PORTATONE

X2500

Owner's Guide

YAMAHA

Congratulations!
You are the proud owner of a Yamaha PortaTone. Your
PortaTone is a high-quality musical instrument that
incorporates advanced Yamaha digital technology and
many versatile features. In order to obtain maximum per-
formance and enjoyment from your PortaTone, we urge
you to read this Owner's Guide thoroughly while trying
out the various features described. Keep the Owner's
Guide in a safe place for later reference.

—— CONTENTS ——

1. BEFORE YOU BEGIN

Power Supply

Your X2500 will run either from batteries or the optional power adaptor. Follow the instructions below according to the power source you intend to use.

Using Batteries

Six 1.5V SUM–1, "D" size, R–20 or equivalent alkaline batteries (sold separately) must first be installed in the X2500 battery compartment.

1. Open the battery compartment cover located on the instrument's bottom panel.
2. Insert the six batteries, being careful to follow the polarity markings on the inside of the compartment.
3. Replace the compartment cover, making sure that it locks firmly in place.
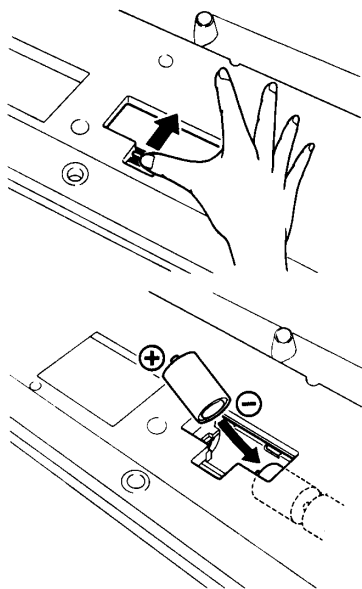
Caution:

1. *When the batteries run down, replace them with a complete set of six new batteries. NEVER mix old and new batteries.*
2. *To prevent possible damage due to battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.*

Using an Optional Power Adaptor

For AC Mains Power
Use ONLY a Yamaha PA–4 or PA–40 AC Adaptor to power your instrument from the AC mains. Refer to "Rear–panel Jacks" on page 5 for more details.

For Car Battery Power
The Yamaha CA–1 Car Battery Adaptor plugs into your car cigarette lighter socket, providing power to your instrument from the car battery.
Refer to "Rear–panel Jacks" on page 5 for more details.

Remove the Protective Film

Before using your instrument, please remove the protective film covering the display section.

Setting Up the Music Stand

Insert the two pegs protruding from the bottom edge of the music stand into the two holes located at the top of the X2500 control panel.

Taking Care of Your PortaTone

Your PortaTone will remain in excellent playing condition if care is taken concerning the following.

1. When you use AC power, be sure to use the optional AC Power PA–4/PA–40 adaptor. Before use, read the adaptor instructions carefully.
   In particular, please note that in some cases the PA–4/PA–40 is provided with a voltage selector, so confirm that this selector is correctly set.
2. The optional car battery adaptor CA–1 is only for use with a negative ground 12V battery. Ensure that this is the case before connecting the adaptor.
3. Connections made between the PortaTone and any other device should be made with both units turned off.
4. DO not set the MASTER VOLUME control at MAX when you connect the PotaTone to a stereo system. Use the stereo system's volume control to adjust the sound level.
5. Avoid placing the instrument in excessively humid areas.
6. Do not subject the unit to physical shock, and avoid placing anything heavy on it.
7. The PortaTone should not be placed in direct sunlight for a long time.
8. Do not place the instrument near any heating appliance, or leave it inside a car in direct sunlight for any length of time. Direct sunshine can raise the interior temperature of a car with closed doors and windows to as high as 80°C. Temperatures in excess of 60°C can cause physical and/or electrical damage not covered by warranty.
9. Use a dry or damp cloth for cleaning.
10. When you aren't using the PortaTone, we recommend keeping it in the case to protect it.

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2. NOMENCLATURE

Top Panel Controls
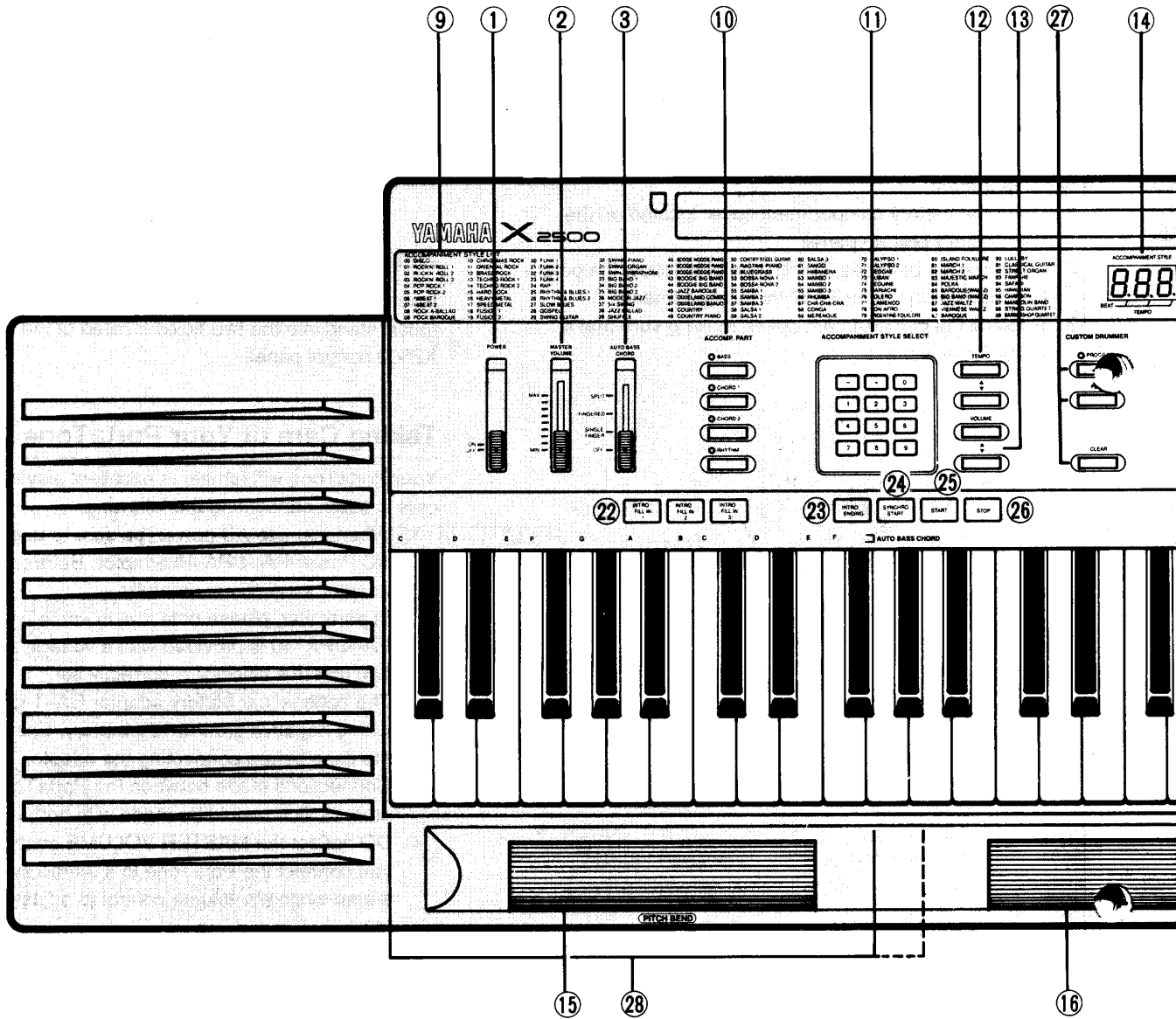
① **POWER Switch** *(page 6)*
② **MASTER VOLUME Control** *(page 6)*
③ **AUTO BASS CHORD Selector** *(page 9, 13 and 14)*
④ **VOICE Display** *(page 7)*
⑤ **VOICE LIST** *(page 7)*
⑥ **VOICE SELECT Buttons** *(page 7)*
⑦ **Voice VOLUME Buttons** *(page 7)*
⑧ **DEMONSTRATION Button** *(page 6)*
⑨ **ACCOMPANIMENT STYLE LIST** *(page 11)*
⑩ **ACCOMPANIMENT PART Buttons** *(page 14)*

⑪ **ACCOMPANIMENT STYLE SELECT Buttons** *(page 11)*
⑫ **TEMPO Controls** *(page 11)*
⑬ **Accompaniment VOLUME Controls** *(page 11)*
⑭ **ACCOMPANIMENT STYLE/BEAT/TEMPO Display** *(page 9, 11 and 12)*
⑮ **PITCH BEND Roller** *(page 8)*
⑯ **ROLL BAR** *(page 7)*
⑰ **SUSTAIN 1 and SUSTAIN 2 Effect Buttons** *(page 8)*
⑱ **DUAL VOICE Button** *(page 8)*
⑲ **LOWER Button** *(page 10)*

