRIDGE and the LCD will show the memory number in the upper left corner. Press CURSOR ◄ to make the lower line read "Select memory" and use −1/+1 to Select a memory. When you hit a pad, the pad LED will blink.

Memory Edit

Press CURSOR ► to make the lower line show the parameter name, and use the PARAMETER UP/DOWN keys to step through the parameters. (They will continue in a loop.) Use the pad select keys 1-8 to select the pad you want to edit. Once a Kit Memory has been modified, the memory LED will show a decimal point, indicating that the data been modified.

The Edit Buffer

When you select a Kit Memory, the data is read into a place called to Edit Buffer, and this data tells the PTX8 how to behave. Changes you make affect only this buffer, and are not permanent until you STORE the buffer into a memory. If while editing, you accidently select another memory and wipe out the data you were working on, you can bring it back using the Recall Edit function (p.16).

Store Memory

To store the current data (edited or not), press STORE. Use CURSOR ◄ ► to move the cursor, and use −1/+1 to select INT/CRT and memory 1-32. Press STORE again. If you are sure, press YES and the memory will be stored. (Memory Protect p.15 must be off.)

Voice

1−64
Select the voice (Internal 1-64) that this pad will play. Cartridge voice memories cannot be used directly in a Kit Memory; you must first transfer them into internal memory. See Memory load on p.16.

Level

0 − 31 (−31 − +31)
This is the volume of the tone generator. Data you enter here is shown in parentheses. This data is added to the Inst Level setting of the Voice Memory (p.13), and the resulting "effective" volume is displayed at the left.

Pitch

−360 − +240 (−600 − +600)
Pitch can be set from −360 to +240 in steps of 10 cents; a range of 5 octaves. (120 steps equals one octave.) Data you enter here will be shown in parentheses. This data is added to the Pitch setting of the Voice Memory (p.13) and the result is displayed at the left. (The resulting pitch will stay wihin a range of −360 to +240.)

Touch Pitch

−60 − +60
The strength of the hit can change the Pitch (p.13) in steps of 100 cents. For plus (+) settings, a stronger hit will raise the Pitch. For minus (−) settings, a stronger hit will lower the Pitch. When set to zero, touch will have no effect on the Pitch. (The resulting pitch will stay within a range of −3600 − +2400 cents.)

Touch Attack

−99 − +99
The strength of the hit can change the Attack Rate (p.14). For plus (+) settings, a stronger hit will raise the Attack Rate (Faster Attack). For minus (−) settings, a stronger hit will lower the Attack Rate (Slower Attack). When set to zero, touch will have no effect on the Attack Rate. (The resulting Attack Rate will stay within a range of 1−99.)

Touch Decay

−99 − +99
The strength of the hit can change the Decay Rate (p.14). For plus (+) settings, a stronger hit will raise the decay rate (Shorter Decay). For minus (−) settings, a stronger hit will lower the decay rate (Longer Decay). When set to zero, touch will have no effect on the Decay Rate. (The resulting Decay Rate will stay within a range of (1−99.)

Touch Rev

-15 - +15
The strength of the hit can select normal or "reversed" sounds. This "Touch Rev" setting determines the switch point. At high settings (+), only strong hits will reverse the sound. At low settings (-), soft hits will be reversed. When set to zero, touch will have no effect on Reverse.

MIDI Tr CH

This determines the MIDI channel of the Note On/Off and Program Change messages discussed below. Each pad can transmit on a different channel and control a different external tone generator. (Multi-timbral tone generators such as the TX802, TX81Z and FB-01 can act as up to 8 independent tone generators receiving different channels, and are especially suitable for use with the PTX8.)

MIDI NOTE

0-127 (C-2 - G8)
When a pad is hit, a MIDI Note On message can be transmitted. MIDI NOTE determines the Note Number of this message. Devices such as RX rhythm programmers will play a different instrument (bass drum, snare, etc.) for each different incoming MIDI Note. (See the RX owner's manual for the note numbers.) Devices such as DX/TX tone generators usually play different notes (with the same voice) for each incoming MIDI Note.