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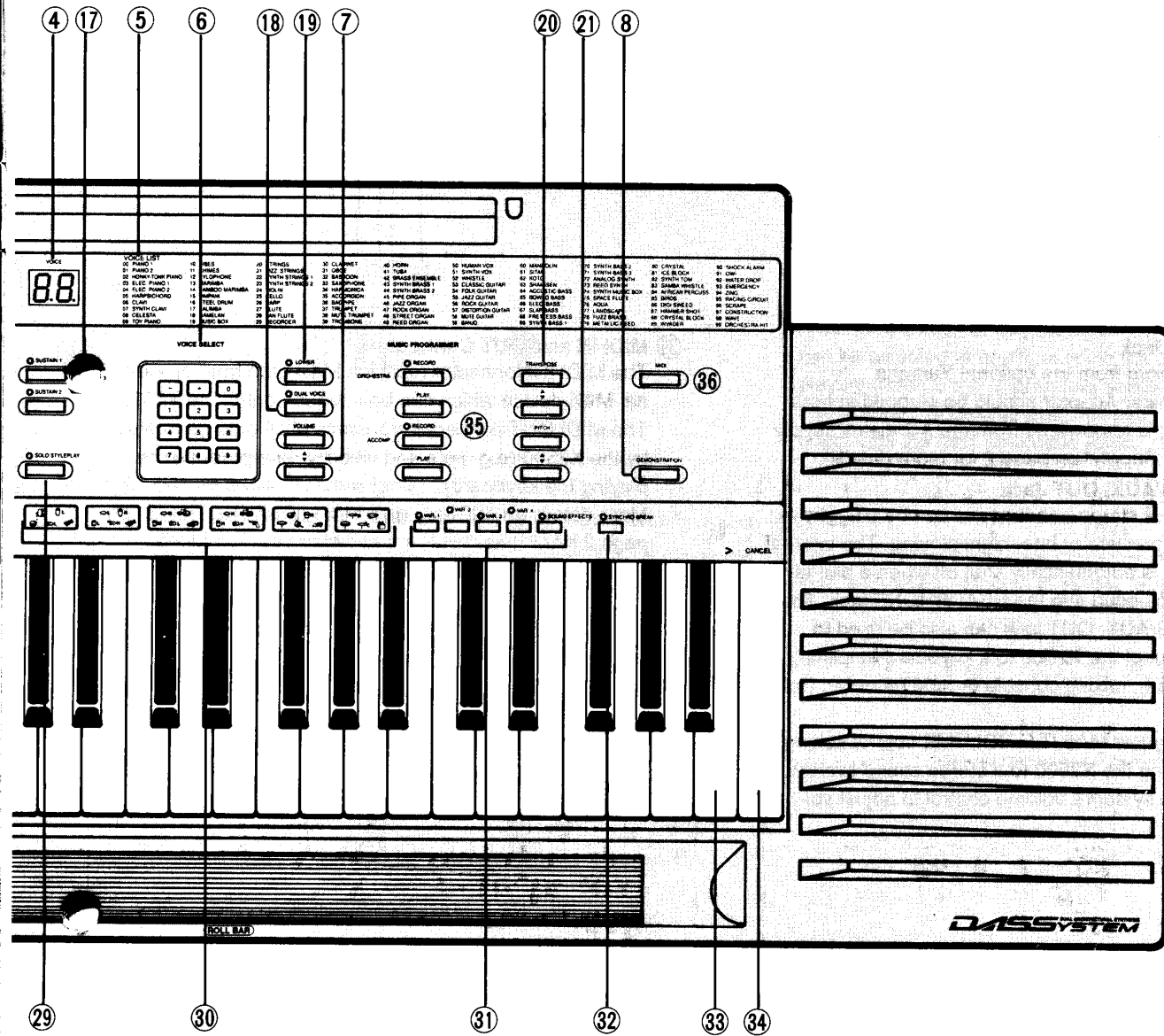
⑳ **TRANSPOSE Buttons** *(page 9)*
㉑ **PITCH Buttons** *(page 9)*
㉒ **INTRO./FILL IN Buttons** *(page 12)*
㉓ **INTRO./ENDING Button** *(page 12)*
㉔ **SYNCHRO START Button** *(page 12)*
㉕ **START Button** *(page 12)*
㉖ **STOP Button** *(page 12)*
㉗ **CUSTOM DRUMMER Buttons** *(page 16)*
㉘ **Auto Bass Chord Keys** *(page 9)*
㉙ **SOLO STYLEPLAY Button** *(page 15)*
㉚ **Percussion Pads** *(page 16)*

㉛ **Percussion Variation Buttons** *(page 16)*
㉜ **SYNCHRO BREAK Button** *(page 16)*
㉝ **Percussion Accent Key (>)** *(page 17)*
㉞ **Percussion CANCEL Key** *(page 17)*
㉟ **MUSIC PROGRAMMER Buttons** *(page 18 and 20)*
㊱ **MIDI Button** *(page 22)*

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Rear Panel Connectors
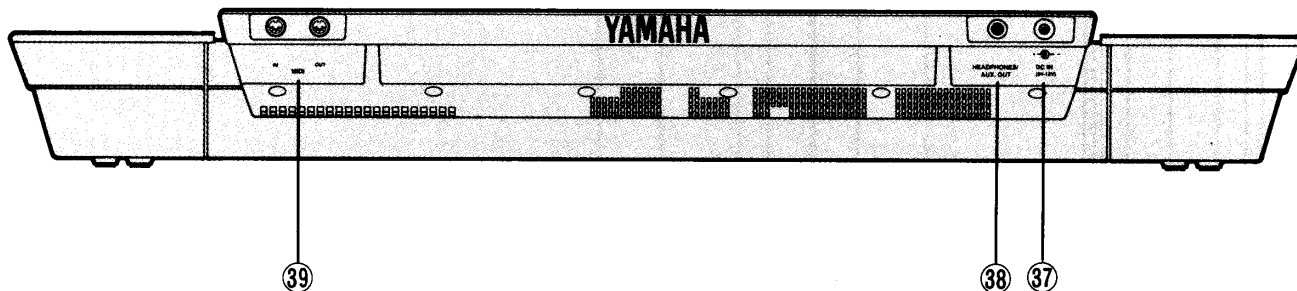
㊲ DC IN (9–12V) Jack

The DC output cord from the optional Yamaha PA–4/PA–40 Power Adaptor should be plugged in here when the X2500 is to powered from the AC mains supply (refer to "Power Supply" on page 2 for more details).

㊳ HEADPHONES/AUX. OUT Jack

A standard pair of stereo headphones can be plugged in here for private practice or late–night playing. The internal speaker system is automatically shut off when a pair of headphones is plugged into the HEADPHONE jack. The HEAD-PHONES/AUX. OUT jack can also be used to deliver the output of the X2500 to a keyboard amplifier, stereo hi-fi system, mixing console or tape recorder. (refer to page 24)

* Use a relatively low MASTER VOLUME control setting when connecting the X2500 to a stereo sound system. Use the stereo system's volume control to adjust volume.

㊴ MIDI IN and OUT Connectors

The MIDI IN connector receives MIDI data from an external MIDI device which can be used to control the X2500. The MIDI OUT connector transmits MIDI data generated by the X2500 (e.g. note and velocity data produced by playing the keyboard).
More details on MIDI are given in "MIDI FUNCTIONS" on page 21.

3. ENJOY THE DEMONSTRATION

To give you an idea of the X2500's sophisticated capabilities, it is programmed with a demonstration sequence which plays automatically while demonstrating a number of the instrument's voices.

1. **Switch ON**

   Slide the POWER switch ① to the ON position. The VOICE and ACCOMPANIMENT displays will light when the power is ON.

   POWER
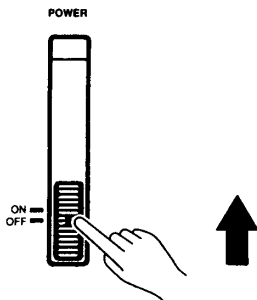
2. **Set an Initial Volume Level**

   Slide the MASTER VOLUME control ② to a position about half way between the "MIN" and "MAX" setting. You can set this control for the most comfortable volume level after playback begins.

   MASTER VOLUME
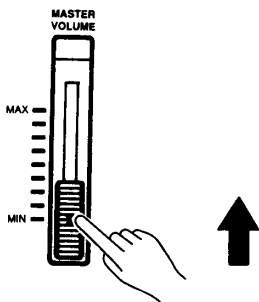
3. **Press the DEMONSTRATION Button ⑧**

   The demonstration music will begin playing as soon as you press the DEMONSTRATION button.
   The demonstration will play continuously, providing samples of different voices and accompaniment styles, until the DEMONSTRATION button is pressed a second time or the STOP button ㉖ is pressed.
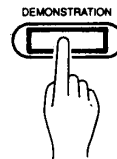
   DEMONSTRATION

   * A different voice, tempo, transposition or other parameter can be selected at any time while the demonstration is playing (refer to the appropriate sections of this manual for instructions). Such changes, however, will only remain in effect until the next automatic voice.

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4. SELECTING AND PLAYING VOICES

Selecting a Voice

The X2500 provides two methods of selecting any of its 100 voices:

1) Choose one of the 100 voices — numbered "00" through "99" — shown on the VOICE LIST ⑤ then enter its number using the numbered VOICE SELECT buttons ⑥. To select XYLOPHONE (number 12), for example, first press "1" and then "2". The number "12" should then be displayed on the VOICE display ④.

2) The + and − buttons in the VOICE SELECT group can be used to increment (increase by one) or decrement (decrease by one) the current voice number. Press the + button briefly to select the voice one number higher than the current voice, or the − button to select the voice one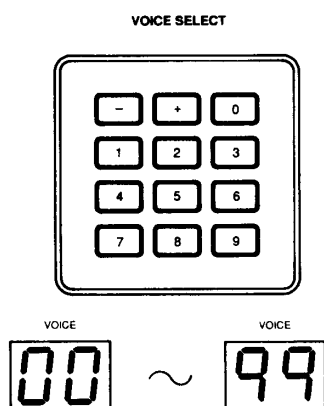 number lower than the current voice. If you hold the + or − button down, the voice number will increment or decrement continuously — simply release the button when the desired voice number has been reached.

VOICE SELECT

The selected voice can now be played on the instrument's keyboard.

* When the power is initially turned ON, the PIANO 1 voice is automatically selected and its number ("00") is shown on the VOICE display ④.

Adjusting the Volume

Adjust the MASTER VOLUME control ② while playing to set the desired overall volume level. The ROLL BAR ⑯ (described below) can be used for volume expression control.

The VOICE VOLUME ▲ and ▼ buttons can also be used to adjust the volume of the selected voice in relation to the accompaniment (to be described later). Press the ▲ button to increase the volume, or the ▼ button to decrease the volume. The selected volume level will be displayed on the VOICE display while the volume is being adjusted, and for approximately 3 seconds after either VOLUME button is released.

The volume range is from 1 to 9, with 1 being the lowest volume and 9 the highest. The highest volume value can be recalled at any time by pressing both the VOICE VOLUME ▲ and ▼ buttons ⑦ at the same time (the volume is automatically set to 9 whenever the power switch is turned ON).
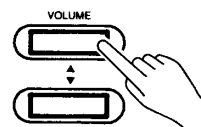
* The X2500 features 8−note polyphony, so up to 8 notes can be played on the keyboard simultaneously when the automatic accompaniment, split, or dual voice features of this instrument are not used. The above mentioned features all reduce the number of available notes.

Using the Roll Bar

The "ROLL BAR" located below the keyboard can be used for volume expression (swell) control. The elongated roll bar configuration makes it easy to operate the ROLL BAR with the right or left palm while playing. Roll the bar away from you to increase volume, or toward you to decrease volume.
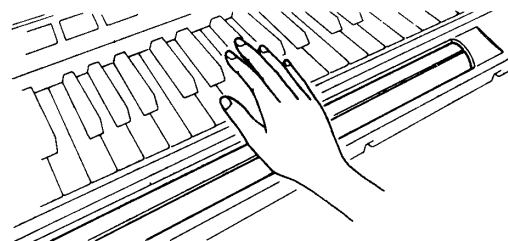
* The minimum ROLL BAR position does not turn the sound all the way off. Expression can be controlled over a limited portion of the upper volume range. The maximum volume achievable is determined by the setting of the MASTER VOLUME control.
* The ROLL BAR affects the volume of percussion, chords, etc., in addition to material played on the keyboard. It does not affect demonstration playback.

Adding Effects

SUSTAIN:

The X2500 offers two sustain effects – SUSTAIN 1 and SUSTAIN 2. Press the SUSTAIN 1 or SUSTAIN 2 button ⑰ once (the corresponding indicator will light) and notes played on the keyboard will decay gradually after you lift your fingers from the keys. Press the SUSTAIN 1 or SUSTAIN 2 button a second 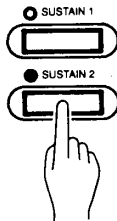time (it's indicator will go out) to turn the sustain effect off. The SUSTAIN 2 button produces a longer sustain effect than the SUSTAIN 1 button, although the actual length of the SUSTAIN 1 and SUSTAIN 2 effects varies from voice to voice.

* SUSTAIN 1 and SUSTAIN 2 cannot be selected simultaneously.
* The SUSTAIN effects cannot be applied to accompaniment or rhythm.

DUAL VOICE:

The DUAL VOICE feature makes it possible to select and play two different voices simultaneously. To activate the DUAL VOICE feature press the DUAL VOICE button ⑱ (the DUAL VOICE button indicator will light). When the DUAL VOICE feature is ON, the last two voices selected will sound simultaneously. For example, if you selected PIANO 1 and then HARP, the PIANO 1 and HARP voices will be combined. If you then select the VIBES voice, HARP and VIBES will be combined, and so on. Of course, if you turn the DUAL VOICE feature OFF (by pressing the DUAL VOICE button a second time), only the last selected voice will sound.
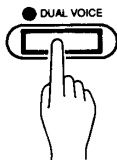
* DUAL VOICE cannot be applied to accompaniment or rhythm.
* When DUAL VOICE is ON, the number of notes that can be played simultaneously is reduced by half.
* If DUAL VOICE is used when the SPLIT mode is selected (see page 9), the effect applies to both the upper and lower voices.

PITCH BEND:

The PITCH BEND Roller ⑮ located to the left of the keyboard offers extra expressive control by allowing you to manually "bend" (raise or lower) the pitch of the selected performance voice. Rotating the PITCH BEND Roller away from you raises pitch, while moving it toward you lowers pitch. When released, the PITCH BEND Roller automatically returns to the center (normal pitch) position. The total pitch bend range is approximately ±200 cents (100 cents = one semitone).
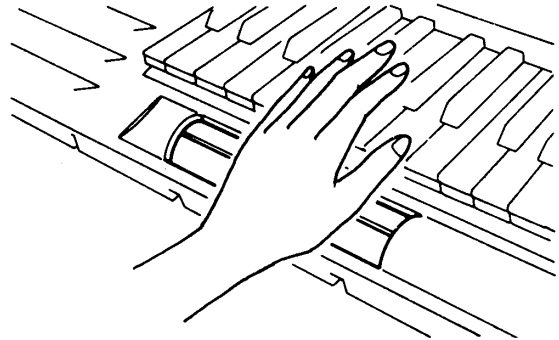
* The PITCH BEND effect cannot be applied to accompaniment or rhythm, or the lower voice in the SPLIT mode.

Transposition: Shifting Pitch in Semitone Steps

The X2500 TRANSPOSE function makes it possible to shift the pitch of the entire keyboard up or down in semitone intervals up to a maximum of six semitones. "Transposing" the pitch of the X2500 keyboard makes it easier to play in difficult key signatures, and you can simply match the pitch of the keyboard to the range of a singer or other instrumentalist.

The TRANSPOSE ▲ and ▼ buttons ⑳ used for transposition. Press the ▲ button to increase the pitch of the keyboard, or the ▼ button to lower the pitch. The selected degree of transposition will be displayed on the ACCOMPANIMENT STYLE/BEAT/TEMPO display ⑭ while the TRANSPOSE ▲ or ▼ button is pressed, and for approximately 3 seconds after either TRANSPOSE button is released.

The transposition range is from –6 to 6, with –6 corresponding to downward transposition by 6 semitones, and 6 corresponding to upward transposition by 6 semitones (see chart below). 0 is the "normal" keyboard pitch value. The normal transpose value (0) can be recalled at any time by pressing both the TRANSPOSE ▲ and ▼ buttons at the same time (the transpose value is automatically set to 0 whenever the power switch is turned ON).
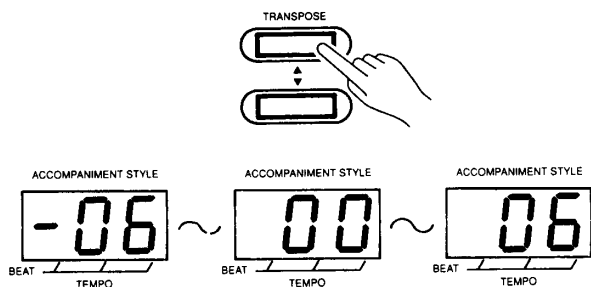
| Display	Transposition	Display	Transposition
–06	–6 semitones	01	+1 semitone
–05	–5 semitones	02	+2 semitones
–04	–4 semitones	03	+3 semitones
–03	–3 semitones	04	+4 semitones
–02	–2 semitones	05	+5 semitones
–01	–1 semitone	06	+6 semitones

Tuning: Fine Pitch Control

Pitch control makes it possible to tune the X2500 over a ±50–cent range in approximately 3–cent intervals. A hundred "cents" equals one semitone, so the tuning range provided allows fine tuning of overall pitch over a range of approximately a semitone. Pitch control is useful for tuning the X2500 to match other instruments or recorded music.

Press the PITCH ▲ button ㉑ to tune up, or the PITCH ▼ button to tune down. The selected degree of tuning will be displayed on the ACCOMPANIMENT STYLE/BEAT/TEMPO display ⑭ while the PITCH ▲ or ▼ button is pressed, and for approximately 3 seconds after either PITCH button is released.

The transposition range is from –16 to 16, with –16 corresponding to downward tuning by approximately 50 cents (one quarter tone), and 16 corresponding to upward transposition by approximately 50 cents.

0 is the "normal" pitch value, at which the A3 key (the A above middle C) produces "concert pitch": 440 Hertz. The normal pitch value (0) can be recalled at any time by pressing both the PITCH ▲ and ▼ buttons at the same time (the pitch value is automatically set to 0 whenever the power switch is turned ON).
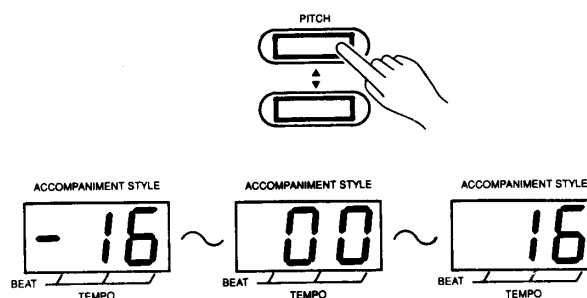
The SPLIT Mode: Separate Left– and Right–hand Voices

The X2500 allows you to play two voices at once — one with the left hand and one with the right. The lower voice can be played on the Auto Bass Chord keys, up to the "⅃" marking immediately above the keyboard. The "⅃" marking is called the SPLIT POINT.

* An alternative split point is also available. See "Alternative Split Point Selection", below.

1. **Select the SPLIT Mode**

   Slide the AUTO BASS CHORD selector ③ to the SPLIT position.
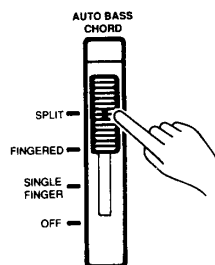
2. Press the LOWER Button ⑲

The LOWER button LED will light, indicating that is now possible to select a voice for the lower keyboard (i.e. the Auto Bass Chord key section).
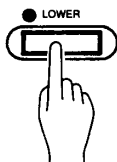
● LOWER

3. Select the Lower Voice

Select the lower voice using the normal voice—selection procedure. The number of the selected voice will appear on the VOICE display ④ (if the DUAL effect is selected, you can select two voices one after the other). Once the lower voice(s) has been selected, the VOICE display will revert to the upper voice number in about 5 seconds.

4. To Select an Upper Keyboard Voice

Press the LOWER button ⑲ so that the LOWER button LED goes out, then select the desired upper voice (if the DUAL effect is selected, you can select two voices one after the other).

5. Lower and Upper Voice Volume Control

In the SPLIT mode, the volume of the lower keyboard voice is controlled by the VOICE VOLUME buttons ⑦ when the LOWER button indicator ⑲ is lit, and the volume of the upper voice is controlled by the VOICE VOLUME buttons when the LOWER button indicator is out. Use the LOWER button to select the desired mode for volume control.

* In the SPLIT mode, the maximum number of notes that can be played simultaneously on the upper keyboard is 4. This number is further reduced, however, if the DUAL effect is used.

* If the SPLIT mode is selected when the power switch ① is turned ON, the PIANO 1 (00) voice is automatically selected for both the upper and lower keyboard.

Alternative Split Point Selection

Normally the split point is automatically set at the "⊐" symbol (between the F#2 and G2 keys), as described above. An alternative split point is provided between the G#2 and A2 keys, however, and this can be selected by moving the AUTO BASS CHORD selector to any position other than "OFF" while holding the G#2 key.

Try playing this in the Split mode.
(A Little Brown Jug)

Play the bass part on the lower keyboard section and the melody part on the upper keyboard.