MIDI P.C.

off, 1 - 128
A MIDI Program Change can be automatically sent when a PTX8 Memory is selected. This can be used to select a voice on the external MIDI tone generator that is played by this pad.

MIDI G.T.

1 - 255
As explained above in "MIDI NOTE" and "MIDI Tr CH", you can send a MIDI Note On message when a pad is hit. A Note Off message must follow each Note On, and MIDI G.T. (Gate Time) sets the time between the transmitted Note On/Off messages. Some voices of external tone generators may require a longer time to sound correctly. Adjust this setting to suit the voices of the external device.

Initialize

You can initialize the pad you are editing to the setting described below. The Voice Number will stay the same. (As with any editing operation, this affects only the edit buffer.)

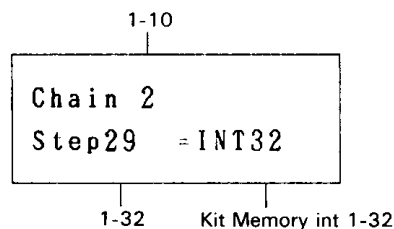| Level	0	MIDI ch	1
Pitch	0	Note	60
Touch P	0	P.C.	off
Touch A	0	G.T.	100
Touch D	0		
Touch R	0		

CHAIN

You can set a "chain of memories" to automatically cycle through each time you press a footswitch. For example, if you wanted to use memories 12, 5, 32 and 20 in a song (eg. intro, verse, chorus, fill in). You could make a chain using these 4 memories, and use a footswitch to change kits at the appropriate moment.
The PTX8 can remember 10 different chains. Each chain may have up to 32 steps. Chain data can be saved to and loaded from a cartridge. See Memory Save/Load on p.15.
Move the cursor using CURSOR ◀ ▶ and use +1/−1 to select Chain number, Step number or Kit Memory number. (Only Internal Kit Memories can be used in a chain.)

```
              1-10
               |
 ┌─────────────────────────────┐
 │                             │
 │  Chain  2                   │
 │  Step29    = INT32          │
 │                             │
 └─────────────────────────────┘
        |           |
      1-32     Kit Memory int 1-32
```

Select Memory for each Step

Select the Step number you want and move the cursor to the Kit Memory. When you use −1/+1 to select a Kit Number for that step, the "INT" display will change to "int", indicating that the data has been modified. Press ENTER, and you will automatically go on to the next Step number.

Ending a Chain

By specifying the End of the Chain, you can make a chain of any length (up to 32 steps). Move the cursor to the Step number and press ENTER. The LCD will show "End!", and the currently selected Kit Memory will be the end of the chain.

Cycling Through a Chain

When the cursor is at the Step number, each press of the footswitch will cycle through the chain of Kit Memories. A footswitch connected to the rear panel Footswitch jack will step upwards.
A footswitch OR percussion pad connected to the rear panel MEMORY SELECT INC/DEC jacks can be used to step up or down.
Depending on the position of the cursor, the footswitch can select Chain, Step or Memory. The rear panel Memory Select INC/DEC will always select the Step number.

SENSITIVITY

You can adjust the sensitivity of each pad to fit your playing style. Press PARAMETER UP/DOWN to switch between "Sens Curve" and "Sens – ATT". Use the CURSOR ◄ ► keys to move between Sensitivity and Attenuation.

These settings are not part of Memories 1-32; they are set for the entire PTX8. To have a different sensitivity for each kit would make things rather difficult for the percussionist!

Attenuation

off/on
This can be switched on to decrease the level of the signal from the pad. If you tend to hit a certain pad especially strongly, you may want to switch its Attenuation On.