Panel Settings

Accompaniment Style: 35 Big Band 3

Tempo: 120

AUTO BASS CHORD Selector: SPLIT position

Upper Voice: 30 Clarinet

Lower Voice: 67 Slap Bass

5. USING THE ACCOMPANIMENT SECTION

Rhythm Accompaniment
Selecting an Accompaniment Style

The X2500 provides two methods of selecting any of its 100 accompaniment styles:

1) Choose one of the 100 accompaniment styles — numbered "00" through "99" — shown on the ACCOMPANIMENT STYLE LIST ⑨ then enter its number using the numbered ACCOMPANIMENT STYLE SELECT buttons ⑪. To select GOSPEL (number 28), for example, first press "2" and then "8." The number "28" should then be displayed on the ACCOMPANIMENT STYLE/BEAT/ TEMPO display ⑭.

2) The + and – buttons in the ACCOMPANIMENT STYLE SELECT group can be used to increment (increase by one) or decrement (decrease by one) the current accompaniment style number. Press the + button briefly to select the accompaniment style one number higher than the current accompaniment style, or the – button to select the accompaniment style one number lower than the current accompaniment style. If you hold the + or – button down, the accompaniment style number will increment or decrement continuously — simply release the button when the desired accompaniment style number has been reached.
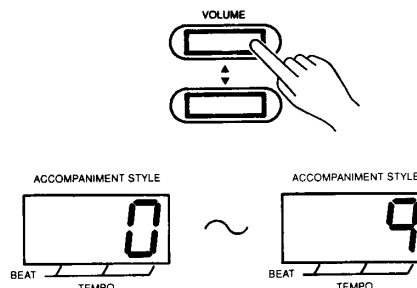
ACCOMPANIMENT STYLE SELECT
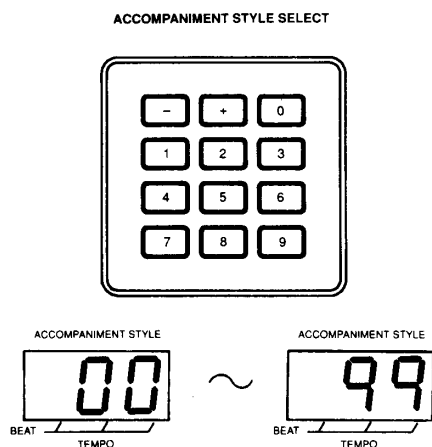
* When the power is initially turned ON, the DISCO accompaniment style is automatically selected and its number ("00") is shown on the ACCOMPANIMENT STYLE/BEAT/ TEMPO display.
* Only one accompaniment style can be selected at a time.
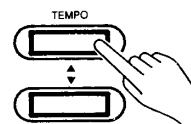
Adjusting the Accompaniment Volume

Although the MASTER VOLUME control and ROLL BAR ⑯ ② can be used to set the overall volume level, the ACCOMPANIMENT VOLUME ▲ and ▼ buttons ⑬ can also be used to adjust the volume of the selected accompaniment in relation to the performance voice. Press the ▲ button to increase the volume, or the ▼ button to decrease the volume. The selected volume level will be displayed on the ACCOMPANIMENT STYLE/BEAT/ TEMPO display ⑭ while the volume is being adjusted, and for approximately 3 seconds after either VOLUME button is released.

The volume range is from 0 to 9, with 1 being the lowest volume and 9 the highest. No accompaniment sound is produced if the volume value is set to 0. The highest volume value can be recalled at any time by pressing both the ACCOMPANIMENT VOLUME ▲ and ▼ buttons ⑬ at the same time (the volume is automatically set to 9 whenever the power switch is turned ON).

Setting the Tempo

Press the TEMPO ▲ button ⑫ to increase the tempo, or the TEMPO ▼ button ⑫ to decrease the tempo. The selected tempo will be displayed on the ACCOMPANIMENT STYLE/ BEAT/TEMPO display ⑭ (in quarter–note beats per minute) while the TEMPO ▲ or ▼ button is pressed, and for approximately 3 seconds after either TEMPO button is released. The available tempo range is from 40 to 280 beats per minute. Each accompaniment style has a different "normal" tempo which is automatically set whenever a new style is selected (but not when a new style is selected while the accompaniment is playing). The normal tempo for the currently selected accompaniment style can be recalled at any time by pressing both the TEMPO ▲ and ▼ buttons ⑫ at the same time (the tempo is automatically set to the normal value for the DISCO style whenever the power switch is turned ON).
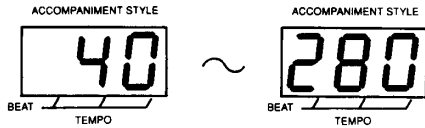
* It is also possible to adjust the tempo after starting playback of the accompaniment. This allows you to set the optimum tempo by ear.

Starting the Accompaniment

Press the START button ㉕ to start the selected accompaniment immediately, or press the SYNCHRO START button ㉔ if you want the accompaniment to start when you play the first note on the keyboard. If you press the SYNCHRO START button, the leftmost dot in the ACCOMPANIMENT STYLE/BEAT/TEMPO display ⑭ will flash at the selected tempo.

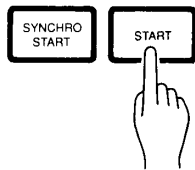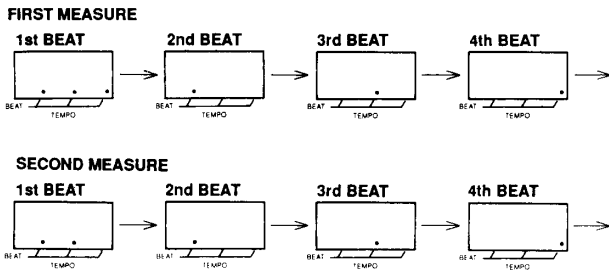* The three LED dots at the bottom of the ACCOMPANIMENT STYLE/BEAT/TEMPO display ⑭ provide a visual indication of the selected tempo as follows:

FIRST MEASURE

SECOND MEASURE

* If the AUTO BASS CHORD selector ③ is set to OFF, the accompaniment will consist only of rhythm (drums & percussion) sounds. Operation of the AUTO BASS CHORD SINGLE FINGER and FINGERED modes is described on page 13 and 14.
* A different accompaniment style can be selected at any time while the accompaniment is playing.

Starting the Accompaniment with an Introduction

Any of the X2500 accompaniment patterns can be started with a 1-measure introductory pattern by pressing either the INTRO./FILL IN 1, INTRO./FILL IN 2 or INTRO./FILL IN 3 button ㉒ before pressing the START ㉕ or SYNCHRO START ㉔ button. The INTRO./ENDING button ㉓ produces a 2-measure introduction.

Adding Fill-ins

To add a fill-in (rhythm variation) at any time while the accompaniment is playing, press the INTRO./FILL IN 1, INTRO./FILL IN 2 or INTRO./FILL IN 3 button ㉒ . The fill-ins have a maximum length of one measure, but the actual length depends on precisely when in the current measure you press a FILL IN button (i.e. the fill-in lasts from the point at which the button is pressed until the end of the current measure). You can stop a fill-in pattern before the current measure by pressing the FILL IN button a second time. If you hold one of the FILL IN buttons, the fill-in pattern will repeat until the button is released.
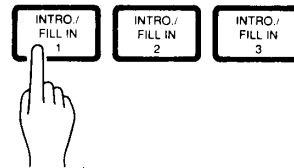
Stopping the Accompaniment

An accompaniment in progress can be stopped immediately by pressing the STOP button ㉖ , or it can be stopped with a two-measure ending by pressing the INTRO./ENDING button ㉓ . If the INTRO./ENDING button is used, the ending will start from the current measure if the button is pressed during the first half of the measure, or from the beginning of the next measure if the button is pressed during the second half of the current measure.

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Auto Bass Chord Accompaniment

The X2500 includes a sophisticated Auto Bass Chord accompaniment system that can provide automated bass and chordal backing in a number of ways.
* The maximum number of notes that can be played simultaneously on the X2500 keyboard is reduced when the Auto Bass Chord feature is used.

Single Finger Accompaniment

SINGLE FINGER accompaniment makes it simple to produce beautifully orchestrated accompaniment using major, seventh, minor and minor–seventh chords by pressing a minimum number of keys in the Auto Bass Chord Keys section of the keyboard. The bass and chord accompaniment produced is perfectly matched to the currently selected accompaniment style.
* See "Alternative Split Point Selection" on page 10 for split point information.

1. **Select the SINGLE FINGER Mode**

   Slide the AUTO BASS CHORD selector ③ to the SINGLE FINGER position.
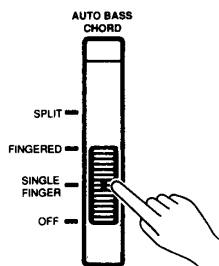
2. **Select an Accompaniment Style**

   Select the desired accompaniment style in the normal way. Although you can select the melody (upper keyboard) voice you intend to use, the X2500 automatically determines the voices to be used for the accompaniment bass and chords according the accompaniment style you select.

3. **Start the Accompaniment**

   Press the START button ㉕ , SYNCHRO START button ㉔ or one of the INTRO. buttons ㉒ ㉓ to determine how the accompaniment will be started. If you press the START button, the rhythm will begin playing immediately without chordal accompaniment.

4. **Press a Key in the Auto Bass Chord Keys Section** ㉘

   Pressing any of the lowest keys on the keyboard will cause the automatic chord and bass accompaniment to begin. If you press a "C" key, for example, a C–major accompaniment will be played. Press another key in the Auto Bass Chord Keys section to select a new chord. The key you press will always determine the "root" of the chord played (i.e. "C" for a C chord).
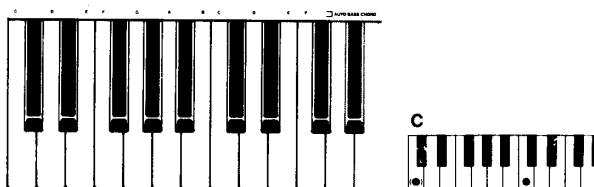
Playing Minor, Seventh, and Minor–seventh Chords in the Single–finger Mode
* For a minor chord, press the root key and the first black key to its left.
* For a seventh chord, press the root key and the next white key to its left.
* For a minor–seventh chord, press the root key and both the next white and black keys to its left.

* The automatic accompaniment will continue playing even if you lift your fingers from the Auto Bass Chord keys ㉘ . You only need to press the Auto Bass Chord keys when changing cords.

5. **Stop the Auto Accompaniment**

   Press the STOP button ㉖ or INTRO./ ENDING button ㉓ to stop the Accompaniment.

Setting the Accompaniment Volume

Set the volume of the Auto Accompaniment sound using the ACCOMPANIMENT VOLUME buttons ⑬ , and the volume of the right–hand melody using the VOICE VOLUME buttons ⑦ . The MASTER VOLUME control ② can be used to set the overall volume level.

Setting the Tempo

Use the TEMPO controls ⑫ to set the desired accompaniment tempo (see "Setting the Tempo" on page 11 for details).

Selecting Playback of Specific Parts

The ACCOMP. PART buttons ⑩ make it possible to play only specified parts of the automatic accompaniment. Normally, all parts are played back, so the LED indicators associated with the BASS, CHORD 1, CHORD 2 and RHYTHM buttons are all ON. If you press any of buttons are all ON. If you press any of these buttons, turning its indicator OFF, that part will be muted and will not be heard until the button is pressed again (turning its indicator LED back ON). For example, if press the BASS button, the BASS LED will go out and the bass line will not be heard. This would, for example, allow you to practice creating your own bass lines on the upper keyboard.

ACCOMP. PART

○ BASS

● CHORD 1

○ CHORD 2

● RHYTHM

* The FILL IN buttons ㉒ can be used in the Auto Bass Chord mode to create pattern variations in exactly the same way that they are used with rhythm accompaniment patterns (refer to the "Adding Fill–ins" section on page 12 for details).

Fingered Accompaniment

The FINGERED mode is ideal if you already know how to play chords on a keyboard, since it allows you to supply your own chords for the Auto Bass Chord feature.

* See "Alternative Split Point Selection" on page 10 for split point information.

1. **Select the FINGERED Mode**

   Slide the AUTO BASS CHORD selector ③ to the FINGERED position.
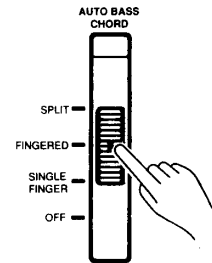
   AUTO BASS
   CHORD

   SPLIT ■
   FINGERED ■
   SINGLE ■
   FINGER
   OFF ■

2. **Select an Accompaniment Style**

   Select the desired accompaniment style in the normal way. Although you can select the melody (upper keyboard) voice you intend to use, the X2500 automatically determines the voices to be used for the accompaniment bass and chords according the accompaniment style you select.
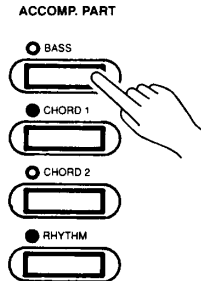
3. **Start the Accompaniment**

   Press the START button ㉕ , SYNCHRO START button ㉔ or one of the INTRO. buttons ㉒ ㉓ to determine how the accompaniment will be started. If you press the START button, the rhythm will begin playing immediately without chordal accompaniment.

4. **Play a Chord on the Auto Bass Chord Keys ㉘**

   As soon as you play any chord in the Auto Bass Chord section of the keyboard, the X2500 will automatically begin to play the chord along with the selected rhythm and an appropriate bass line. The accompaniment will continue playing even if you release the Auto Bass Chord keys. When changing chords, be sure to release all keys before playing a new chord.

   C   Cm

   C7   Cm7
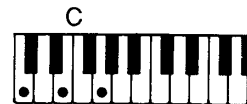
The X2500 will accept the following chord types, although the resultant accompaniment pattern will be either major, minor or seventh:

- Major
- Minor
- Major seventh
- Sixth
- Minor sixth
- Minor seventh
- Minor seventh flat five
- Seventh

- Seventh flat five
- Seventh suspended fourth
- Minor major seventh
- Augmented
- Diminished

Sixth, minor sixth and seventh flat five chords will only be properly detected if they are played in the "root position". For diminished and augmented chords, the lowest key pressed is assumed to be the root of the chord.

* All other FINGERED mode operations are the same as in the SINGLE FINGER mode.

Try playing this using the Single Finger Chord mode or Fingered mode.
(Brahms' Lullaby)

Play the chord part on the lower keyboard section and the melody part on the upper keyboard. Chords can be played using either the Single Finger or Fingered method.

Panel Settings

Accompaniment Style: 90 Lullaby

Tempo: 126

AUTO BASS CHORD Selector: SINGLE FINGER or FINGERED position

Upper Voice: 52 Whistle

SOLO STYLEPLAY

This sophisticated feature automatically adds appropriate harmony notes and effects to a melody you play on the upper keyboard according to the selected accompaniment style. For example, with the ROCK'N ROLL 3 style (STYLE 03) the SOLO STYLEPLAY feature automatically adds harmony, counter melody and glissando to what you play. With the BIG BAND 2 style (STYLE 34), a melody you play on the upper keyboard is repeated in the next measure, creating a "round" or "call and answer" type effect.

* Only a single note can be played at a time on the X2500 upper keyboard section when the SOLO STYLEPLAY feature is used.

1. Select the Desired Auto Bass Chord Mode

Use the Auto Bass Chord selector ③ to select either the SINGLE FINGER or FINGERED mode.

2. Turn SOLO STYLEPLAY ON

Press the SOLO STYLEPLAY button ㉙. The SOLO STYLEPLAY LED will light indicating that the SOLO STYLEPLAY feature is ON. The SINGLE FINGER Auto

Bass Chord mode will be selected if the AUTO BASS CHORD selector ③ is in any position other than FINGERED.
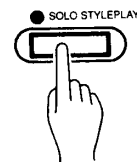
3. Play

The SYNCHRO START mode is automatically selected when SOLO STYLEPLAY is turned ON, so all you have to do is play the required chords (SINGLE FINGER or FINGERED) on the lower keyboard while playing a single–note melody line on the upper keyboard. The SOLO STYLEPLAY feature automatically selects the appropriate rhythm pattern as well as chord and bass voices for the style you select.

4. Stop the Accompaniment

Stop the accompaniment using the STOP ㉖ or INTRO./ENDING ㉓ button (and turn SOLO STYLE-PLAY OFF, if necessary, by pressing the SOLO

6. X2500 PERCUSSION

Manual Percussion with the Percussion Pads

The X2500's six percussion pads ㉚ let you play percussion to accompany other instruments, or add original rhythm fills and breaks to your performances. The percussion pads can also be played while one of the X2500 accompaniments is playing.

Each percussion pad is capable of producing five different sounds, depending on whether the VAR. 1, VAR 2, VAR. 3, VAR. 4 or SOUND EFFECTS variation button ㉛ is pressed. The sounds produced by each percussion pad when the different variation buttons are pressed are given in the chart below.

* The SOUND EFFECTS are automatically selected when the POWER switch is initially turned ON.

Variation Button	Percussion Pad					
VAR. 1	Rimshot	Low Tom (acoustic)	Mid Tom (acoustic)	High Tom (acoustic)	Hi Hat (closed)	Hi Hat (open)
VAR. 2	Bass Drum	Low Tom (synth)	Mid Tom (synth)	High Tom (synth)	Snare Drum	Ride Cymbal
VAR. 3	Agogo (low)	Agogo (high)	Cuica (low)	Cuica (high)	Cabasa	Crash Cymbal
VAR. 4	Conga (low)	Conga (high)	Timbales (low)	Timbales (high)	Bongo (high)	Cowbell
SYNCHRO BREAK	Shout (HA!)	Shout (YEAH!)	Car Horn	Pistol Shot	Breaking Glass	Claps

To use the percussion pads, simply select the desired percussion instrument group by pressing the appropriate variation button, then tap the pads (lightly) as if they were actual percussion instruments. The volume of the percussion pads is controlled by the ACCOMPANIMENT VOLUME buttons ⑬

The Synchro Break Function

This function allows you to create your own fill–ins using the percussion pads ㉚ while one of the X2500 accompaniment styles is playing. Use the SYNCHRO BREAK button ㉜ to turn this function ON or OFF. When the SYNCHRO BREAK LED is lit (it is automatically turned on when the POWER switch ① is turned on), playing on the percussion pads causes the accompaniment rhythm to stop playing so you can create your own fill–in. The accompaniment rhythm begins playing again when you stop playing the percussion pads *1.
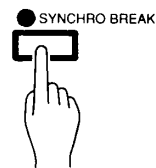
*1 If a percussion note is not played within one 16th note after the end of a measure, the accompaniment rhythm will begin playing again from the beginning of the next measure.

The Custom Drummer

The X2500 Custom Drummer feature allows you to create an original rhythm pattern in addition to the 100 preset accompaniment styles. Your original rhythm pattern can be selected and played at any time, just like the presets.

* When the POWER switch ① is turned ON, the CUSTOM DRUMMER is automatically loaded with the STYLE 00 rhythm pattern.

Creating an Original Rhythm Pattern

1. **Select a Suitable Rhythm**
   Begin by selecting on of the preset accompaniment styles that is close to the rhythm you want to create.
   * For example, select a WALTZ accompaniment style if you want to program a rhythm pattern in 3/4 time. You cannot program a 3/4 rhythm when a 4/4 accompaniment style is selected, and vice versa. The X2500 accompaniment styles include 3/4, 4/4, 9/8, 12/8 and 15/8 type rhythm patterns.

2. **Engage the Program Mode**
   Press the CUSTOM DRUMMER PROGRAM button ㉗ so that its LED indicator lights.

3. **Set the Appropriate Tempo and Volume**
   TO make programming as easy as possible, set up an appropriate tempo and volume before you begin. It might be easier to program your rhythm pattern if you set a relatively slow tempo. The MASTER VOLUME control ② and ACCOMPANIMENT VOLUME buttons ⑬ should be used to set a comfortable listening level.

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4. Begin Programming

You can now add new notes to the selected rhythm accompaniment by playing the percussion pads ㉚ and the appropriate timing (select the desired instrument group using the variation buttons). If you want to create a totally new rhythm, press the CUSTOM DRUMMER CLEAR button ㉗ before beginning to program. This cancels all the instruments in the original accompaniment, leaving only a closed hi–hat metronome sound (the metronome sound will not be heard when you play back your rhythm. The rhythm pattern is two measures long, and the pattern will continue to repeat so you can add new instruments during each repeat, if necessary.
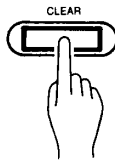
CLEAR

* Up to 3 percussion instruments can be played simultaneously.