Sensitivity

1–32
Normal setting is 16, which gives you the full range of expression. Lower settings mean that even the strongest hit will not reach full volume. Higher settings mean that even the softest hit will not reach minimum volume.
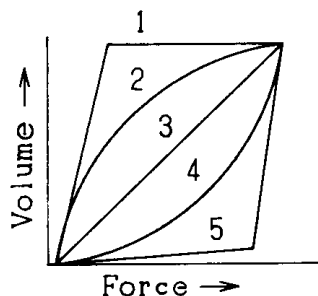
Curve

1–5
You can select the response curve (1-5) of each pad as shown in the figure below.

VOICE EDIT

This is where you can create your own sounds. The PTX8 can hold 64 different sounds in its Voice Memories 1-64, and 64 more in a RAM4 cartridge. Each Voice Memory contains the following data. (There is a blank chart on p.21 for your own settings.)

Wave	Internal: BD1 ... E. Tom4, Cartridge: ...
Inst Level	0-31
Pitch	−3,600 − +2,400 cents
Attack Rate	1-99
Decay 1 Rate	1-99
Decay 1 Level	1-31
Decay 2 Rate	1-99
Release Rate	1-99
Gate Time	100 − 6500 msec
Bend Rate	0-60
Bend Range	−60 − 0 − +60
Sound Loop	on/off

There are 26 basic waveforms (Bass Drum, Snare, Rim Shot, etc.) in the PTX8, and a Waveform Data Cartridge (not included) can contain additional waveforms. To create a PTX8 "voice", start with one of these waveforms and set pitch, envelope, bend, and etc.

The lighted Pad Select LED indicates which voice you are editing (pad 1-8). In EDIT mode, you can sound any of the tone generators 1-8 by pressing the Pad Select keys.

Use the PARAMETER UP/DOWN keys to move through the different parameters and use DATA −1/+1 to change the settings.

You can use the CURSOR ◄ ► keys to move between selecting the Voice Number or the parameters.

VOICE EDIT BUFFER

Once you modify the date, the "Edit" displayed in the LCD will change to "edit", indicating that the data has been modified. When you select a voice, the data is read into a place called the Voice Edit Buffer. Changes you make will affect this buffer, and are not "permanent" until you STORE the buffer into a voice memory (Internal or Cartridge 1-64).

If while editing, you accidently select another memory and wipe out the data you were working on, you can bring it back using the Recall Edit function (p.16).

COMPARE

While editing, you can press the COMPARE (VOICE EDIT) key to hear and see the original voice data. The "e" EDIT in the LCD will have a bar over it, indicating the original data. To return, press COMPARE again.

Original data	Modified	Compare original
Edit Voice = 64 Pitch=+1200 cent	edit Voice = 64 Pitch=+1200 cent	ēdit Voice = 64 Pitch=+1200 cent

STORE VOICE

To store the current data (edited or not), press STORE, Use CURSOR ◄ ► to move the cursor, and use −1/+1 to select INT/CRT and memory 1-64. Press STORE again. If you are sure, press YES and the memory will be stored, (Memory Protect p.15 must be off.)

Init Voice

When programming your own original voice, it is sometimes easier to start with a "basic" setting. This function will set the voice parameters to a standard setting most suitable for the currently selected wave form. Press YES, and if you are sure, press YES again. The LCD will show "Initialized!" Inst Level will be set to 27, and Gate Time to 6500 msec. Other parameters will differ according to the waveform.

Voice Select

Internal 1-64
If you want to start with an existing voice, use this to select from internal, voice memories 1-64. Page 19 has a list of the voice memories inside the PTX8 when it was shipped.

Wave Select

Use −1/+1 to select from the following waveforms. If a Waveform Date Cartridge is inserted, you will have additional waveform to choose from.

Acoustic-type			Electric-type		
Bass Drum	1 − 4	(BD)	Bass Drum	1 − 4	(E, BD)
Snare Drum	1 − 4	(SD)	Snare Drum	1 − 4	(E, SD)
Rim Shot	1, 2	(Rim)	Tom	1 − 4	(E, Tom)
Tom	1 − 4	(Tom)			

Note

To use a Cartridge Waveform;
    1)   The cartridge must be inserted before the power is turned on.
    2)   The same cartridge used when creating the voice must be inserted.
    3)   You must reply NO to the "Different CRT" prompt.
If any of the above three conditions are true, that voice will not sound, and the display will show "Different Wave!". The wave name will be displayed as "Wave=CRT-*****　" when you press INTERNAL or CARTRIDGE, and as "Voice Number=**　" in VOICE EDIT mode. (Each wave ROM has a "hidden" I.D. number which is automatically checked.)