5. If You Want to Cancel A Single Instrument

Although you can cancel all instruments in a pattern by pressing the CUSTOM DRUMMER CLEAR button ㉗, it is also possible to cancel a single instrument to eradicate a mistake or simply eliminate an unwanted instrument. First, make sure that the instrument to be cancelled is in the group selected by the variation buttons. Then, while holding the CANCEL key ㉞ (the highest key on the X2500 keyboard), press the percussion pad corresponding to the instrument you want to cancel. The selected instrument should now be cleared from the pattern.
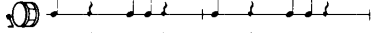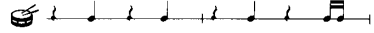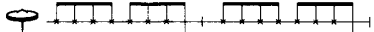
6. If You Want to Add Accented Beats

Specific beats of any instrument within your pattern can be accented by holding down the accent key ㉝ (the second from highest key on the X2500 keyboard – with the ">" mark above it) and pressing the percussion pad corresponding to the instrument you wish to accent at the appropriate time. To accent the snare drum on the third beat of the first measure, for example, hold the accent key and tap the snare drum key on the third beat of the first measure. Accents cannot be cancelled individually, so it is necessary to cancel the accented instrument and then enter the part again with the desired accents.

7. Stop Programming

Press the STOP button ㉖ when your rhythm pattern is complete and you want to stop programming.

* Try writing the following rhythm patterns:

Playing Back Your Custom Rhythm Pattern

Once created, your original rhythm pattern can be played back by pressing the CUSTOM DRUMMER PLAY button ㉗ and then the START button ㉕. Press the STOP button ㉖ to stop playback. Your CUSTOM DRUMMER rhythm can also be used as the basis for Auto Bass Chord FINGERED or SINGLE FINGER accompaniment.
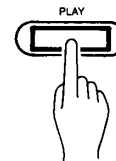
PLAY

7. THE MUSIC PROGRAMMER

The X2500 MUSIC PROGRAMMER allows you to "record" and play back anything you play on the keyboard — along with auto accompaniment if required. You can record the accompaniment and your own performance separately or at the same time. If, for example, you record the accompaniment first and then record your own performance while listening to playback of the accompaniment, you're free to use the entire keyboard for your performance rather than being limited to only the upper keyboard area.

The MUSIC PROGRAMMER independently records the following "parameters" for the upper and lower keyboard sections in addition to notes and accompaniments played. Any changes you make to any of these parameters are recorded, and will be reproduced exactly as they occurred when the recording is played back:

Upper Keyboard:
Voice number, SUSTAIN ON/OFF, Voice volume.
Lower Keyboard:
Accompaniment style number, Tempo, Intro, Fill–in, Ending, Stop, Accompaniment volume.

* See "Alternative Split Point Selection" on page 10 for split point information.

* The maximum recording capacity of the MUSIC PROGRAMMER is as follows: 198 measures maximum on the lower keyboard (approximately 66 measures if one chord is recorded per measure), and 120 notes maximum (approximately 100 notes if a note is played in each quarter-note beat) on the upper keyboard. Any other setting changes made while recording, however, will have a large effect on the total capacity.

* Material recorded using the MUSIC PROGRAMMER will be lost as soon as the X2500 POWER switch ① is turned OFF.

Recording

Recording Accompaniment and Performance Simultaneously

1. **Select the Desired Accompaniment Style**
   Pick out an accompaniment style that is appropriate for the type of music you want to record.
2. **Select the SINGLE FINGER or FINGERED Auto Bass Chord Mode**
   Use the AUTO BASS CHORD selector ③ to select either the SINGLE FINGER or FINGERED mode (if the AUTO BASS CHORD selector is set to any position other than FINGERED, the SINGLE FINGER mode will automatically be selected when recording is begun).
3. **Set Up All Necessary Parameters**
   Before actually beginning to record, you should make sure that you select the desired voice, engage any required effects, adjust the accompaniment and voice volume levels for the appropriate balance, and adjust the tempo to match the piece you are about to record.

MUSIC PROGRAMMER
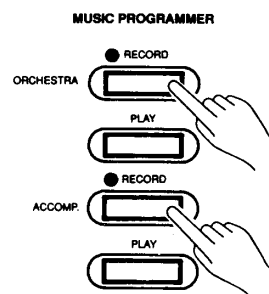
4. **Set the Record Ready Mode**
   Press both the ORCHESTRA and ACCOMPANIMENT RECORD buttons ㉟ , causing both of their LED indicators to light. This engages the "record ready" mode: the metronome will sound at the currently selected tempo, and recording will begin as soon as you play a note on the keyboard (SYNCHRO START type operation).
5. **Choose an Alternative Start Mode If Necessary**
   If you do not perform this step, recording will begin as soon as you play a note or chord on the keyboard. At this point, however, you can choose to start recording immediately by pressing the START button ㉕ , or start recording immediately with an introduction by pressing one of the INTRO buttons ㉒ ㉓ .
6. **Start Recording**
   If you haven't already started recording as in step 5, above, recording will begin automatically as soon as you begin playing. While playing, you can change accompaniment styles, voices, tempo and other parameters. Such changes will be recorded and reproduced when the recording is played back.
7. **Stop Recording**
   Press either the STOP button ㉖ or INTRO./ENDING button ㉓ to stop recording. Recording actually ends the instant the accompaniment stops playing. It is also possible to stop recording immediately by pressing either of the RECORD or PLAY buttons ㉟ . Recording will stop automatically if you exceed the X2500's memory capacity (this will depend on the complexity of your performance and whether you use accompaniment or not).

* Whenever you record using the MUSIC PROGRAMMER, any previously recorded material will be erased.
* If you make a mistake while recording, simply press the SYNCHRO START button ㉔ and begin again from step 5, above.

Recording the Accompaniment and Performance Separately

= Recording the Accompaniment =

1. **Select the Desired Accompaniment Style**

   Pick out an accompaniment style that is appropriate for the type of music you want to record.

2. **Select the SINGLE FINGER or FINGERED Auto Bass Chord Mode**

   Use the AUTO BASS CHORD selector ③ to select either the SINGLE FINGER or FINGERED mode (if the AUTO BASS CHORD selector is set to any position other than FINGERED, the SINGLE FINGER mode will automatically be selected when recording is begun).

3. **Set the Record Ready Mode**

   Press the ACCOMPANIMENT RECORD button ㉟, causing its LED indicator to light. This engages the "record ready" mode: the metronome will sound at the currently selected tempo, and recording will begin as soon as you play a note on the keyboard (SYNCHRO START type operation).

4. **Set Up All Necessary Parameters**

   Before actually beginning to record, you should make sure that you adjust the accompaniment volume level for the appropriate balance, and adjust the tempo to match the piece you are about to record.

5. **Choose an Alternative Start Mode If Necessary**

   If you do not perform this step, recording will begin as soon as you play a note or chord on the keyboard. At this point, however, you can choose to start recording immediately by pressing the START button ㉕, or start recording immediately with an introduction by pressing one of the INTRO. buttons ㉒ ㉓.

6. **Start Recording**

   If you haven't already started recording as in step 5, above, recording will begin automatically as soon as you begin playing. While playing, you can add fill–ins, change accompaniment styles, tempo and other parameters. Such changes will be recorded and reproduced when the recording is played back.
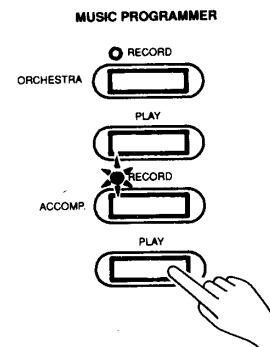
7. **Stop Recording**

   Press either the STOP button ㉖ or INTRO./ENDING button ㉓ to stop recording. Recording actually ends the instant the accompaniment stops playing.

= Recording the Performance =

1. **Set the Accompaniment Track for Playback**

   Press the ACCOMPANIMENT PLAY button ㉟, causing the ACCOMPANIMENT LED to flash.

MUSIC PROGRAMMER

2. **Set the Record Ready Mode**

   Press the ORCHESTRA RECORD button ㉟, causing its LED indicator to light. Recording will begin as soon as you play a note on the keyboard (SYNCHRO START type operation).

MUSIC PROGRAMMER
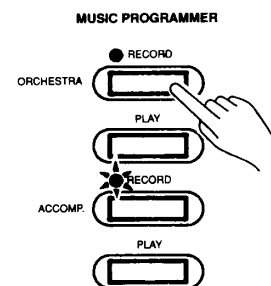
3. **Set Up All Necessary Parameters**

   Before actually beginning to record, you should make sure that you select the desired voice and adjust the voice volume level for the appropriate balance.

4. **Choose an Alternative Start Mode If Necessary**

   If you do not perform this step, recording will begin as soon as you play a note on the keyboard. At this point, however, you can choose to start recording immediately by pressing the START button ㉕, or start recording immediately with an introduction by pressing one of the INTRO. buttons ㉒ ㉓. Since the accompaniment has already been recorded, however, an introduction will not be recorded even if an INTRO button is pressed.

5. **Start Recording**

   If you haven't already started recording as in step 5, above, recording will begin automatically as soon as you begin playing. While playing, you can turn effects on or off or change voices. Such changes will be recorded and reproduced when the recording is played back.

6. Stop Recording

Recording will stop automatically when the accompaniment part finishes playing. You can also press either the STOP button ㉖ or INTRO./ENDING button ㉓ to stop recording.

Playback

1. Engage the Start Ready Mode

Press both the ORCHESTRA and ACCOMPANIMENT PLAY buttons ㉟ (causing their indicators to flash) if you want to play back both the ORCHESTRA and ACCOMPANIMENT parts, or press just one of the PLAY buttons if you only want to hear one of the parts (for example, you could play back only the accompaniment part and play along manually on the keyboard).

MUSIC PROGRAMMER
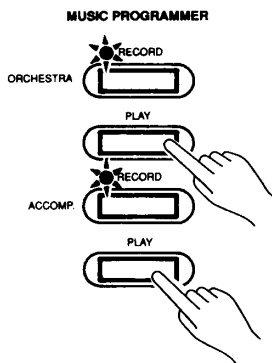
2. Start Playback

Press the START button ㉕ or a key on the keyboard to begin playback. Your recording will begin with an introduction if you start playback by pressing one of the INTRO. buttons ㉒ ㉕ .

3. Adjust Volume, Tempo, etc.

If necessary, adjust the overall volume using the MASTER VOLUME control ② , and the balance between the accompaniment and voice volumes using their respective volume buttons. You can also adjust the tempo and even change accompaniment styles during playback.

4. Play Along If You Like

Play along on the X2500 keyboard if you like.

5. Stop Playback

Playback will stop automatically when the end of the recorded piece is reached. You can also stop playback at any time by pressing the STOP ㉖ or INTRO./ENDING ㉓ button.

* When playback is stopped, the MUSIC PROGRAMMER re-enters the playback ready mode. This can be exited by pressing the PLAY buttons so that neither the ORCHESTRA or ACCOMPANIMENT LED ㉟ is flashing.

Try recording this piece using the MUSIC PROGRAMMER function.
(When The Saints Go Marching In)

Record the chords in ACCOMPANIMENT and the obbligato in ORCHESTRA, then play the melody on the keyboard as the ACCOMPANIMENT and ORCHESTRA play back. Chords can be played using either the Single Finger or Fingered method.

Panel Settings

Accompaniment Style: 34 Big Band 2
Tempo: 144
AUTO BASS CHORD Selector: SINGLE FINGERED position (OFF during playback)
Upper Voice: 39 Trombone

8. MIDI FUNCTIONS

A Brief Introduction to MIDI

MIDI, the Musical Instrument Digital Interface, is a world-standard communication interface that allows MIDI-compatible musical instruments and equipment to share musical information and control one another. This makes it possible to create "systems" of MIDI instruments and equipment that offer far greater versatility and control than is available with isolated instruments.

The X2500 MIDI Connectors

The X2500 MIDI IN connector receives MIDI data from an external MIDI device which can be used to control the X2500. The MIDI OUT connector transmits MIDI data generated by the X2500 (e.g. note and velocity data produced by playing the keyboard).
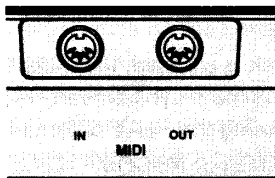
* To connect the X2500 MIDI connectors to other MIDI devices, always use high-quality MIDI cables such as the Yamaha MIDI-15 (15-meter type) or MIDI-03 (3-meter type).

Simple MIDI Control

Most MIDI keyboards (including the X2500, of course) transmit note and velocity (touch response) information via the MIDI OUT connector whenever a note is played on the keyboard. If the MIDI OUT connector is connected to the MIDI IN connector of a second keyboard (synthesizer, etc.) or a tone generator (essentially a synthesizer with no keyboard), the second keyboard or tone generator will respond precisely to notes played on the original transmitting keyboard. The result is that you can effectively play two instruments at once, providing thick multi-instrument sounds. The X2500 also transmits "program change" data when one of its voices is selected. Depending on how the receiving device is set up, the corresponding voice will be automatically selected on the receiving keyboard or tone generator whenever a voice is selected on the X2500.
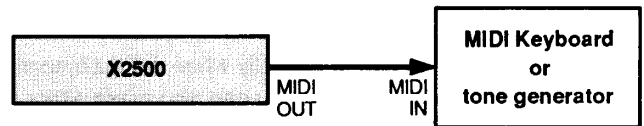
The X2500 is capable of receiving the same MIDI data, so a second MIDI keyboard connected to the X2500 MIDI IN connector can be used to remotely play the X2500 and select voices as required.
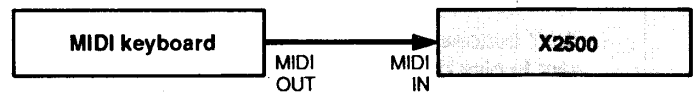
MIDI Sequence Recording

The same type of musical information transfer described above is used for MIDI sequence recording. A MIDI sequence recorder can be used to "record" MIDI data received from a X2500, for example. When the recorded data is played back, the X2500 automatically "plays" the recorded performance in precise detail.
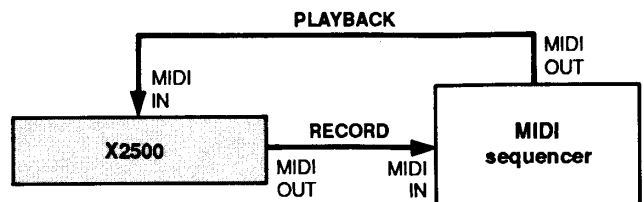
Note:
Always use a high-quality MIDI cable to connect MIDI OUT to MIDI IN terminals. Never use MIDI cables longer than about 15 meters, since cables longer than this can pick up noise which can cause data errors.

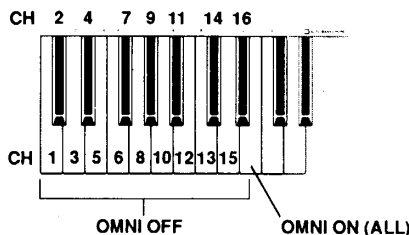# X2500 MIDI Settings & Functions

MIDI Operations Summary

Function	Step 1 (While holding the MIDI button)	Step 2 (While holding the MIDI button)	Display/Control Range		
1. Remote control/standard voice mode selection.	Press VOICE SELECT button 0.	————	REMOTE CONTROLMODE `r c`		STANDAED VOICE MODE `L _ J`
2. MIDI transmit channel selection.	Press VOICE SELECT button 1.	Press the appropriate AUTO BASS CHORD key (refer to the illustration below).	CHANNEL 1 `5 0 1`		CHANNEL 16 `5 16`
3. MIDI receive channel selection.	Press VOICE SELECT button 2.	Press the appropriate AUTO BASS CHORD key (refer to the illustration below).	OMNI ON + CHANNEL1 `r AL`	OMNI OFF + CHANNEL 1 `r 0 1`	OMNI OFF + CHANNEL 16 `r 16`
			If the standard voice mode is selected . . . STEP 3: Select "on" or "off" for the channel selected in step 2 by using the VOICE SELECT +/– buttons while holding the MIDI button. `r 0 1` `on` `r 0 1` `oF` STEP 4: Repeat steps 2 and 3 to set other channels.		
4. Split transmit mode ON/OFF selection (only available in the REMOTE CONTROL mode).	Press VOICE SELECT button 3.	Select using the VOICE SELECT +/– buttons.	ON `5PL` `on`		OFF `5PL` `oF`
5. Program change and control change cancel ON/OFF selection.	Press VOICE SELECT button 4.	Select using the VOICE SELECT +/– buttons.	ON `PCC` `on`		OFF `PCC` `oF`
6. External/internal clock selection.	Press VOICE SELECT button 5.	Select using the VOICE SELECT +/– buttons.	EXTERNAL CLOCK `CL` `E`		INTERNAL CLOCK `CL` `1`
7. Local control ON/OFF selection.	Press VOICE SELECT button 6.	Select using the VOICE SELECT +/– buttons.	ON `LOC` `on`		OFF `LO.C` `oF`
8. Rhythm receive channel selection (only available in the standard voice mode).	Press VOICE SELECT button 7.	Press the appropriate AUTO BASS CHORD key (refer to the illustration below).	CHANNEL 1 `0 1`		CHANNEL 16 `16`

```
CH   2   4   7  9  11   14 16
CH | 1 | 3 | 5 | 6 | 8 |10|12|13|15|
        OMNI OFF          OMNI ON (ALL)
```

1. Remote Control/Standard Voice Mode Selection

The Remote Control mode should be used when the X2500 is to be connected to a second keyboard or tone generator which it is to control. In this mode, the X2500 can only receive on a single MIDI channel.

The Standard Voice mode should be used when the X2500 is to be used as a tone generator, for example, receiving data from a second MIDI device (such as a sequencer). In this mode the X2500 can receive on multiple MIDI channels, each channel corresponding to a different voice.

* Refer to "MIDI Channel Selection" below for more information on MIDI channels.
* This setting has no effect when the X2500 is used for transmission only.
* The number of notes that can be played simultaneously via external control when the Standard Voice mode is selected: 8 melody, 7 rhythm.

2.3. MIDI Channel Selection

The MIDI transmit and receive channels can be set independently.

* The transmit channel is automatically set to channel 1 and the receive channel is automatically set to OMNI OFF + channel 1 when the power is initially turned ON.
* OMNI ON means that reception can occur simultaneously on all available channels (1 through 16). When OMNI OFF is selected, reception only occurs on the specified channel.

4. Split Transmit Mode ON/OFF Selection

If the SPLIT Transmit Mode is turned ON, lower and upper keyboard notes played in the Single Finger, Fingered or Split modes are transmitted on different MIDI channels, and can thus be used to control different MIDI devices.

* Lower-keyboard note data is transmitted on MIDI channel 2, so be sure to set the MIDI device which is to receive the lower-keyboard data to receive on channel 2. The upper-keyboard note data is transmitted on the MIDI channel selected using the MIDI Channel Selection function, described above.
* Upper and lower keyboard data can be recorded to a MIDI sequencer on different channels, so that different voices set to the corresponding channels can be independently controlled when the recorded sequence is played back.
* This function has no effect when the X2500 is used for reception only.
* This function cannot be used when the Standard Voice mode is selected.
* When the power is initially turned ON, the Split Transmission Mode is automatically turned OFF.

5. Program Change & Control Change Cancel ON/OFF Selection

Normally the X2500 will respond to MIDI program change and control change data received from an external keyboard or other MIDI device, causing the correspondingly numbered X2500 voice to be selected and the corresponding "control" operations to be performed. The X2500 will normally also send MIDI program change data whenever one of its voices is selected or control change data when one of its controls are operated, causing the corresponding operation to be performed on an external MIDI device.

This function makes it possible to cancel program change and control change data reception and transmission so that voices can be selected on the X2500 without affecting the external MIDI device, etc. Program Change & Control Change Cancel is automatically turned OFF when the power is initially turned ON.

6. External/Internal Clock Selection

This function determines whether the X2500 rhythm and accompaniment timing is controlled by the X2500's own internal clock or an external MIDI clock signal received from external equipment connected to the MIDI IN connector. The Clock Mode is automatically set to INTERNAL when the power is initially turned ON.

* To synchronize playback of an external sequencer or rhythm programmer to the X2500, for example, set this function to INTERNAL and make sure that the external device is set up to receive EXTERNAL clock data.
* To synchronize the X2500 to playback of an external sequencer or rhythm programmer, set this function to EXTERNAL.

NOTE:
If the clock mode is set to EXTERNAL and a MIDI clock signal is not being received from an external source, the X2500 rhythm, accompaniment and other clock-dependent features will not operate.

7. Local Control ON/OFF Selection

"Local Control" refers to the fact that, normally, the X2500 keyboard controls its internal tone generator, allowing the internal voices to be played directly from the keyboard.