Inst Level

0-31
This is the volume of the voice. It will be combined with the Level setting in the Kit Memory (see p.8).

Pitch

−3,600 − +2,400
The pitch of a voice can be adjusted in steps of 10 cents over a range of 5 octaves. (1200 cents = 1 octave) It will be combined with the pitch setting in the Kit Memory (see p.8).

Attack Rate
Decay 1 Rate
Decay 1 Level
Decay 2 Rate
Release Rate
Gate Time

These 6 parameters determine the Envelope (shape in time) of the sound, Rates are the "speed" of change, adjustable 1-99, and Decay 1 Level is adjustable 1-60. Gate Time (100 – 6500 msec) is the time until the Release Rate begins. If this Envelope is longer than the waveform, Sound Loop see below should be turned On.
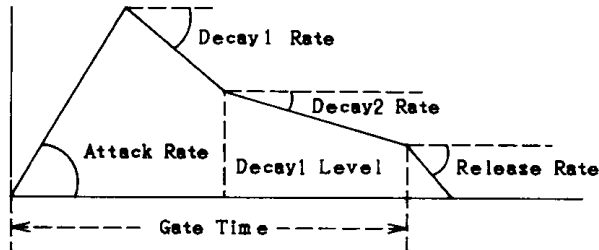
Bend Rate

0-60
This sets the speed of the automatic pitch-bend (see below).

Bend Range

−60 – 0 – +60
An automatic pitch-bend can be programmed for each voice. Minus settings (−) will make a downward bend, Plus settings (+) will make an upward bend. If either Bend Rate or Bend Range is 0, there will be no effect.

Sound Loop

on/off
The waveforms (BD, SD, etc.) last for only a short time (usually about 0.5 second). If you want a sound to last longer (i.e. if the total Envelope is longer than the original waveform), you must Loop the waveform. (The best looping points for each waveform have been preset, but some unevenness is inevitable when the loop point repeats.)

UTILITY

Here are the functions dealing with memory (cartridge save and load) and footswitch settings.

Memory Protect

To store data into Internal or Cartridge memory, Memory Protect must be off. Use CURSOR ◀ ▶ to move the cursor and press NO/YES to switch protect off/on.

Memory Save

You can save part or all of the PTX8 internal memory to a RAM 4 data cartridge inserted in the DATA CARTRIDGE slot. Press −1/+1 to select ALL, Memory, Voice , or Chain data. Then press STORE. If you are sure, press YES, and the selected data will be saved into the cartridge. (The Cartridge Memory protect must be off, and the cartridge must be correctly Formatted to accept PTX8 data.)

Memory:	32 Kit Memories
Voice:	64 Voice Memories
Chain:	10 Chain Memories
All:	The above three.

Memory Load

PTX8 in a RAM4 cartridge can be loaded into internal memory. As with Memory Save, press −1/+1 to select the data to be loaded. Then press STORE. If you are sure, press YES and the selected data will be loaded into internal memory. (Internal Memory protect must be off.)

Format Cartridge

Before a RAM4 cartridge can be used to Save data, it must be Formatted. This will erase any data that it previously contained. Insert a RAM4 cartridge into the DATA CARTRIDGE slot and press YES. If you are sure, press YES, and the cartridge will be formatted.

Pad Copy

When setting up your own Kit Memory (p.7) it is often convenient to copy the settings for one pad to another pad. This function allows you to copy a pad setting from any pad in any Kit Memory (INT/CRT 1-64) to the pad you are now editing; i.e. the pad indicated by the Pad LED. (You can select the copy destination by pressing Pad Select 1-8). Move the cursor (CURSOR ◀ ▶) and use −1/+1 to select the copy source. Then press STORE. If you are sure, press YES, and the data will be copied.

```
Copy pad   From
    INT 32    Pad8
```
INT/CRT   1-32   1-8
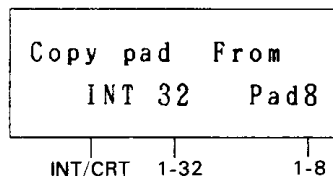
Remember that modifications you make (including this Pad Copy) affect only the Edit Buffer, and are not permanent until Stored into a Kit Memory (INT/CRT 1-32). To Store, see p.8.

Foot Switch Select

You can use a footswitch (such as the FC4/5) plugged in to the FOOTSWITCH jack to either 1) Select memories (in CHAIN mode) or 2) Momentarily modify Voice Settings. Move the cursor to the upper line and use NO/YES to select Memory or Voice.

Memory: When you are in CHAIN mode (p.10), pressing the footswitch will cycle through the memories in the same way as if you press +1.

Voice: You can program a set of "alternative" voice settings to be effective for as long as you hold down the foot switch. When you release the foot switch, the voice will return to normal.

Memory/Voice

```
Foot sw:   Voice
Pad8:Pitch =+ 5
```
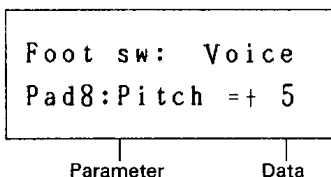
Parameter   Data

Move the cursor to the Parameter name and use −1/+1 to select Parameters. Move the cursor to the data and use −1/+1 to set data values. All these settings can be made independently for each pad by pressing the Pad Select switches 1-8. Thus pressing the footswitch could make one pad go up in pitch and another go down.

Pitch	−60 − +60	Pitch (p.8, 13) can be changed in steps of 100 cents by pressing the footswitch.
Decay	−99 − +99	The Decay Rate (p.14) can be made slower or faster by pressing the footswitch.
Bend Rate	−60 − +60	The Bend Rate (p.14) can be made slower or faster by pressing the footswitch.
Bend Range	−120 − +120	Bend Range can be changed in steps of 100 cents (p.14) by pressing the footswitch.
Reverse	on/off	When this is On, the voice will be reversed while you press the footswitch.

The PTX8 holds only one set of these footswitch settings for each pad 1-8, and they will be used no matter which Kit Memory is selected.

Recall Edit

If while editing (voice or kit memory) you accidently select another memory and wipe out the data you were working on, you can recall the edited data using this function. Press −1/+1 to select the data you want to recall; Memory or Voice. Press ENTER, and if you are sure, press YES. The data will be recalled, and you will automatically jump to the appropriate editing mode.

MIDI

Settings here determine how the PTX8 reacts to incoming MIDI messages.

Ch. Message

off/on
When this is off, the PTX8 will neither send nor receive Note On/Off or Program Change messages. (When this is Off, the following 4 settings will not be displayed.)

Receive Ch.

Omni, 1-16 for each pad
MIDI Note On/Off and Program Change messages on this channel will be received. When Omni is selected, messages on all channels will be received.

Receive Key On Pad

off/on for each pad 1-8
Note On/Off reception can be switched off/on for each pad.

Program Change

off/on
When this is On, incoming Program Change messages can select PTX8 Kit Memories as follows;
    1:INT 1, 2:INT 2, ... 64:CRT 32, 65:INT 1 ... 128:CRT 32.
When there is no cartridge, INT memories will be selected instead of CRT.

Device Number

off, 1-16
Bulk Data (see below) carries an identification code 1-16 called the Device Number, and will be received only by a device with a matching Device Number. This allows several PTX8s in a single system to receive Bulk Data independently. When Device Number is Off, incoming Bulk Data will not be received.