This situation is "Local Control ON" since the internal tone generator is controlled locally by its own keyboard. Local control can be turned OFF, however, so that the X2500 keyboard does not play the internal voices, but the appropriate MIDI information is still transmitted via the MIDI OUT connector when notes are played on the keyboard. At the same time, the internal tone generator responds to MIDI information received via the MIDI IN connector. This means that while an external MIDI sequence recorder, for example, plays the X2500's internal voices, an external tone generator can be played from the X2500 keyboard. Local Control is automatically turned ON when the power is initially turned ON.

* This function has no effect when the X2500 is being used for reception only

8. **Rhythm Receive Channel Selection**

This function is used to select the MIDI receive channel that will be used to receive rhythm data (the channel selected using the MIDI Channel Selection function described earlier applies to non-rhythm parts and voices). The Rhythm Receive Channel must be matched to the transmit channel of the device from which the rhythm data is to be received.

* If the assigned Rhythm Receive Channel is the same as a channel assigned for reception of non-rhythm data, the rhythm data takes priority.
* When the power switch is turned ON, the Remote Control Mode is selected and the OMNI OFF + receive channel 1 mode is selected. If the Standard Voice Mode is then selected, this function is automatically set to channel 16.
* This function has no effect if the Remote Control Mode is selected.

MIDI Error Display

During MIDI reception, if the data cannot be properly transferred or the amount of data transferred exceeds the capacity of the transmit/receive buffer, the following MIDI error display will appear.
If this occurs, try turning the power switch OFF and then ON again. If the problem is caused by a buffer overflow, the data rate or amount of data sent should be reduced until the problem disappears.

9. OPTIONAL ACCESSORIES

- **AC Power Adaptor (PA–4/PA–40)**
  Transforms AC voltage to DC voltage.
- **Car Battery Adaptor (CA–1)**
  Enables you to provide power to the instrument from a car battery using the cigarette lighter socket.
- **Headphones (HPE–3/HPE–5)**
  These specially designed lightweight headphones feature extra-comfortable ear pads.
  Stand (L–2/L–4)
  This lightweight, portable stand provides a sturdy, convenient support for your X2500.
- **Bench (BC–6)**
- **Soft Carrying Case (SCC–33)**
  For extra protection and convenient carrying, keep your X2500 in this high-quality soft case.

- **Stereo Connection Cord (PSC–3)**
  Use this cord to connect your X2500 to a stereo hi-fi system.
- **Stereo Conversion Plug (PCP–1)**
  Converts stereo pin jacks to a stereo phone plug.
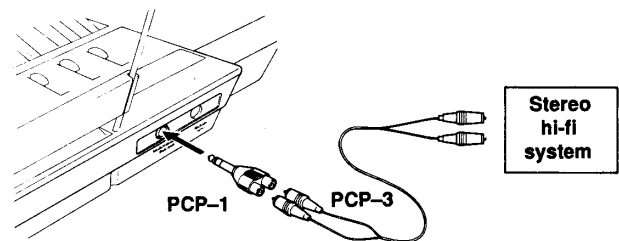
* Some optional accessories may not be available in all areas.

10. SPECIFICATIONS

keyboard
61 keys (C1-C6)

Voices (00-99)
Piano 1, Piano 2, Honky-Tonk Piano, Elec. Piano 1, Elec. Piano 2, Harpsichord, Clavi, Synth Clavi, Celesta, Toy Piano, Vibes, Chimes, Xylophone, Marimba, Bamboo Marimba, Timpani, Steel Drum, Kalimba, Gamelan, Music Box, Strings, Pizz. Strings, Synth Strings 1, Synth Strings 2, Violin, Cello, Harp, Flute, Pan Flute, Recorder, Clarinet, Oboe, Bassoon, Saxophone, Harmonica, Accordion, Bagpipe, Trumpet, Mute Trumpet, Trombone, Horn, Tuba, Brass Ensemble, Synth Brass 1, Synth Brass 2, Pipe Organ, Jazz Organ, Rock Organ, Street Organ, Reed Organ, Human Vox, Synth Vox, Whistle, Classic Guitar, Folk Guitar, Jazz Guitar, Rock Guitar, Distortion Guitar, Mute Guitar, Banjo, Mandolin, Sitar, Koto, Shamisen, Acoustic Bass, Bowed Bass, Elec. Bass, Slap Bass, Fretless Bass, Synth Bass 1, Synth Bass 2, Synth Bass 3, Analog Synth, Reed Synth, Synth Music Box, Space Flute, Aqua, Landscape, Fuzz Brass, Metallic Reed, Crystal, Ice Block, Synth Tom, Samba Whistle, African Percuss., Birds, Digi Sweep, Hammer Shot, Crystal Block, Invader, Shock Alarm, Owl, Water Drop, Emergency, Zing, Racing Circuit, Scrape, Construction, Wave, Orchestra Hit
Controls:
Voice Select Buttons (0-9, +, –), Voice List (00-99), Lower Button, Voice Volume Buttons (▲, ▼)

Effects
Sustain (1, 2), Dual Voice, Pitch Bend Roller

Accompaniment Styles (00-99)
Disco, Rock'n' Roll 1, Rock'n' Roll 2, Rock'n' Roll 3, Pop Rock 1. Pop Rock 2, 16 Beat 1, 16 Beat 2, Rock-A-Ballad, Rock Baroque, Christmas Rock, Oriental Rock, Brass Rock, Techno Rock 1, Techno Rock 2, Hard Rock, Heavy Metal, Speed Metal, Fusion 1, Fusion 2, Funk 1, Funk 2, Funk 3, Funk 4, Rap, Rhythm & Blues 1, Rhythm & Blues 2, Slow Blues, Gospel, Swing Guitar, Swing Piano, Swing Organ, Swing Vibraphone, Big Band 1, Big Band 2, Big Band 3, Modern Jazz, 5/4 Swing, Jazz Ballad, Shuffle, Boogie Woogie Piano 1, Boogie Woogie Piano 2, Boogie Woogie Piano 3, Boogie Big Band 1, Boogie Big Band 2, Jazz Baroque, Dixieland Combo, Dixieland Banjo, Country, Country Piano, Country Steel Guitar, Ragtime Piano, Bluegrass, Bossa Nova 1, Bossa Nova 2, Samba 1, Samba 2, Samba 3, Salsa 1, Salsa 2, Salsa 3, Tango, Habanera, Mambo 1, Mambo 2, Mambo 3, Rhumba, Cha-Cha-Cha, Conga, Merengue, Calypso 1, Calypso 2, Reggae, Cuban, Beguine, Mariachi, Bolero, Flamenco, Son Afro, Argentine Folklore, Island Folklore, March 1, March 2, Majestic March, Polka, Baroque (Waltz), Big Band (Waltz), Jazz Waltz, Viennese Waltz, Baroque, Lullaby, Classical Guitar, Street Organ, Fanfare, Safari, Hawaiian, Chanson, Mandolin Band, String Quartet, Barbershop Quartet
Controls:
Accompaniment Style Select Buttons (0-9, +, –,), Accompaniment Style List (00-99), Tempo Control Buttons (▲, ▼), Accompaniment Volume Buttons (▲, ▼), Synchro Start Button, Start Button, Stop Button, Intro./Fill In Buttons (1-3), Intro./Ending Button, Accompaniment Part Buttons (Bass, Chord 1, Chord 2, Rhythm)

Custom Drummer
Controls:
Program Button, Play Button, Clear Button

Percussion
Controls:
Percussion Pads, Percussion Variation Buttons (Var. 1–4, Sound Effects), Synchro Break Button, Percussion Accent Key (>), Percussion Cancel Key

Auto Bass Chord
Controls:
Auto Bass Chord Selector (Off, Single Finger, Fingered, Split)

Music Programmer
Controls:
Orchestra Record Button, Orchestra Play Button, Accompaniment Record button, Accompaniment Play Button

Displays
Voice/Pitch/Transpose/volume Display, Accompaniment Style/Beat/Tempo/Volume Display

Other Controls
Power Switch, Master Volume, Roll Bar, Solo Styleplay Button, Transpose (▲, ▼), Pitch (▲, ▼), MIDI Button, Demonstration Button

Auxiliary Jacks
MIDI (OUT, IN), HEADPHONES/AUX. OUT, DC IN (9–12V)

Main Amplifier
2.5W x 2 (RMS)

Speaker
12cm (4–3/4") x 2

Rated Voltage
DC 9V (Six SUM–1, "D" size, R–20 or equivalent batteries), AC Power Adaptor (PA–4, PA–40) or Car Battery Adaptor (CA–1)

Dimensions (W x D x H)
1221mm x 392.4mm x 145.6mm (48-1/8" x 15-1/2" x 5-3/4")

Weight
7.6 kg (16.8 lbs)

* Specifications are subject to change without notice.

YAMAHA [Portatone]
    Model   X2500   MIDI Implementation Chart

Date   : 07/04 1989
Version : 1.0

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1-16	1 1-16	
Mode	Default Messages Altered	3 X **************	3 OMNI on, OMNI off X	Remote Control Mode
Note Number : True voice		36-96 **************	36-96 *1 36-96 *2	
Velocity	Note on Note off	X 9nH, v=64 *3 X 9nH, v=0	O *4 X	
After Touch	Key's Ch's	X X	X X	
Pitch Bender		O	O 0-2 semi	7bit resolution
Control Change	7 64	O O	O O	Volume Sustain
Program Change : True #		O 0-99 *************	O 0-99 *5 0-99	
System Exclusive		X	O	
System : Song Pos : Song Sel Common : Tune		X X X	X X X	
System : Clock Real Time : Commands		O O	O O	
Aux : Local ON/OFF : All Notes OFF Mes- : Active Sense sages : Reset		X X O X	O O (122-125) O X	

Notes   : *1   1–127 if standard voice mode is on
          *2   24–102 if standard voice mode is on
          *3   v=127 if standard voice mode is on
          *4   only standard voice mode
          *5   0–120 if standard voice mode is on

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   O : Yes
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO   X : No

The serial number of this product may be found on the bottom of the unit. You should note this serial number in the space provided below and retain this manual as a permanent record of your purchase to aid identification in the event of theft.

Model No. X2500
Serial No.

Concerning the Warranty
This product was made for international distribution, and since the warranty for this type of product varies from marketing area to marketing area, please con-tact the selling agency for information concerning the applicable warranty and/or service policies.