Transmit Bulk

When you answer YES, the PTX8 will transmit its internal memory as follows; 64 voices, 32 "Kit" memories, 10 chain memories. This data can be received by another PTX8 or by a MIDI bulk data storage device such as the MDF1 MIDI Data Filer.

Request Bulk

When you answer YES, the PTX8 will send a Dump Request message from MIDI OUT, causing another PTX8 to transmit its own memory. If two PTX8s are connected (both MIDI INs to both MIDI OUTs), this allows you to quickly copy the entire memory of one PTX8 into the other. The PTX8 will receive incoming PTX8 Bulk Data at any time as long as the Device Number matches and its Memory Protect (p.15) is off.

SPECIFICATIONS

Tone Generation	12 bit companded PCM wave memory Variable Pitch: −3 − +2 octaves (10 cent steps) Variable envelope
Voices	Internal : 26 ROM cartridge : maximum 28
Memory type and size	Internal Voice : 64 Kit : 32 Chain (32 step) : 10 RAM cartridge Voice : 64 Kit : 32 Chain (32 step) : 10
Display	LCD : 16 character x 2 line, illuminated LED : 7 segment x 2 digit with decimal place (Kit number display) LED : pad select x 8
Inputs	Pad inputs 1-8
Outputs	Individual pad line outputs 1-8 Stereo output R, L/MONO Stereo headphone jack (8 ohms or greater)
Control terminals	Increment Decrement Foot switch
MIDI terminals	IN, OUT, THRU
Dimensions	480 x 295.5 x 90.1 mm (W x D x H) (2 rack spaces)
Weight	5.4 kg
Power Consumption	15 W
Power Requirements	U.S. and Canadian models: 120 V 50/60 Hz General model: 220 V/240 V 50Hz
Optional Accessories	PTT8/PSD8/PBD8 Percussion Pad FC4/FC5/Foot Switch RAM4 Data Cartridge

WAVEFORM LIST

1	BD 1	Normal bass drum
2	BD 2	Resonant bass drum
3	BD 3	Slightly metallic bass drum
4	BD 4	Muffled bass drum
5	SD 1	5 1/2 inch snare
6	SD 2	Piccolo snare with rim shot
7	SD 3	6 1/2 inch snare
8	SD 4	Muted snare
9	Rim 1	Bossanova-type rim shot
10	Rim 2	Bright and tight rim shot
11	Tom 1	High tom
12	Tom 2	High mid tom
13	Tom 3	Low mid tom
14	Tom 4	Low tom
15	E.BD 1	Electric bass drum with strong attack
16	E.BD 2	Electric bass drum with soft attack
17	E.BD 3	Electric bass drum with noise
18	E.BD 4	Electric bass drum like a chunk of wood
19	E.SD 1	Sharp electric snare
20	E.SD 2	Metallic electric snare
21	E.SD 3	Tom-like electric snare
22	E.SD 4	Unique electric snare
23	E.Tom 1	High electric tom with bend
24	E.Tom 2	Fairly high electric tom with bend
25	E.Tom 3	Fairly low electric tom with slight bend
26	E.Tom 4	Low electric tom

PRESET KIT MEMORIES

1	Acoustic 1	Normal acoustic drum kit
2	Acoustic 2	Normal acoustic drum kit with different snare
3	Acoustic 3	Normal acoustic drum kit with different snare
4	Acoustic 4	Set with tuned toms
5	Acoustic 5	Overall high-tuned tom set
6	Acoustic 6	Overall low-tuned tom set
7	Electric 1	Bright electric toms with bend
8	Electric 2	Lower tuning than number 7
9	Electric 3	Tight electric toms with slight bend
10	Electric 4	Low, solid electric toms
11	Electric 5	Number 7 with different BD, SD
12	Electric 6	Number 8 with different BD, SD
13	Electric 7	Number 9 with different BD, SD
14	Electric 8	Number 10 with different BD, SD
15	Electric 8	Number 8 with different BD, SD and unique snare
16	Mix 1	Acoustic bass drum and snare, electric toms
17	Effect 1	Except for bass drum, touch affects pitch
18	Effect 2	Snare is always reversed, toms reverse for strong hits

(Kit Memories 19 – 32 have the same data as 1-14.)

PTX8 KIT MEMORY CHART

Kit No./Name

PAD	1	2	3	4	5	6	7	8
Voice								
Level								
Pitch								
Touch Pitch								
Touch Attack								
Touch Decay								
Touch Reverse								
MIDI Transmit Channel								
MIDI Note No.								
MIDI Program Change								
MIDI Gate Time								

Kit No./Name

PAD	1	2	3	4	5	6	7	8
Voice								
Level								
Pitch								
Touch Pitch								
Touch Attack								
Touch Decay								
Touch Reverse								
MIDI Transmit Channel								
MIDI Note No.								
MIDI Program Change								
MIDI Gate Time								

Kit No./Name

PAD	1	2	3	4	5	6	7	8
Voice								
Level								
Pitch								
Touch Pitch								
Touch Attack								
Touch Decay								
Touch Reverse								
MIDI Transmit Channel								
MIDI Note No.								
MIDI Program Change								
MIDI Gate Time								

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

Name	
Wave	
Inst Level	
Pitch	
Attack Rate	
Decay 1 Rate	
Decay 1 Level	
Decay 2 Rate	
Release Rate	
Gate Time	
Bend Rate	
Bend Range	
Sound Loop	

[Percussion tone generator]

Model PTX8   MIDI Implementation Chart   Version : 1.0

Function ...	Transmitted	Recognized	Remarks
:Basic Default	1 - 16	1 - 16	memorized
:Channel Changed	1 - 16	1 - 16	
:Mode Default	3	1, 3	memorized
Messages	x	x	
Altered	XXXXXXXXXXXXX	x	
:Note	0 - 127	0 - 127	
:Number : True voice	XXXXXXXXXXXXX	x	
:Velocity Note ON	o 9nH,v=1-127	o v=1-127	
Note OFF	x 8nH,v=64	x	
:After Key's	x	x	
:Touch Ch's	x	x	
:Pitch Bender	x	x	
:Control :Change	x	x	
:Prog	o 0 - 127	o 0 - 127	
:Change : True #	XXXXXXXXXXXXX	0 - 63	32-63:Cartridge
:System Exclusive	o	o	Setup data
:System : Song Pos	x	x	
: Song Sel	x	x	
:Common : Tune	x	x	
:System :Clock	x	x	
:Real Time :Commands	x	x	
:Aux :Local ON/OFF	x	x	
:All Notes OFF	x	x	
:Mes- :Active Sense	o	o	
:sages:Reset	x	x	
:Notes			

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   o : Yes
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO   x : No

INDEX

IMPORTANT
SAFETY AND INSTALLATION INSTRUCTIONS

INFORMATION RELATING TO POSSIBLE PERSONAL INJURY, ELECTRIC SHOCK, AND FIRE HAZARD POSSIBILITIES HAS BEEN INCLUDED IN THIS LIST.

WARNING–When using electronic products, basic precautions should always be followed, including the following:

1. Read all Safety and Installation Instructions, Supplemental Marking and Special Message Section data, and any applicable assembly instructions BEFORE using this product.

2. Check unit weight specifications BEFORE you attempt to move this product.

3. Main power supply verification. Yamaha Digital Musical Instrument products are manufactured specifically for use with the main supply voltage used in the area where they are to be sold. The main supply voltage required by these products is printed on the name plate. If any doubt exists please contact the nearest Yamaha Digital Musical Instrument retailer.

4. Some Yamaha Digital Musical Instrument products utilize external power supplies or adapters. Do NOT connect products of this type to any power supply or adapter other than the type described in the owners manual or as marked on the unit.

5. This product may be equipped with a plug having three prongs or a polarized line plug (one blade wider than the other). If you are unable to insert the plug into the outlet, contact an electrician to have the obsolete outlet replaced. Do NOT defeat the safety purpose of the plug. Yamaha products not having three prong or polarized line plugs incorporate construction methods and designs that do not require line plug polarization.

6. WARNING–Do NOT place objects on the power cord or place the unit in a position where any one could walk on, trip over, or roll anything over cords of any kind. An improper installation of this type can create the possibility of a fire hazard and/or personal injury.

7. Environment: Your Yamaha Digital Musical Instrument should be installed away from heat sources such as heat registers and/or other products that produce heat.

8. Ventilation: This product should be installed or positioned in a way that its placement or location does not interfere with proper ventilation.

9. Yamaha Digital Musical Instrument products are frequently incorporated into "Systems" which are assembled on carts, stands, or in racks. Utilize only those carts,

stands, or racks that have been disigned for this purpose and observe all safety precautions supplied with the products. Pay special attention to cautions that relate to proper assembly, heavier units being mounted at the lower levels, load limits, moving instructions, maximum usable height and ventilation.

10. Yamaha Digital Musical Instrument products, either alone or in combination with amplification, headphones, or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do NOT operate at high volume levels or at a level that is uncomfortable. If you experience any discomfort, ringing in the ears, or suspect any hearing loss, you should consult an audiologist.

11. Do NOT use this product near water or in wet environments. For example, near a swimming pool, spa, in the rain, or in a wet basement.

12. Care should be taken so that objects do not fall, and liquids are not spilled into the enclosure.

13. Yamaha Digital Musical Instrument products should be services by a qualified service person when:
    a. The power supply/power adapter cord or plug has been damaged; or
    b. Objects have fallen, or liquid has been spilled into the product; or
    c. The unit has been exposed to rain; or
    d. The product does not operate, exhibits a marked change in performance; or
    e. The product has been dropped, or the enclosure of the product has been damaged.

14. When not in use, always turn your Yamaha Digital Musical Instrument equipment "OFF". The power supply cord should be unplugged from the outlet when the equipment is to be left unused for a long period of time. NOTE: In this case, some units may lose some user programmed data. Factory programmed memories will not be affected.

15. Electromagnetic Interference (RFI). Yamaha Digital Musical Instruments utilize digital (high frequency pulse) technology that may adversely affect Radio/TV reception. Please read FCC Information (rear cover) for additional information.

16. Do NOT attempt to service this product beyond that described in the user maintenance section of the owners manual. All other servicing should be referred to qualified service personnel.

PLEASE KEEP THIS MANUAL
FOR FUTURE REFERENCE!

FCC INFORMATION

While the following statements are provided to comply with FCC Regulations in the United States, the corrective measures listed below are applicable worldwide.

This series of Yamaha professional music equipment uses frequencies that appear in the radio frequency range and if installed in the immediate proximity of some types of audio or video devices (within three meters), interference may occur. This series of Yamaha professional music equipment has been type tested and found to comply with the specifications set for a class B computing device in accordance with those specifications listed in subpart J of part 15 of the FCC rules. These rules are designed to provide a reasonable measure of protection against such interference. However, this does not guarantee that interference will not occur. If your professional music equipment should be suspected of causing interference with other electronic devices, verification can be made by turning your professional music equipment off and on. If the interference continues when your equipment is off, the equipment is not the source of interference. If your equipment does appear to be the source of the interference, you should try to correct the situation by using one or more of the following measures:

Relocate either the equipment or the electronic device that is being affected by the interference. Utilize power outlets for the professional music equipment and the device being affected that are on different branch (circuit breaker or fuse) circuits, or install AC line filters.

In the case of radio or TV interference, relocate the antenna or, if the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact your authorized Yamaha professional products dealer for suggestions and/or corrective measures.

If you cannot locate a franchised Yamaha professional products dealer in your general area contact the professional products Service Department, Yamaha Music Corporation, 6600 Orangethorpe Ave., Buena Park, CA 90620, U.S.A.

If for any reason, you should need additional information relating to radio or TV interference, you may find a booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio–TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402 – Stock No. 004-000-00345-4.

YAMAHA